THE EFFECTS OF TELEVISION ON FOOTBALL ATTENDANCE

In 8 Parts: August 1950 – January 1957

Parts 1 thru 3

Prepared for the

National Collegiate Athletic Association
and
the Four Television Networks

by the
National Opinion Research Center

University of Chicago

NORC Report #61

Part 1 of 8

THE EFFECTS OF TELEVISION

ON COLLEGE FOOTBALL ATTENDANCE

An Evaulation of Past Research

And a Suggested Program for the Future

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August 15, 1950

I N T R O D U C T I O N

At the time we were asked to look into the question of the effect of television on college football attendance, it was agreed that the assignment involved two phases:

(1) A thorough examination of past research dealing with the problem, and an evaluation of the extent to which this research has answered the question,

and

(2) Recommendations for a basic research program which would not only provide definitive answers to the problem of past effects, but would also yield information which, within limits, could be used to predict future effects.

This report is divided into three sections.

Section I discusses the nature of the problem, its complexity, and the variables which must be controlled in order to isolate the specific effect of television.

Section II summarizes our evaluation of past research and explains our general conclusions: that this research has failed to provide definitive answers to the problem of past effects and has little predictive value for the future; although, taken collectively, it does suggest certain adverse effects in the past and provides guidance for future research. More detailed evaluations of the individual studies which we examined are given in the appendices to this report.

Section III outlines our recommendations for a basic research program for the future, and sketches a design for both a "minimum" and a "maximum" research operation.

In addition to the five organizations which sponsored this report, we wish to give special thanks to Hugh M. Beville Jr. of NBC and Ralph Furey of the NCAA for their guidance to us; to Jerry Jordan for sending us advance proofs of his forthcoming publication on this subject and for his cooperation in opening up to us his voluminous files; to "The Pulse" for providing us with necessary figures on the composition of the television audience; to William J. Cobb who devoted full-time to this project in his capacity as special consultant to NORC, and to the many market and opinion research agencies who cooperated with us in supplying us with data or in answering questions about their past research on the subject.

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I

NATURE OF THE PROBLEM

It should be made clear at the outset that we are dealing with a problem which is extremely complex.

First, television itself is a variable. Thus, we must measure not simply the effect of the existence of TV on attendance, but rather how much TV affects attendance when it is present in various degrees, and under varying conditions. For instance, the extent of TV ownership in an area, the accessibility of TV in public places, the availability of competing games on TV and of deferred or post-game TV, are all variations in the TV variable itself. In addition, different individuals are exposed in varying degrees to TV (through ownership, viewing on a friend's set or in public places).

Second, we must measure TV effects for several different aspects of attendance. Thus, we need to estimate the effect on long-run, over-all college football attendance, on attendance in specific regions or at specific types of colleges, or on attendance at specific games.

Third, there are many other factors besides television which affect sports attendance. These factors interact with each other and with television in widely varied combinations to bring about attendance changes. If we are to isolate the effect of TV, all these other variables must be controlled.

Fourth, television itself is not a static phenomenon, but on the contrary highly dynamic. We are dealing with an industry yet in its infancy. It is subject to rapid and to some extent unpredictable changes in techniques; rapid shifts in the composition of the ownership group are occurring with extensive penetration into lower economic levels; TV is bringing profound effects on leisure-time habits which may not yet have crystallized into permanent patterns; and even when such patterns in the mass have become stabilized, the effect on a given individual may vary in relation to the length of time he has owned the set.

Finally, it is clear that TV may have both depressing and stimulative effects on attendance in different cases. Therefore, we must measure both effects, in order to arrive at the net effect.

These complexities may be illustrated by a discussion of possible approaches to the problem. One approach might be to compare attendance for a sample of TV owners and another sample of non-owners, and reason that any differences are caused by television. But actually, there is evidence that, on the average, TV owners have higher incomes, greater interest in sports, and higher pre-television attendance than non-owners.

So in order to achieve a meaningful comparison, we must contrast the trends in attendance behavior for the two groups over a period of time, or we must make sure that we compare our group of TV owners only with those non-owners who have an equivalent interest in sports and whose prior attendance patterns were equivalent. And comparisons must be made for various groups of non-owners, exposed in varying degrees to TV in the home of a friend or in public places. Further, the measurement of stimulative effects, -- making new fans or increasing the interest of old ones -- presents peculiar difficulties.

But even these comparisons, while they might provide a sound appraisal of past effects, would not tell us what will happen in the future, because of the dynamic character of the situation. The characteristics of future TV owners, for example, may be quite different from the characteristics of the past owners whose attendance habits we have examined. And because of "novelty effects" or other factors related to the individual's own experience with television, we cannot be sure that even the TV owners we have investigated will behave in the future as they have in the past.

If one approaches the problem by comparing, not groups of individuals, but the attendance figures of groups of colleges, depending upon whether or not the games were televised, such factors as team performance and prestige, and number of TV sets in the area, must be controlled. Furthermore, the groups must be sufficiently large so that random variations in other factors, such as weather, will be cancelled out.

Finally, because of the differential characteristics of TV owners in various regions of the country, no mere local study can be used to evaluate total or national effects. And in order to see how TV effects operate in such contrasted situation as small colleges vs. large colleges, good weather vs. bad weather, the presence or absence of competing sports attractions, etc., no national survey is sufficient because these local factors must be studied locally in a number of controlled situations.

A Schematic Outline

The foregoing discussion was intended merely to suggest the nature and complexity of the research problem. To illustrate it graphically, and to provide a frame of reference for the evaluation of past research and for the design of future research, we present below a schematic outline of the problem. In this scheme, the major variables are classified into three groups, as follows:

(1) TV INDEPENDENT VARIABLES -- These are the factors relating to television, whose effects it would be desirable to measure:

A. The availability of TV in the area
B. The extent of TV ownership
C. The length of ownership of TV sets
D. The accessibility of TV in public places
E. The characteristics of TV owners
F. The availability of competing games on TV
G. The availability of deferred or post-game TV
H. The price and availability of TV sets
I. The technical vividness of the telecast
J. Any special features of the TV program (good or bad announcer, TV publicity urging attendance at game, etc.)

(2) DEPENDENT VARIABLES -- We want to know how any or all of the above factors affect these things:

A. Long-run, over-all college football attendance
B. Seasonal attendance at particular types of colleges
C. Attendance at specific games

(3) NON-TV INDEPENDENT VARIABLES -- These are factors, aside from television, which may be presumed to affect attendance, and whose effects must either be measured or controlled:

A. Long-run economic factors (changes in income, employment, ticket prices, etc., as they operate differentially in different areas or on different types of people)
B. Team performance (both home and visiting teams)
C. Weather
D. Long-run changes in leisure-time habits and interest in football, in different areas and for different types of people
E. Local interest in football in the past
F. Individual game attractiveness, publicity and promotion
G. Stability of attendance (the extent of advance sale, hard-core alumni attendance, etc.)
H. Competing activities: sports attractions or otherwise
I. Relative difficulty of attendance: parking, transportation, availability of seats, etc.
J. Radio broadcast of the game
K. War-related effects: gas rationing, the draft, etc.
L. Long-run population changes, including proportion who have attended college

The above lists of variables could be even expanded, but obviously, all are not of equal importance, nor are special controls necessary to hold constant the effects of each. Thus, by the simple process of interviewing a national cross-section we would iron out differences in local interest in football; by studying attendance figures at a large sample of colleges, statistical laws would normally take care of random fluctuations due to local factors, etc.

But the impressive list of variables emphasizes the dimensions of the problem, and provides a framework within which we can judge the adequacy of past research and design a program for the future.

If we find, for example, that in certain past studies, the varying characteristics of TV owners in different localities have not been controlled, or that team performance has been ignored in comparing attendance figures, we are entitled to view the findings with suspicion.

Similarly, in designing a program for future research, we must take care to control, as far as practicable, the differential effects of the numerous variables cited above.

We turn now to our evaluation of the findings of past research studies on the problem.

II

EVALUATION OF PAST RESEARCH

It is our conclusion, after detailed analysis of the reported research in this field, that none of the past studies, taken individually or collectively, provides definitive answers to the question of the magnitude and direction of the effects of television on college football attendance in the past; nor does it provide a satisfactory basis for determining future effects during the 1950 and 1951 seasons.

The conclusion that definitive answers have not thus far been provided should not be interpreted as implying that all past research has been poorly designed or inefficiently carried out.

In the first place, few of these studies make any pretensions of being definitive. Some of them merely state their findings without voicing any conclusions; others take care to point out the limitations of their data, and report their results as merely suggestive. The standards we have been asked to apply are, therefore, unduly rigorous.

Secondly, all of these studies were made at too early a date in the development of television to provide definitive answers, since control of all the relevant variables in such a dynamic situation requires a long enough period to assess effects over time. It is doubtful whether any research could have been designed before 1950 which would have provided more than a rough guess as to effects so far.

Furthermore, it is inherent in the nature of the problem that studies which are set up on a local basis or are otherwise limited in scope cannot provide definitive estimates of the extent and direction of TV effects in other localities or situations.

As will be seen in our examination of the individual studies, it is possible to approach the problem in many different ways. But the fruitfulness of any particular approach may not become clear until much of the data have been collected, due to the complexities of the problem. Thus, with the best intentions and the highest degree of research skill, it is quite possible for a researcher to discover that he has not taken into account all the relevant variables and that his findings are therefore not significant.

In particular, the work of Jerry Jordan deserves great commendation. There can be little doubt of the importance of the basic material that he has succeeded in accumulating for any future research in this field, and he successfully demonstrated that effects thus far have been minor in most areas.

The data obtained from past research, together with the various approaches used, have greatly illuminated the problem and have provided the necessary guidance in setting up a basic and thorough-going research program, now that sufficient time has passed to make such a program feasible.

The major reasons for the failure of past studies to provide definitive information are:

(1) Lack of adequate controls over the variables other than TV in estimating effects on past attendance -- especially the failure to control the "normal" or pre-TV attendance of television owners.

(2) Failure to study attendance trends over a long enough period of time to provide a basis for forecasting future effects, as TV reaches more and different people.

(3) Limitations in the generality of the research, which make it impossible to project the findings to other areas or different situations.

(4) Reliance on verbal reports of reasons for increased or decreased attendance, which do not necessarily provide a valid measure of the actual effects of television.

(5) Certain technical inadequacies in some of the studies, such as non-response biases in mail surveys, faulty sampling techniques, or poor questionnaire design.

Summary evaluations of the separate studies, presented in this section of our report, will briefly examine the role of each of these defects, as they operate to prevent definitive conclusions from being drawn. A more detailed evaluation of each study will be found in the appendices.

Taken collectively, the body of past research suggests that the over-all effects of television on college football attendance in the past have been adverse, but small. It is impossible to specify the amount of this adverse effect with any precision, but in total it is probably less than 5%, though possibly somewhat larger in areas of heavy TV saturation.

Past research does not offer even a suggestion of what the future effects will be, as saturation increases, except that the future trend will be a function of at least three basic factors now working in different directions, the net result of which is not predictable on the basis of past research.

These factors are: the future increase in the public's exposure to TV; a decline in the proportion of viewers whose attendance will be adversely affected as TV penetrates more extensively into the lower economic levels which do not ordinarily attend college football games; and unknown changes in the behavior of owners of differing characteristics, as they hold their sets for longer and longer periods of time.

It should be emphasized that past research has not proved an adverse effect, but merely that it suggests it. In particular, the hypothesis of the "novelty effect", which is central to Jordan's study of the problem (while not, in our judgment, proved by the data cited), points up the need to study the attendance behavior of given individuals over a period of time after purchase, before it can be determined whether apparent past effects are merely temporary.

Furthermore, the suggested adverse effects in the past may be partially offset by the stimulative effects of TV on the attendance of other persons besides owners, or on new owners who had previously lacked interest in football. None of the past research provides a good estimate of the extent and magnitude of possible stimulative effects.

The Jerry Jordan Research

Jordan's general conclusion is that the effect of TV on college football attendance has been almost negligible thus far, and that whatever effect has existed is only temporary and may be expected to disappear in the future.

This conclusion is based primarily on the hypothesis of a "novelty effect", which arose out of a prior general sociological study of television effects which indicated considerably lower participation in a number of activities, including sports attendance, for short-term TV owners, as compared with long-term owners.

According to Jordan's hypothesis, which he himself states is central to his whole research, the attendance of TV owners may fall off immediately after their purchase of a set, but it gradually returns to normal and may even surpass their pre-TV attendance. He adduces a considerable amount of data, of two general kinds, which are cited as proof of the hypothesis.

First, comparisons obtained from a sample survey in Philadelphia in late 1949 show that very recent TV purchasers have a much lower attendance than non-owners, but that persons who have owned a set for more than two years have an even higher attendance than non-owners do. Secondly, studies in Philadelphia baseball stadiums show higher proportions of TV owners, and especially of long-term owners, among spectators than among the Philadelphia population as a whole.

Unfortunately, the finding is inconclusive because the prior attendance habits of the three groups were not controlled. Lacking actual trends in the behavior of the same individuals, a "novelty effect" would be proved only if long-term owners, short-term owners and non-owners differed from one another only in the respect of TV ownership.

Actually, there is evidence that earlier purchasers of TV were a group with relatively high incomes and above-average sports attendance prior to purchase. The short-term owners are a group with relatively lower incomes and lower sports attendance. Thus, it cannot be concluded that the future behavior of present short-term owners will conform to the present behavior of long-term owners.

However, some valid conclusions may be drawn from Jordan's data. It seems clear, for example, that there is at least a temporary reduction in attendance caused by TV ownership. Short-term owners have lower attendance rates than non-owners, in spite of the fact that there is every reason to believe their prior attendance was at least as great, and probably greater.

Furthermore, it can be calculated from Jordan's data that only 41% of the entire group of TV owners (both short-term and long-term) attended a football game during 1949, as compared with 46% of the non-owners. According to these figures, therefore, TV owners attended only 89% as often as non-owners (41 over 46); or, in other words, their attendance fell off 11%, if we assume that both groups had equal attendance in the past.

Since TV owners, at the time of the survey, amounted to about one-quarter of the Philadelphia population, a minimum loss in total attendance, due to television, of around 3% (one-fourth of 11%), is indicated.

The above calculation provides a minimum estimate because it is reasonable to suppose that at least the long-term owners had a higher previous attendance rate than others (because of their greater incomes, college education, interest in sports, etc.), and the loss for that group, and perhaps for the short-term owners as well, is probably understated. Assuming no "novelty effect" and all other things equal, this minimum loss in total attendance, caused by television, could amount to more than 10% if ownership became universal.

Actually, there is a suggestion of a "novelty effect" in the sharp difference that Jordan finds in the attendance rates of the "3 months or less" owners, as compared with the "4-11 months" owners. Only 24% of the new owners claim to have attended, as compared with 41% of the latter group; and this difference seems too large to attribute solely to possible differences in the prior attendance habits of the two groups.

But, lacking prior attendance figures, there is no possibility of ascertaining the magnitude of any "novelty effect" from these data, and no basis for concluding that the initial loss in attendance of TV owners will be fully recovered.

On the other hand, Jordan's data are all based on the proportions who "have been to a football game in 1949" (including professional, high school and sandlot games), instead of the average number of college football games attended -- a much more relevant and sensitive measure.

The question used by Jordan would have the effect of magnifying the adverse effects of television, since it is reasonable to assume that the TV owners (with their higher incomes, college affiliations and greater interest in sports) would attend more games and more college games. Jordan's statement of the attendance of non-owners may be inflated by the probability that relatively more of these attended only high school or sandlot games, or attended only one college game.

The involved nature of the foregoing considerations illustrates the difficulty of finding definitive answers in Jordan's research. Lacking prior attendance behavior of the various groups, and relying on a question which does not accurately measure college football attendance, one cannot hope to get any clear indication of TV's past or future effects.

The studies at the stadiums indicating higher proportions of TV owners among spectators than among the general public are for baseball only, and have no relevance to college football attendance. In fact, Jordan's own figures show that TV owners have a higher rate of baseball attendance and a lower rate of football attendance than the non-owners. It is unlikely, therefore, that similar findings would have been obtained in a football stadium.

In any case, the stadium surveys are open to the same objection previously cited; a failure to control pre-TV attendance. It is admitted by all that TV owners have higher incomes and are more sports-minded. For all we know, the proportion of them found in the stands might have been twice as high, had the game not been televised.

Other Jordan studies, showing a higher TV ownership rate among football season-ticket buyers than among non-buying alumni or the general public, are subject to the same considerations. The groups are not controlled according to interest or prior attendance, and it is not surprising that those most interested in football and able to afford season-tickets are also more likely to have television sets.

One fact from these comparisons, however, does suggest an adverse effect of television. Those 1948 season-ticket buyers who did not duplicate their purchase in 1949 had a higher TV ownership rate than the 1948 buyers who did repeat their purchase. Unless television had an adverse effect, we would have no reason to expect such a finding, and Jordan gives no satisfactory explanation of the point.

Jordan's analysis of actual college football attendance figures reveals little that can be used to provide a definitive answer to the question of television's effects. His basis for estimating attendance changes (percent of colleges increasing or maintaining their previous year's attendance) is again a relatively insensitive measure; percent gain or loss in total admissions would be more pertinent.

In a period when ownership was confined in most areas to a small proportion of the population, TV effects on total attendance must certainly have been negligible in the case of the great majority of colleges. During the period of this report, we were unable to obtain the basic attendance data used in Jordan's calculations, but from material supplied by him, it appears that televised colleges showed a <u>smaller percent gain in total admissions</u> than non-televised colleges.

The difference is slight and probably not statistically significant, but takes on importance in view of the fact that the televised colleges as a group show a considerably better trend of performance than do the non-televised colleges. Bearing in mind the importance of team performance in determining attendance changes, we would expect the televised colleges to show a larger gain in admissions, rather than a smaller one, if TV were not an adverse factor.

The demonstration of TV effects through analysis of available attendance data is made difficult by the comparatively small number of cases; when the colleges are broken down into relevant groupings, some of the groups contain only a handful of colleges. A related difficulty is the great variation in size of colleges, which increases the sampling variability.

The only notable result of Jordan's analysis of other variables is the indication of a strong relationship between team performance and attendance, but the conclusion which seems to be drawn from this that TV effects do not exist because variations in attendance changes are largely attributable to performance is not logical. That one factor does have an effect does not prove that another factor does not have an effect.

A detailed analysis of the Jordan research appears in Appendix A. In summary, we conclude that a small adverse effect of TV is indicated, and that some "novelty effect" is possible but hardly proved. The Jordan research does not provide definitive answers to past effects, nor does it have predictive value for estimating future effects. It does, however, offer valuable clues for designing an expanded research program.

The Crossley Study

This study, an exploratory one conducted in 1948, examined the effects of television on the football attendance of TV owners, their guests and viewers in public places, in four Eastern cities. The report carefully points out the limitations of the data and indeed does not state any specific conclusion, though it does sound a vague note of alarm at a slight decrease in attendance accompanied by an acknowledged increase in interest in football.

Certain of the findings indicate an adverse effect of TV ownership on attendance. Owners show a decline from 1947 to 1948 in ratio of games attended to games they could have attended (what Crossley calls "Percent of Games Potentialities"), and a considerable drop from their "normal" (presumably pre-TV) attendance. The trends for guests and viewers in public places are not clear.

About one-fifth of the TV owners give a preference for television as a reason for non-attendance, as compared with much smaller proportions of the guests and viewers in public places mentioning this reason. A considerably higher proportion of the owners say they enjoy watching the game on TV as much as actually attending, than is the case among their guests or among patrons at public places.

Although the results suggest that TV had a deterrent effect among owners in 1948, they do not provide an answer as to total effects, nor a basis for prediction, for the following reasons:

Most of the TV owners were new owners, and Jordan's hypothesis of a "novelty effect" may be involved. Their attendance habits would have to be followed over a longer period of time to determine whether or not the suggested effects were only temporary.

The survey was conducted in a period when TV had not penetrated extensively into the middle and lower income groups. Allowance would have to be made for the high education and income level of the sample, and the findings cannot be projected to the present or to future periods of mass ownership.

As the Crossley report itself emphasizes, its figures for four cities differing markedly in size, TV penetration, football attendance composition, and direction of attendance trends, give a total which cannot be projected to sectional or national effects. The report recognizes that weighting would not have overcome this problem because "the totals would still not be representative of anything more than four selected cities of different sizes and different characteristics."

TV owners, their guests, and patrons of public places account for only an unknown fraction of the total college football market. Trends of attendance among those not falling in these groups are not known.

The proportion giving TV as a reason for non-attendance are suggestive, but not a satisfactory measure of actual deterrent effect. In the first place, such reasons represent only the most salient considerations which occur to respondents, and often do not include latent factors (of which TV may be one) which may be even more powerful in determining behavior.

Secondly, TV may interact with other factors and reasons in such a complex manner that the respondent himself cannot assess the effect or assign it singly to one or another reason. Thus, some who give TV as a reason for non-attendance might not have attended in any case, while others who do not mention TV might not have been so affected by the other reasons they give (distance, cost, etc.) if they had not been able to view the game on television.

The Facts Consolidated Studies

This effort to determine TV's effect on college football attendance in Los Angeles in 1949 included two studies: one designed to find out why spectators at a game were going to more or fewer games than in 1948, and the other to determine the same information from the general public, through telephone interviews.

The findings reveal that, among persons attending fewer football games, availability of the games on television ranks fourth among the reasons given. Among persons attending more games, "greater interest" is frequently cited as a reason, and some of these individuals volunteered the fact that their interest had been aroused by watching college football on television.

The results were published merely in the form of "highlights" from the figures, and no explicit conclusions were drawn, although the reader would probably conclude that other factors besides TV were operating to reduce attendance, and that TV was creating new customers at the same time that it was keeping some of the old ones at home.

Both these results are not unexpected. The unanswered questions are: What is the magnitude of television's effect, in comparison with other factors, in decreasing attendance; and what is the magnitude of the stimulative effects of TV, in contrast to its deterrent effects? The studies shed no real light on these issues.

As we indicated in our comments on the Crossley study, the reasons volunteered in response to a simple "Why?" question are not a valid indicator of the relative importance of the various factors. A vast complex of causes operate to determine a person's attendance or non-attendance, and these causes are usually so inter-related that the respondent himself is unable to assess the relative influence of each. He will usually mention, therefore, only the most salient reason that occurs to him at the moment.

Sixty percent of the ticket-holders, and 45% of the general public who had watched games on TV, said that television "made them want to come out to see games in person". The significance of this finding is open to serious question: the wording of the question may have encouraged a "Yes" answer; there is no way of knowing how often this increased desire to attend is actually translated into action (i.e., actual attendance), and finally, it may be taken for granted that any publicity about the game (radio, newspaper or TV) would increase the desire to attend. The question is: Does the stimulative effect outweigh the deterrent effect?

Twenty-two percent of the ticket-holders at the stadium claimed to own television sets (a higher proportion than of the general public), but this finding is of little value in view of the correlation between present TV ownership and prior or "normal" attendance.

Finally, the telephone survey among the general public revealed that 80% of those who had attended a football game during the past season had also watched one on television, while among the non-attenders, only 40% had seen football on TV. This finding is no measure of TV's stimulative effect, however, because the common factor of interest in football underlies both televiewing and attendance, and one would expect a high correlation between the two.

Southern California Ticket Holders Study

This was a study of former USC season-ticket holders who purchased such tickets in 1948 but did not repeat in 1949. The conclusion that TV had no appreciable deterrent effect on such persons was based on three main findings, none of which may be considered conclusive.

The first major finding was that among those persons who purchased public season tickets in 1948 but not in 1949, a higher proportion of TV owners than of non-owners attended one or more of the 1949 games. Actually, because of the small sample available (26 owners and 31 non-owners), the difference is not statistically significant, since sampling variance alone would have produced the difference one-fourth of the time.

Furthermore, although prior attendance for the two groups (TV owners vs. non-owners) appears to be controlled, a fallacy lies in the lack of control over the proportion of TV owners who did not renew, in comparison with the proportion of non-owners. Thus, if 40% of the TV owners failed to renew (a hypothetical figure), but only 20% of the non-owners failed to re-purchase, it would be clear that television had a deterrent effect, even though more of the TV owners saw some of the games the following year.

And there is some reason for supposing that is, in fact, what happened. No less than 46% of those who failed to renew were TV owners, as compared with only 18% in the area population as a whole and 28% in the "A" economic stratum. We would not expect the TV ownership proportion among the entire group of 1948 season-ticket purchasers to be very much higher than among the "A" economic stratum, much less to be as high as 46%. However, lacking exact figures on the proportion of owners and non-owners who failed to renew, we cannot be certain of the case, and the findings remain inconclusive.

The second finding on which the conclusion is based is that fewer than 10% mention television as the reason for their failure to renew. The difficulties of relying on volunteered reasons in response to a single question, as a measure of television's effect, have been discussed in the two prior evaluations.

Finally, the survey cites the finding that a higher proportion of the discontinuers say they plan to buy tickets next year than say they plan to watch the games on television. While suggestive, there is no true predictive value in people's expression of their long-range intentions.

ECAC Postcard Study

In this survey 30,000 post cards were sent out by ECAC member colleges to alumni chosen at random from those living within 250 miles of the campus. Data were collected on number of games attended in each of several prior seasons, on TV set ownership and on certain other factors, and approximately 5,000 returns were tabulated.

The report concludes that television is a potential threat to college football, but the only specific finding cited is that 16% of the sample thought television was as satisfactory as actual attendance. However, it is not possible to conclude from this that those 16% will actually stop attending for that reason. Too many other factors intervene to affect attendance to make it possible to translate such a figure into actual effect.

Though the report does not specifically mention the fact, the tabulations reveal a decline in attendance over the 1945-1949 period among those responding. For a variety of reasons, however, this result is of no value for determining the effect of television.

First, it may reasonably be assumed that attendance declines sharply when a student becomes an alumnus, and perhaps continues to decline slowly thereafter. If this is true, it will inevitably be found that any group of alumni show a generally declining attendance, as they leave school and grow older. Their gradual loss will, of course, be offset by the high attendance rates of the new alumni.

Secondly, no cross-tabulation of the attendance data by TV ownership was made, so that we could not, in any case, determine whether the reported decline was due to TV.

Finally, the small percentage of returns also casts doubt on the validity of the findings, since the amount of non-response bias is not known. It may be, for example, that returns came disproportionately from those who owned or did not own TV sets, or from those who liked or disliked television.

Television Forecast Study

This was a mail questionnaire which investigated the effect of TV ownership on the participation of owners in the Chicago area in certain leisure-time activities. Lower participation in all activities was found, but according to the report, the observed difference for sports attendance could have arisen from sampling variability.

Consistently higher present participation and much smaller declines from the pre-TV ownership period were shown for long-term owners as compared with short-term owners. A high proportion of respondents said they had become interested in sports they had not been interested in before.

The relevance of findings to the impact of television on college football attendance is severely limited, owing to the broad nature of the investigation. The comparison of long-term and short-term owners cannot be taken to prove novelty effect, since other factors could have caused the greater decline for short-term owners. The report itself carefully points this out, citing the possibility that memory of time spent in participation before getting the set is less accurate for the long-term owners. We would add that long-term owners may be less influenced by cost differences and other competitive advantages of TV, because they are higher in the economic scale than short-term owners.

NCAA Television Study

A mail questionnaire was sent to 278 member colleges, asking for attendance figures and for opinions on the effect of TV. Since only about a 23% return was obtained, and since the opinions of the athletic directors who responded provide only speculative information on the actual effects of TV, we do not discuss the findings here. A more detailed evaluation is provided in Appendix D.

Pacific Coast Conference Attendance Study

This study merely compares seasonal attendance figures at PCC colleges for the 1947, 1948 and 1949 seasons, using "comparable" home games for the comparison. No interpretation of the findings is advanced, and no causal connection with television is shown.

1949 Study of U. S. Football Market (Don Spencer Study)

No relevant data are available from these findings, except for the information that "persons known to attend football games" (if this is a good sample of them) have very high incomes and are much more likely to be college graduates than are the general public. Most of those questioned said they would prefer to attend a game of national interest rather than to watch it on television.

Television Ratings of Commercial Services, Inc.

This study simply forecasts the number of TV sets expected to be in use in 1950.

Newspaper Stories

In addition to the studies cited above, a great number of statements and opinions have been reported in the press as to the effect of TV on college football and other sports attendance. These opinions range all the way from deep pessimism to complete optimism, and all of them fail to establish a definite causal connection between television and the situations they cite.

III

SUGGESTED PROGRAM FOR THE FUTURE

It is clear from the foregoing evaluation of past research that little definitive information has thus far been obtained concerning the effects of television on college football attendance. While much research has been done and a good deal of valuable data collected, few valid conclusions or generalizations can be drawn from these past efforts because of limitations in the scope of the studies which were largely unavoidable at the time.

Unless the committee is now prepared to support a program which would overcome the limitations of past research, we would recommend that no further research be undertaken at this time. No further progress can be made by repeating the type of studies conducted in the past, for such studies would only add to the mass of ambiguous data of which we already have more than enough.

What is required is a carefully planned study or series of studies, in which the uncontrolled variables present in past research would be held constant, and the findings of which can be generalized to cover more than one area, one period of time or one type of situation. The design of such a research program is made difficult by the complexities of the problem, and its application would not be easy, but we regard it as feasible.

To provide a starting point for the design of a basic research program, we present below the main lessons learned from our evaluation of past studies so that we may avoid as far as possible those limitations:

(1) We cannot measure the effect of TV by comparing the behavior of owners and non-owners at a single point in time. Instead, we must compare the owner's behavior before and after TV became accessible to him, with the non-owner's behavior over the same period of time.

(2) We cannot assume that past TV effects will necessarily hold true for the future, as technical advances take place and as ownership penetrates different groups in the population.

(3) We cannot assume that TV effects operate independently or uniformly, without relation to other variables.

(4) We cannot rely on the reasons people give for their behavior or opinions about television or football as an actual measure of TV effects -- although such information is useful in supplementing or explaining data concerning attendance.

(5) We cannot rely on localized surveys to answer the question of effects on overall attendance.

(6) People who attend college football games represent a special group, and data about the behavior of other population groups or of the population as a whole are not necessarily relevant.

The program outlined below is based on the above assumptions, and on the hypotheses which derive from them.

The minimum requirements for a basic and integrated research program are these three:

(1) Systematic collection of accurate attendance figures at each scheduled game of all colleges, or of a representative sample of colleges, during 1948, 1949 and 1950.

(2) A nation-wide sample survey of trends in the attendance behavior of the college football audience, in relation to their degree of exposure to television.

(3) Several local "case studies" in areas where a college game is televised and where the effect of various local factors can be controlled and measured.

A maximum program, which we develop more fully at a later point in this section, would merely involve an expansion of these three basic approaches, in order to control further all the relevant variables.

Systematic Collection and Analysis of Attendance Figures

In order to assess the effects of television on college football attendance, a prime necessity is complete, accurate and comparable data on actual attendance. Only from such figures can we discern the overall trends in attendance, the trends for contrasted groups of colleges, or attendance at comparable games in relation to various degrees of exposure to TV.

Other basic data required in this research program, such as television ownership and characteristics of its audience, are normally available from a variety of sources, but the difficulty of obtaining systematic data on football attendance has been a stumbling-block in our evaluation of some of the studies we have examined.

Although analysis of attendance data may have only minor value for predictive purposes, it may by itself provide considerable evidence as to the effects of TV in the past. This will become more than ever true as TV saturation increases. As we pointed out in our evaluation of Jordan's analysis of attendance figures, one would not expect TV to have a substantial effect on gross attendance at a time when TV ownership was limited to a few areas and to a select group of the population; but in 1950 and 1951 this will probably not be the case.

The analysis of attendance data would involve comparisons of trends in attendance for televised and non-televised colleges, for TV and non-TV areas, and for comparable games when televised and not televised -- with such other variables as performance controlled to the maximum possible extent. The importance of collecting the data systematically from large number of colleges lies in the fact that these other variables can be controlled only if there are sufficient cases in each sub-group to permit statistical comparisons.

Such analysis would also be useful in explaining or qualifying the overall effects of television as measured by national surveys. Thus, the attendance data might reveal differential effects on varying types of colleges: small vs. large, non-televised colleges in TV areas, etc.

Finally, analysis of attendance data could be used to supplement the personal interview materials from the national survey, and to throw light on the findings of any local surveys which might be undertaken. In the latter case, attendance figures might show how the TV effects which may be indicated by the survey are modified through interaction with other variables prevailing in the local situation.

Systematic attendance data can be collected from the various colleges by means of a mail questionnaire or post card, stating exactly what figures are needed. One hundred percent returns should be the goal, all non-responders being followed up by supplementary mailings, by person-to-person telephone calls, or if necessary, by personal interviews.

Nation-Wide Sample Survey

The purpose of the nation-wide survey would be to discover trends in individual attendance, and analyze them in relation to the degree of the individual's exposure to television.

It is assumed that three main controls will take care of the relevant variables to be considered in measuring the effect of TV on the attendance of any given individual. These three controls are:

a) His past attendance behavior
b) The period in which he bought a TV set
c) The length of time he has owned a set

Personal interviews would be obtained with a cross-section of the football audience in a representative sample of TV areas all over the country. From each person interviewed we would collect data on attendance behavior during the past three years, together with such corollary information as: TV ownership, date of purchase, type of screen, satisfaction with TV, program interest, reasons for attendance and non-attendance at college games, amount of TV exposure for non-owners, effect of TV on interest in sports of other family members, and the usual socio-economic and other factual data.

TV owners would then be separated into groups, according to the date they purchased their set (in relation to the date when TV was introduced into the area), and the attendance trends of each studied. The attendance trends of non-owners would also be examined, in relation to the extent and recency of their exposure to television in the homes of friends or in public places.

By examining the trends in attendance of TV owners and non-owners at various stages of their exposure to television, it should be possible, within reasonable limits, to calculate their probable future attendance. When the groups are weighted by their relative frequency in the total football audience, it will then be possible to estimate closely the overall effect of TV in the past and to estimate its probable overall effect in the future.

Estimates of the amount of new attendance due to television would be derived from comparisons of the number whose attendance increased, among various groups having differential access to TV.

Such a study design would overcome most of the limitations of past research.

It would concern itself only with the college football market. and not with the total population or with irrelevant sub-groups.

It would be a national study, not limited to a particular area or situation.

It would deal with trends in attendance over a three-year period, and not with behavior at a single point in time.

It would provide comparisons among sub-groups which could be matched on the three major variables of prior attendance, length of TV ownership, and period of purchase in relation to the date TV was introduced into the area.

Obviously, such a survey would be difficult to plan and administer, and there is a chance that the attendance trends for the various groups would be so unstable and confused that no definitive prediction could be made regarding effects in the future. Nevertheless, we believe that the study could be carried out and that it offers the best opportunity to answer the basic questions.

We discuss below the major difficulties which might be anticipated, together with our recommendations for overcoming them.

Sampling:

The two major questions which arise regarding the sampling procedure are:

(1) How does one go about locating people who attend college football games, and how does one know that those one finds are a representative cross-section?

(2) How does one make sure of obtaining sufficient cases in each of the relevant sub-groups to permit an independent analysis of the attendance trends within that sub-group?

Our procedure for answering the first question is, in effect, to approach a national cross-section of the population, screen every person approached with a question on football attendance, and then interview only those who qualify as attenders. The group remaining after the screening should be a representative sample of the total football audience.

Actually, certain modifications would be made in this general procedure for reasons of efficiency. Since the scheme of analysis is based on trends in behavior before and after TV became available to the respondent, we would exclude all regions not yet covered by television and interview only in a representative sample of TV areas, stratified according to the year in which television was introduced into the area.

Secondly, in order to avoid a great number of fruitless approaches, differential quotas would be assigned to various socio-economic types of neighborhoods to minimize the amount of screening necessary. Thus, lower income areas would be assigned fewer cases than their proportion warrants, because we know that persons who attend college football games are more likely to be of high income.

Within the selected TV areas, particular sampling points (cities, towns and rural areas) would be selected at random in proportion to size. Within each urban place, the choice of households would be controlled by the assignment to each interviewer of randomly selected blocks. Each selected household would then be screened for any member of the family who has attended a college football game within the last three years.

In the households which contain no attenders, TV ownership and a limited amount of other factual information would be obtained. In the households which pass the screening, every person in the household who is 16 years of age or older, and who has attended a college football game during the past three years would be interviewed.

The answer to the second question is slightly more difficult. Our best guess is that a sample of about 2,000 attenders would give us sufficient cases in most cells to permit the comparisons we need. (On the basis of Gallup data showing that about 30% of the adult male population have at some time attended a college football game, and allowing for the under-sampling of low-rent areas and the over-sampling of high-rent areas, we estimate that about 8,000 calls would produce a minimum of 2,000 attenders within the last three years.)

It is quite likely, however, that even this number of cases will not include as many as are needed in particular cells. It may be, for example, that the above sampling method would produce only 50 people who had purchased a TV set in 1948, yet the trend in attendance of this particular group would be extremely pertinent to the analysis.

It is expected, however, that such a situation would soon become apparent on the basis of early returns, and that steps could be taken to supplement the sample from such groups by other methods; for example, by interviewing a random sample of 1948 purchasers from dealers' lists or other sources of names.

The Memory Factor

Projecting curves for the future attendance of TV owners and other groups is necessarily dependent upon reliable information about past attendance over some period of time. We are assuming that such information can be obtained with reasonable accuracy through the use of memory aids.

But while this may prove true, the final method will have to be thoroughly pre-tested before the plan outlined here can be applied. There is reason to suppose, not only that some overall unreliability may be present, but that selective unreliability may also exist. For example, either the more frequent or the less frequent attenders might prove less accurate in their recollections of which games they saw in which years; or TV owners might have more difficulty than non-owners because of possible confusion between games seen on TV and those actually attended.

The nature of college football, with its weekly games and short season, and its status as an "event" in the lives of most people, encourages belief that memory losses may be kept to an insignificant level; while the nature of the questioning would be such as to minimize the natural tendency to exaggerate attendance for prestige reasons.

Furthermore, we would endeavor to work into the questionnaire certain internal checks on consistency which we would hope would help reveal any obvious distortions. The problem is nonetheless a real one, and one that only considerable thought and careful pre-testing can overcome.

Analysis:

The entire survey is predicated on the expectation that future trends in attendance can be predicted from the past behavior of relevant sub-groups. A number of considerations may intervene to make this impractical.

A large number of persons not remembering their past behavior, too few cases in relevant cells, wide fluctuations in attendance from year to year because of some unknown factor, differential behavior between sub-groups within the cells, or a variety of other factors might make the system difficult to apply with any reasonable accuracy.

Some of these difficulties (e.g. the memory factor) may be overcome in the pretest; others (e.g. insufficient cases in a particular group) can be overcome by supplementary sampling.

There can be no guarantee that the findings could be projected to the future, but the approach seems to represent the only fruitful one, and even though the scheme of analysis may not be applicable in its entirety, it is certain that estimates of past effect will have a much sounder basis than anything heretofore accomplished.

Local "Case Studies"

We have observed that studies which are restricted to one locality or to one situation cannot provide findings which may be generalized to other areas or other situations. Conversely, however, neither systematic attendance figures nor a national survey can accurately assess the local effects of television, although both may furnish valuable clues.

The differential effects of TV under varying conditions of team performance, weather, competing attractions, local economic conditions or interest in football, etc., can be established only by local, on-the-spot studies. For this reason, any integrated research program must make use of both techniques: the national survey provides a norm against which to interpret the local results; the local surveys provide more refined tests of the findings turned up by the national study.

It is difficult to outline such local studies in detail, since their possible range is almost endless, and the particular hypotheses to be tested might best be left to those immediately concerned. We would suggest that the committee do what it can to stimulate an interest in local research among the social science departments of universities, and that the more

promising studies be endowed -- provided their research standards warrant it, and provided the central research agency selected by the committee retains some measure of control over the techniques used, to insure comparability with other studies carried out under the same program.

Assuming the type of integrated research program we recommend, at least two such studies should be carried out during or immediately after the 1950 football season. As an illustration of what might be attempted, we offer the following approach.

Take two contrasted areas, one of which, let us say, contains a televised college whose team performance is exceptionally good, and the other a televised college whose performance is poor. As far as possible, hold other factors constant; i.e., size of college, type of locality, attractiveness of schedule, etc.

Interview a representative sample of, let us say, 500 football "attenders" in each area, selecting the sample somewhat as we have described in the previous section. If possible, interview them at two different points in time, either before or during the season, and again at the end of it, to minimize memory distortions and to compare future intentions with actual behavior.

Question the respondents in each area on their TV ownership and exposure to televised games, on their attitudes toward TV, their interest in football, their Saturday afternoon leisure-time habits, and the specific reasons for their attendance or lack of attendance at each game throughout the season.

Analyze the findings in terms of the comparative attendance behavior of TV owners, non-owning viewers and non-viewers, both overall and for particular types of games: big games vs. "warmups", good weather vs. bad, etc. Compare their attendance at other non-televised or high school games in the area. Analyze the groups in terms of alumni vs. others, or whatever other comparisons seem relevant. Compare the survey findings with actual attendance figures. And then compare the findings in the two areas to see how the TV effects varied according to team performance.

Similar paired areas might include a large college vs. a small one, or a college whose games were televised simultaneously vs. one which had deferred TV, in each case holding the other factors constant as far as possible.

As indicated, if carefully designed, even a single survey conducted at the close of the season in a particular area can throw valuable light on television's local effects, by means of comparisons of the effects from one game to another, or among different population groups for the same game.

A Maximum Research Program

If further research is decided upon, we regard the foregoing three-way approach (basic attendance data, national survey as outlined, and local case studies) as the minimum effort which should be made. As we noted earlier, it is doubtful whether anything less than we have proposed would add materially to what is already known about the problem.

Yet it is clear that our proposed program, ambitious as it is, still has many limitations. Let us briefly recapitulate its possible inadequacies:

We may have insufficient cases in some of the relevant sub-groups.
We must rely on the respondent's memory to reconstruct his past attendance behavior.
We do not envisage a full-scale probability sample including pre-listing of dwelling units, callbacks, etc.; thus, our sample may contain some unknown biases.
We would not interview in non-TV areas, and we cannot be sure that TV effects in areas not now accessible to television will be the same as in the areas we investigate.
We cannot predict the effect of probable technical advances in TV, such as larger screens, color, etc.
We must limit our study to TV's effect on college football attendance, and largely ignore its effect on the whole pattern of American leisure-time activities, of which football attendance may be a typical or atypical part.

Obviously, some of these considerations are not of crucial importance, while others can be controlled to an adequate extent. Actually, our minimum program would mark a tremendous advance over any and all of the past research and would add immeasurably to our understanding of the problem.

Yet there can be little doubt that the consideration of a maximally useful program to measure the effects of TV on college football attendance inevitably brings up, first, the idea of a continuing study over the next two or three years, and second, the idea of setting the problem in the larger context of television's effect on the whole pattern of American living.

It is abundantly clear, for example, that television is having and will continue to have profound effects upon the interests and behavior of the American people. At some point, those whose interests will be affected by such changes will need to know a great deal about the nature and direction of those effects, as well as their magnitude and their differential impact upon various groups in the population.

In our opinion, the sponsors of college football are only one of the early buyers of such research. As time goes on, more and more demand will arise for an assessment of the effects of television on various aspects of American life. Not only the entertainment and recreational industries, but educators, sociologists, community leaders and a host of other non-commercial as well as commercial interests will need this knowledge in order to gear their activities into the new pattern.

It would therefore seem worthwhile if some continuing study of TV effects could be undertaken by a group of interested sponsors, of which a portion would be devoted to the problems of college football attendance. It is obvious that the costs for any individual sponsor would be considerably reduced under such a cooperative arrangement, while at the same time the accuracy and scope of the program could be widened, so that any particular problem (such as football attendance) would permit of more accurate analysis by being set in the larger framework of general behavioral changes brought about by TV.

It is, of course, outside the bounds of this project to argue in detail the advantages of such a program. Yet, in considering a maximally useful program to measure the effects of TV on college football attendance, we must stress the superiority of a continuing program. We list below some of its advantages.

Measurement of Effects among New Owners:

Any analysis based on what effects TV may have had in the past is limited by the fact that the individuals who will purchase sets in the future are in many ways a quite different group. They may be presumed to differ not only with regard to their geographical distribution, but also with regard to socio-economic status, interest in sports and prior attendance.

The plan outlined in our minimum program assumes that we will be able to tell, from the differential behavior of the groups which have come into the TV market at various intervals in the past, what the behavior of future purchasers will be. While this is probably a valid assumption, it is clear that there are many advantages to basing analysis on what such groups actually have been doing rather than on what they are expected to do.

The TV market is only slightly saturated at this point, and expanding so rapidly that the measurement of effect is made very difficult if research is limited to one point in the continuing process.

Measurement of Stimulative Effects:

Perhaps the biggest gap in our present knowledge of TV effects is the extent to which television creates new football fans or intensifies the interest of old ones. Were these stimulative effects to prove strong, the potentialities for college football attendance would be obvious.

In a single national survey, one could chart the extent to which the attendance of certain population groups may have increased in the past, as their exposure to TV increased, and one could question them on the effect of TV on their interest in sports. But there are two main disadvantages to this procedure.

First, one cannot be certain that present non-attenders will react in the future in the same way as present attenders reacted in the past. And secondly, respondents' retrospective reports of the amount of interest they took at some period in the past are subject to a certain amount of distortion.

Under a continuing study, the current interest of both attenders and non-attenders could be periodically measured, and the extent to which present non-attenders are drawn into "the football market" as a result of their exposure to TV, could be accurately charted.

Measurement of Effect of Technical Changes

While the market is both expanding and undergoing qualitative change, TV itself is also changing. The expansion of network cables, new techniques of exhibiting, and above all, changes in reception facilities all may work to modify or reverse the trends observed over the past three years.

In particular, color television, large-size screens, deferred TV, theatre TV and any other such changes which might be introduced during the next few years, may be expected to affect in some unknown degree the whole relationship between TV and recreational activities.

The Memory Factor

It has been observed that any sound scheme for the measurement of TV's effects is dependent to a large extent on the reliability of people's recollections of the number of games seen in any year.

By establishing the study on a panel basis over a period of several years, dependence upon memory factors is sharply reduced. The attendance behavior of a representative group of individuals over a period of years before and after TV purchase may be charted with much greater accuracy under such a research design.

Inclusion of Non-TV Areas

While there would seem little advantage to interviewing in non-TV areas on a "one-shot" survey, the limitations imposed upon the study by the exclusion of such areas would be removed if the program were a continuing one.

Football attendance could actually be charted from the point at which TV was introduced into a given area, and thus it would be unnecessary to generalize from the findings based on existing areas to those areas not yet covered by television.

Probability Sampling and Sample Size

The costs of setting up a nation-wide probability sample, including pre-listing of dwelling units, callbacks, etc., would be prohibitive if only one survey were to be conducted. If the study were a continuing one, the cost of the original sample could be amortized over the series of surveys, and virtual elimination of any sampling bias could be assured.

If a panel operation were to be conducted, it would also be possible to supplement deliberately the number of cases in any particular sub-group which happened to prove inadequate in the first survey.

Scope of the Study and Sponsorship

As described above, changes in other aspects of leisure-time activity could be charted, so that effects on football attendance could be related to television's other effects.

Too, broader sponsorship might be obtained for a continuing study than for a single survey, and the costs of studying any one factor thereby proportionately reduced.

The Maximum Program in Summary

The ideal research program to determine the effect of television on college football attendance could be put into effect by merely expanding the minimum program previously outlined, so that broader information might be obtained and the areas of possible invalidity reduced to a minimum. This would involve:

(1) Obtaining systematic attendance data from all colleges, rather than from a sample of them, and for the next three years as well as for the past three.

(2) Setting up a national cross-section of football attenders (in non-TV areas as well as TV areas) on a probability sample, and interviewing as well a sample of the non-attenders who are approached during the screening process. Reinterview them at least every year, preferably every six months, and obtain information from all respondents on their total leisure-time behavior.

(3) Increasing the number of local case studies so that a greater number of inter-college comparisons may be made. Some of these, too, might be repeated from year to year.

Other Approaches and Their Limitations

In our evaluations of past surveys, we have commented on the wide variety of research techniques employed. In the programs we have recommended, we have restricted ourselves to two basic approaches: analysis of attendance figures, and personal interviews with a cross-section of the football audience in their homes.

We append here a brief explanation of why we discard certain other techniques which have been utilized in the past.

Mail Questionnaires:

In our opinion, the severe limitations of mail surveys make this approach highly unreliable for the type of problem we are concerned with. Without going into too much detail, it is sufficient to note that adequate lists of names from which to sample are seldom available, that the percent response to such studies is usually small, and that the group who do respond cannot be assumed to be representative of the total.

Mail surveys can, of course, serve a useful purpose in the collection of attendance data, where complete lists of colleges are available and the type of information sought is simple and brief. But follow-ups by means of telephone and personal interviews are still required to approach the desired 100% response.

Telephone Surveys:

Telephone surveys are much less expensive than personal interviewing, and the usual objection to them (that the lower economic levels who lack telephones cannot be included in the sample) takes on less importance in this particular problem, because the football audience, so far as we know it, is largely composed of upper-income groups who may be presumed to have phones.

Nevertheless, we would discard this approach, too. First, an unknown proportion of football attenders may have unlisted phones, and a similarly unknown proportion of new residents and of young married couples (with a potentially high attendance rate) may not have been able to obtain telephone service. Secondly, the number and type of questions that can be asked over the phone are severely limited, and a long interview is generally impractical.

Using this technique, it would not be possible to show the respondent lists of games or other information to serve as memory aids, and factual information of a personal nature (such as age, income and socio-economic status) cannot be reliably obtained.

The characteristics of households in which no one answers the phone are quite unknown, whereas in the personal interview situation the essential characteristics of the "not-at-homes" (such as socio-economic status) can be noted by inspection, and thus to some extent controlled. Finally, the face-to-face social situation upon which good interviewing rests is absent in telephone surveys, with consequent unfavorable effects upon the refusal rate and the veracity of the information obtained.

The telephone may nonetheless be used as a supplement to the personal interview, for the purpose of checking on inconsistent or incomplete responses or of arranging appointments with persons not at home at the time of the interviewer's call.

Interviewing in Football Stadiums:

Interviews with a cross-section of spectators inside the football stadium is a technique which has appealed to several of the prior investigators. Usually, a comparison is made between the percent of TV owners in the stadium and the percent among the general population.

As we have pointed out in our evaluations, however, such a comparison is meaningless unless "normal" attendance is controlled; if TV owners are more interested in football and attend more often anyhow, one would inevitably find more owners in the stadiums than among the general public. Such a finding tells us nothing about television's effects on attendance.

In order to control this factor, one must compare the percent of TV owners in the stadium, not with the percent among the general public, but with the percent among that part of the public whose "normal" attendance rate is similar to that of the TV owners in the stadium. And to do this, one needs a survey of the general public in order to isolate such a control group.

Since a survey of the general public is required anyway, in order to interpret the data obtained from the stadium interviews; and since a survey with the general public would incidentally provide information concerning all relevant groups, there seems little reason to confine interviewing to football stadiums.

It may be noted also that stadium interviewing involves almost insuperable sampling difficulties, and that the situation encourages hasty and distracted questioning. We regard the technique as far less efficient and reliable than it might first appear.

Interviewing Other Types of Samples:

As noted, interviewing in one or several local areas cannot produce data which may be projected to other areas or to the country as a whole.

Interviewing a cross-section of the total public is inefficient because perhaps three-quarters of the population is not in the "football market" and has never attended a game.

Interviewing only TV owners provides no control group of non-owners against which the results may be evaluated.

THE EFFECTS OF TELEVISION ON COLLEGE FOOTBALL ATTENDANCE

APPENDICES

National Opinion Research Center
University of Chicago

CONTENTS

APPENDIX A

THE JERRY JORDAN RESEARCH

A report of the most comprehensive research in this field is contained in Jerry N. Jordan's "The Long Range Effect of Television and Other Factors on Sports Attendance", recently published and distributed by the Radio-Television Manufacturers Association.

Although the report contains a wealth of data on TV's effects on other sports besides college football, we have restricted our analysis to that part of Jordan's research which bears directly on the problem assigned to us.

Jordan's procedure falls roughly into four major phases, which we shall evaluate separately below:

1. Opinion research among TV owners and non-owners to develop Jordan's original theory that the effect of TV on attendance declines as the length of TV ownership increases.

2. A survey of buyers of season football tickets and of spectators in stadiums, to see if the theory worked in individual cases.

3. Analysis of actual attendance figures, to see if the total number of paid admissions supported the theory.

4. Study of the effects of non-TV variables, notably performance, on attendance.

Opinion Research

Procedure:

The universe chosen for measurement comprised the male heads of families living in the Philadelphia area. The total sample of 600 families was divided equally between the city itself and the suburban area. Then, within each of these two strata, 150 TV owners and 150 non-owners were selected.

Jordan describes the selection process as follows: "The technique followed was as nearly true random sampling as TV ownership permitted. City and suburbs were divided into socio-economic neighborhoods, and the interviewers called at every eighth home in each neighborhood until the required number of non-owners had been contacted. By using call-backs, 98% of the original calls were completed. If the TV quota had not been fulfilled by that time, the remaining TV owners were secured by taking homes with TV aerials in that neighborhood. In no case, however, were adjacent homes interviewed.

"Non-TV owners were a socio-economic cross-section of the population. TV owners were typical of TV ownership in the Summer of 1949 as determined by Pulse, Inc., studies. Both groups of owners included white and colored families."

The study was conducted by means of personal interviews with each selected respondent. Jordan says: "In order to avoid the personal bias often found when discussing television's effect, the interviewers opened up by asking for suggestions on what the baseball or football managements could do to make people want to come out to see more games. A series of questions followed to determine family habits on sports attendance. No mention of television was ever made until the very end -- after all other data had been secured.

"We found this method absolutely necessary in order to prevent opinions about TV from coloring the conversation. In an early test, we found that TV owners 'guessed' that television had cut their attendance by 40% -- when their actual attendance records showed a slight increase."

Technical Adequacy:

Although the use of socio-economic controls probably had the effect of keeping the sample in some degree representative, these controls were so crude and the actual selection process so haphazard that the representativeness of the sample is questionable.

In the first place, the selection of the specific areas within each socio-economic stratum was made arbitrarily by the selector. They were apparently chosen neither on a truly random basis, nor in accordance with any criteria except the selector's judgment.

In the second place, the selected areas were quite large, some of them containing as many as 50,000 inhabitants, and the range in socio-economic conditions within any area was often great. Thus, within a selected "B" area, for example, it would be perfectly possible for the interviewer to call at "A", "C" or "D" homes.

These differences should have been ironed out by the specification that interviewers call at every eighth house. It is questionable, however, whether this specification served as much of a control, since interviewers were free to start from any point within the area and to proceed in any direction convenient to them.

The statement that by using call-backs, 98% of the original calls were completed, is puzzling. Perhaps Jordan means that after one or two call-backs, substitution of another household was permitted, and that ultimately 98% of the originally assigned 600 interviews were completed.

When substitutions are not permitted (and these always have a biasing effect), past research studies have almost always found a minimum of 10% "mortality" because of refusals, absence from the community, no understanding of English, and so on. If interviewing is restricted to the male head of the family, an even greater mortality might be expected.

It is difficult to say just what effect the absence of rigid sampling controls may have had on the findings, since we lack adequate check data. Unless severely restricted, interviewers generally tend to avoid very wealthy homes, very poor homes, and persons who look as if they wouldn't be interested in the survey. There is a danger that the interviewers in this study may have picked out the nicer looking homes in their assigned areas and avoided certain inaccessible or unpleasant neighborhoods.

One might also question the equal division of interviews between the city and the suburbs. The proportion of TV owners in suburban areas may quite probably be greater than their proportion in the city, and Jordan shows that city and suburban TV owners differ with respect to football attendance. The inclusion of more city owners in the sample than their proportion warrants may therefore affect some of the findings.

One aspect of the sample which can be checked does show some bias. NBC television sales data, as of December 1, 1949, show that 70% of the TV owners in the Philadelphia area had owned their sets for less than a year. Among the TV owners in Jordan's sample, only 55% had owned their sets for less than a year, so that long-term owners are over-represented in the sample.

In general, however, our evaluation of Jordan's research rests on other grounds than the sampling procedure, so it is probably not necessary to make any further effort to test the representativeness of the sample.

There is a serious question as to whether the interviewing technique used did not introduce an upward bias in the attendance figures derived from the study. Since it was made clear at the outset that the survey was concerned with increasing sports attendance, the respondent may even have been reluctant to report a low attendance record.

As we noted, Jordan cites as a reason for this approach the fact that in his earlier study, he found TV owners estimating that their attendance had declined by 40% "when their actual attendance records showed a slight increase." We assume that Jordan uses the word "increase" here as he does elsewhere -- to indicate a higher attendance rate than non-owners, rather than a true increase in the attendance of the given group.

If our assumption is true, we find no necessary contradiction in the results. A host of evidence is available to indicate that TV owners attended more frequently than non-owners before purchase, and it is easily possible for this relationship to continue after purchase, at the same time that their actual attendance rate declines.

All of Jordan's attendance estimates based on the opinion research rely on answers to the question: "Have you been to any football games this Fall?" The replies, of course, could include attendance at professional, high school or even sandlot games, as well as college games, and two identical answers of "Yes" could mask wide variations in college attendance.

According to Jordan's questionnaire, the respondent was next asked, "What games?", so that non-college attendance could have been controlled, but throughout the report, all attendance data is based on the total of "Yes" answers. It will be noted furthermore that all "Yes" answers are treated as equivalent regardless of the number of games attended.

The measure which Jordan uses to estimate football attendance is therefore a most insensitive instrument, so far as college attendance is concerned. The individual who may have casually watched a sandlot game on a Sunday afternoon is given equal weight with the person who saw four or five college games that season.

Findings and Conclusions:

Jordan's main conclusion is that "Attendance at football games increased directly in relation to length of ownership." He bases this on the following table:

	Percent Attending A Football Game in 1949
TV owners, 1-3 months	24%
TV owners, 4-11 months.	41
TV owners, 1-2 years.	45
TV owners, over 2 years	54
Non-owners.	46%
* All TV owners	41

Similar findings were obtained for professional baseball attendance:

	Percent Attending A Game at Shibe Park in 1949
TV owners, less than 1 year . . .	44%
TV owners, more than 1 year . . .	58
Non-owners.	45%
* All TV owners	50

Jordan states that there is an initial drop in attendance when people first buy a TV set, but the novelty gradually wears off, and in varying periods of time, depending upon the sport, attendance returns to normal. The increased attendance of long-term owners "partially balances out the losses among short-term owners. The net loss due to television should be practically negligible."

Validity of Findings:

Jordan's interpretation of the data includes the implicit assumption that each of the owner and non-owner groups cited above had equivalent attendance records in the past. Only if this assumption were true would it be correct to speak of their attendance as "increasing" or "declining", since respondents were questioned only about their 1949 attendance behavior.

* The figures for "All TV owners" are not cited in Jordan's report, but represent our own calculations based on the frequencies in each group supplied to us by Jordan. We refer to them on a following page.

That this assumption is inadmissible is apparent from a number of studies of the television market, which indicate that the early buyers of TV were a highly selected group with relatively high average incomes and great interest in sports. They were people whose pre-TV attendance was considerably greater than that of the general population. Jordan himself admits this fact at several places in his report.

There is no proof that the attendance of later purchasers, who are drawn from lower income groups with probably lower past attendance, will return to "normal" -- although it may be conceded that some novelty effect probably does exist, as evidenced by the sharp difference between the attendance of very recent purchasers and that of non-owners (24% vs. 46%).

The attendance records of TV owners of varying lengths, at any particular point in time, is probably a function of both the novelty effect and the differential past attendance behavior of the various groups. Any attempt to disentangle the novelty effect must control the variables of income and interest, at least.

On P. 48 of his report, Jordan notes that this question has often been raised, and he introduces a chart which shows the proportion of TV owners and non-owners in each income group who saw one or more baseball games at Shibe Park during 1949. The figures are as follows:

	Owners	Non-Owners
"A" Group.	56%	56%
"B" Group.	53	37
"C" Group.	48	50
"D" Group.	53	46

He concludes that the "A" group goes to baseball games "slightly more often" than the other groups, that within each of the groups "the attendance of TV owners is normal in every way", and that "No real changes in the basic findings of this study are indicated, therefore, regardless of the future growth and spread of TV ownership."

Actually, the figures shown are of questionable significance, and they have, in any case, no relevance to the problem of college football attendance.

Non-owners in the "A" group, for example, include only 18 individuals, and sheer sampling variability may account for some of the findings. Furthermore, the income measure is very crude, since it is based on the area in which the person resides rather than upon his own status, and because, as Jordan himself states was the case in an earlier study, the TV owners may be the wealthiest persons within each group. The findings are further weakened by the measure of attendance used, which gives equal weight to frequent and infrequent attenders.

The table applies only to professional baseball attendance, of course, and it can be demonstrated from Jordan's own data that similar findings would not be expected if the same analysis were conducted on college football attendance.

On P. 67 of his report, Jordan shows a considerably higher level of football attendance within the "A" income group. Fifty-eight percent of the wealthy had attended a football game during 1949, in contrast to only 41-43% of the other income groups. One would suspect that if the question had specified college football attendance, the disparity would be even greater.

Furthermore, we have calculated from Jordan's data (tables on P. 4) that TV owners as a group attended more baseball games than non-owners, but fewer football games. It would thus be impossible to show for football, as the preceding table indicates for baseball, that TV owners in all income groups have equal or higher attendance rates than the equivalent non-owners.

Jordan does not present any data showing the relationship between income and football attendance for TV owners and non-owners. All the evidence indicates, however, that such a table would show a much higher level of attendance among the "A" group than among the other groups (which would argue against "novelty effect" as an explanation of the higher attendance of long-term owners); and lower levels of attendance for TV owners, as compared with non-owners, within the various income groups (which would argue against any claims of "no adverse effect".)

The factor of interest in football, which Jordan several times mentions as characteristic of early TV purchasers, is, like income, never controlled. No questions were asked regarding attendance in prior seasons, and one cannot with accuracy, therefore, speak of attendance "going down" or "returning to normal" when there is no true point of comparison.

One further point may be worthy of mention. In comparing suburban and city football attendance, Jordan notes that suburban TV owners attended as often as non-owners, but that in the city a higher percentage of non-owners attended football games.

He attributes this to the higher proportion of short-term owners in the city, but the facts taken together may well indicate that the higher income alumni groups in the suburbs may be relatively unaffected; while there occurs a drop among the TV owners in the city, who have smaller incomes, are less likely to have alumni attachment and are more sensitive to high ticket prices, travel and other factors militating against attendance.

In summary, Jordan's public opinion data suggest (but do not prove) that television has had some adverse effect on college football attendance, and that a portion of it may be due to "novelty effect". But lacking prior attendance data, and with no precise measure of college football attendance, one can only speculate upon the meaning of much of the material.

We cannot state with any confidence the magnitude of the adverse effect, nor the degree to which attendance losses will be recovered when the "novelty effect" wears off. And we do not know whether Jordan's findings in Philadelphia in December 1949 would hold for other areas, where the composition of the football audience may be different, or at other times, when the characteristics of the TV ownership group will not be the same.

Survey of Alumni and Season Ticket Buyers

Procedure:

A total of 3,000 letters were sent out by the Department of Intercollegiate Athletics at the University of Pennsylvania, distributed as follows:

400 letters to 1948 season ticket buyers who did not renew in 1949
400 letters to 1948 season ticket buyers who did renew in 1949
400 letters to persons who bought season tickets for the first time in 1949
1800 letters to alumni

As in the personal interviews, the letter "opened up by asking for suggestions on what the management could do to make people want to come out to see more games," and respondents were then asked about their 1949 attendance and about their ownership of TV.

Technical Adequacy:

The findings are presumably subject to the usual inadequacies of mail surveys. It is stated that "answers were received from nearly 1000" of the 3000 to whom letters were addressed, but the proportion of returns within each group is not known, nor whether any correlation exists between TV ownership and tendency to respond.

As we noted in the preceding section, the introductory question may have had some biasing effect through its emphasis on ways of increasing attendance. Some persons with low attendance may have been reluctant to report the fact, and in consequence may have exaggerated the number of games they attended, or may not have responded at all.

Findings and Conclusions:

The percent of TV owners among the season ticket buyers was considerably greater than the proportion in the general population. Thus, 40% of the 1948 season ticket buyers who repeated in 1949, and 30% of the new season ticket buyers, were TV owners "at a time when the saturation in Philadelphia was only 19.2%."

Furthermore, the percent of long-term owners among the buyers was greater than the proportion among the non-buying alumni. "Where only 54% of the TV owners among the non-buyers had owned their sets for more than one year, 70% of those who bought season tickets for the first time had had their sets for more than one year."

Jordan finds additional support for his thesis in the fact that, among the alumni, long-term owners are more likely than non-owners to have attended Pennsylvania games "frequently" during 1949. The attendance of short-term owners was slightly less than that of the non-owners.

One contrary bit of evidence occurred in the fact that the 1948 buyers who did not renew in 1949 contained a higher proportion of TV owners and a higher proportion of long-term owners than did the group who repeated their purchase in 1949. Jordan admits that TV undoubtedly played some part in the decision of this group not to re-purchase, but he points out that 65% of them nevertheless attended the 1949 games "frequently", in contrast to only 40% of the other non-buyers among the alumni. "In other words, their high TV ownership did not stop them from going to the games."

Jordan's conclusion is that: "Every one of these groups confirmed the basic theory of this study -- that interest and attendance of TV owners increase with length of ownership, and that hurt to attendance is confined largely to short-term owners."

Validity of Findings:

The interpretation of these data, as of the personal interview data evaluated in the preceding section, rests on the fallacious assumption that season ticket buyers and non-buyers, TV owners and non-owners, all had equivalent attendance records in the past.

Jordan himself points this out in another place in his report. He says: "Superficially, figures like these (i.e., high proportion of long-term owners among season ticket buyers) can, and have been, interpreted as proving that TV ownership builds attendance. We do not believe that such a conclusion is warranted -- yet. From our studies, it is clear that people who like sports were quick to buy television sets -- and their higher average attendance records probably are due to the fact that they would naturally go to sports events more often than the average person."

One cannot legitimately compare two groups of varying income and varying interest in football, and attribute differences in their attendance behavior to the influence of television.

Thus, season ticket buyers are known to be a group of very high average income. The fact that there are more TV owners or long-term owners among this group than there are among the general public or among non-buying alumni tells us nothing about the effect of television on football attendance.

In the one instance where Jordan's data allow us to compare similar groups, it appears that TV does have an adverse effect, and that the novelty theory does not hold true. We refer to his comparison of the two groups of 1948 season ticket buyers, one of which discontinued purchase in 1949, and the other of which renewed their purchase.

We may fairly assume, since both groups were season ticket buyers in 1948, that they are of equal income, have an equivalent interest in football, and are entirely comparable in terms of past attendance. If long-term ownership of television increased interest in football and resulted in greater attendance, we would naturally expect the repeat-buyers to contain a larger proportion of long-term owners.

Instead we find more TV owners, and more long-term owners, among the group which failed to renew. The implication is clear that in this case, TV had an adverse effect even among long-term owners.

Jordan does not provide a convincing explanation of this striking relationship. He remarks that the "discontinuers" contained a high proportion of people disgruntled about high seat prices, poor seat location, etc., and he shows that the majority of them nevertheless "frequently" attended the 1949 games, in contrast to only a minority of the other non-buying alumni.

Obviously, the "discontinuers" must have had some reason for not renewing their purchase in 1949, and the reasons they give may simply reflect the interaction of television with other reasons for non-attendance. Thus, to the non-TV owner, an expensive seat in a poor location is just something he has to put up with; to the TV owner, it becomes a reason for not going out to the stadium.

The fact that the "discontinuers" still had a higher 1949 attendance rate than did the alumni who had not recently purchased season tickets is irrelevant to the basic question. It would be strange indeed if TV exerted such a powerful effect that it would cause a group of people who bought season tickets in 1948 to attend even fewer games in 1949 than the known non-buyers.

In summary, we find no evidence in this mail survey to support Jordan's thesis, and we find some evidence which appears to disprove it.

Survey of Spectators at Shibe Park

Though this study has no relevance to college football, we mention it here because it was a central part of Jordan's research, and because the reader of Jordan's report may generalize the findings and conclusions to college football.

Procedure:

Spectators at a major league baseball game in Shibe Park were questioned as to whether and how long they had owned a television set. The survey was carried out twice: once at a game attended by fewer than 5,000 persons, and again when there was a sell-out crowd of over 35,000.

A total of 303 interviews were made, this figure presumably including both contests. The interviews were "proportionately divided between boxes, grandstands and bleachers."

Technical Adequacy:

The number of cases is rather small for reliable estimates of the proportions in various ownership groups, and there is some question about the procedure followed. Jordan has told us that the interviewers started at the bottom rows in each section of the stadium and collected cases as people volunteered. This procedure is subject to many unknown biases, because of its unplanned character. It may be presumed, for example, that TV owners were more likely than non-owners to "volunteer".

Findings and Conclusions:

Both surveys showed almost identical findings. At a time when only 19% of the Philadelphia population owned TV sets, Jordan found that 27% of the spectators were owners. Furthermore 59% of the owners had had their sets for a year or more, more than twice the proportion of long-term owners among the general population. On the other hand, only 12% of the spectators were short-term owners, in contrast to 14% among the total public.

These findings are cited as confirmation of Jordan's theory that TV has an initial adverse effect on sports attendance, but that with increasing length of ownership, attendance also rises and ultimately tends to be higher than normal.

Validity of Findings:

Results of this survey are subject to the same criticism that we made of the two studies previously discussed. The lact of control over pre-TV attendance makes the comparisons meaningless.

It may be assumed that baseball fans are more likely to purchase television sets than non-fans are, and it may be presumed that they are more likely to have purchased them earlier. It is entirely possible that, if the game had not been televised, Jordan would have found even a higher proportion of TV owners among the spectators.

It would have been of interest to see the results of such a survey at a football game in the Philadelphia area. Jordan's data show that TV owners as a group attend more baseball games but fewer football games than non-owners. Assuming these findings to be valid, it is quite probable that the proportion of TV owners in a Philadelphia football crowd would have been smaller than among the general public.

Analysis of College Football Attendance

Procedure:

The basic theory to be tested, which was developed from the opinion research data, was: "Football attendance can be hurt in a town that leaps to a high saturation of new TV owners in one year. After that, the longer-term owners begin to help balance out, and the long-range effect would seem to be insignificant, or perhaps favorable."

To test this theory, actual attendance records for 1948 and 1949 were collected from 193 of the 278 NCAA member colleges. The colleges were grouped according to size, region, location with respect to TV stations, and number of games televised. A college was considered in a TV area if it was within 50 miles of a station; it was considered a "televised college" if two or more of its 1949 games were televised; it was considered large or small, depending upon whether its average attendance was greater than 10,000 per game.

The analysis was made in terms of the proportion of colleges in the various groups which showed an increase in average home game attendance per home game played. Jordan adds the following statement: "Where a college estimated 'same', we have arbitrarily included it as an increase because economic conditions declined slightly last year."

Findings and Conclusions:

Average admissions per game for all 194 colleges increased from 16,595 to 16,997, a rise of 2.4% during the 1949 season. "Football was also the most widely televised of all sports in 1949."

Nationally, 54% of the colleges increased their attendance. A larger proportion of those in TV areas than in non-TV areas showed an increase, 56% as compared with 51%. However, the colleges in the TV areas had a better won-lost record, and "Performance, not television, was the main factor in their better attendance."

Furthermore, 63% of the televised colleges showed attendance gains in 1949, while only 51%-57% of the various groups of non-televised colleges improved their attendance. Jordan concludes: "The original theory that TV could have only a temporary or minor effect on most colleges appears to be true."

Fifty-one percent of the colleges in non-TV areas had better attendance records, as compared with 54% in areas where TV saturation was 15% or more, and 51% in areas where saturation was 5-14.9%. The conclusion here is that: "There was no apparent effect from the high saturation of television owners. However, it was possible to detect the effect of short-term owners in areas where saturation grew very rapidly."

Finally, the "length-of-ownership" theory was tested by comparing those colleges in the five TV areas which were operating in 1947 and had achieved 14% saturation by November 1949, and the three TV areas which did not open until 1948 and which also had 14% saturation by November 1949. In the former areas, long-term owners accounted for almost one-third of the total, while in the latter areas, fewer than one-fifth of the owners had held their sets for a year.

It was found that 50% of the colleges in the 1947 areas, which contained more long-term owners, increased their attendance; but only 44% of the colleges in the 1948 areas, where there were fewer long-term owners, showed an increase. "This analysis of national attendance figures is additional confirmation of the theory of length of ownership."

It will be noted that the dividing line for "heavily saturated" areas is here set at 14%, whereas in the preceding test it was set at 15%. Jordan states that this change was made "in order to get as large a sample as possible."

He adds the suggestion that colleges still concerned test the length-of-ownership theory during the 1950 season. "If there is a higher percentage of long-term owners in the stadium than exists in the area population, you can feel reasonably sure that the danger to attendance will not be permanent."

While 54% of all the colleges reporting showed attendance gains in 1949, there were marked differences in the various regions. In the Central section, 64% of the colleges had higher attendance records; in the Southwest and Rocky Mountain areas, the proportions were 41% and 40%.

Jordan states that total admissions, which gained 608,935 nationally, declined 234,065 in the East. However, the proportion of Eastern colleges showing increases was identical with the national proportion, and he considers this fact to be more important. "Almost all of this loss in the East came from four large colleges out of the 63--a very small minority," and three of these four showed poorer performance records.

In the Central region, there was a 5.7% increase in total admissions and the same increase for the "Big Ten" colleges. Small colleges in the TV areas of this region showed about the same proportion increasing attendance as the large colleges, so that "It is difficult to understand the Big Ten decision" to ban telecasts of its game because of a fear that the small colleges are being harmed,

Technical Adequacy and Validity of Findings:

We find no justification for treating a college with the "same" attendance as one which reported an increase. The reason cited for this procedure -- that income was slightly off in 1949 -- is irrelevant to the decision that Jordan faced in grouping his data.

A host of other factors besides income undoubtedly affected attendance in 1949. The presumed effect of this one factor is no reason for including colleges whose attendance did not increase with those whose attendance did increase. One could with equal logic group those reporting the "same" attendance with the ones whose attendance declined, on the grounds that there was slightly more interest in football in 1949.

Actually, if we correct Jordan's figures by calculating only the proportion of colleges increasing their attendance, omitting those who reported the "same", the percent increasing is identical in both TV and non-TV areas -- 50%. This compares with Jordan's calculation of 56% increasing in TV areas, and only 51% in non-TV areas.

The use of percentages of colleges increasing or decreasing attendance is a relatively ineffective procedure in tracing cause and effect, except where the effect of a variable is very large. It may be taken for granted that in a period when ownership was confined in most areas to a very small proportion of the population, TV effects on total attendance must certainly have been negligible in the case of the great majority of colleges. In our judgment, total admissions would have provided a more sensitive measure.

A further weakness of the "proportion of colleges increasing" technique is the small number of cases on which most comparisons must be based. For example, Jordan shows that only 44% of the colleges in the more recent TV areas reported attendance increases, in comparison with 50% in the older TV areas which contained more long-term owners, and he concludes that this is "additional confirmation of the theory of length of ownership." Actually, a shift in the reports of two colleges could have reversed this finding. The comparison is based on 7 out of 16 colleges in one type of area, and 15 out of 30 in the other, and the difference obviously has no statistical significance.

The analysis of saturation and length of ownership effects is further weakened by the fact that Jordan uses a different dividing-line to determine the heavily saturated areas in the two cases. In studying the effects in heavily saturated areas, he uses 15% ownership as the dividing-line. In studying length of ownership effects in such areas, he lowers the line to 14%.

Had the 14% line been used for both analyses, it would have shown a lower proportion of colleges increasing attendance in heavily saturated areas than in lightly saturated or non-TV areas. The reason given for the shift -- to increase the number of cases in the sample -- hardly seems adequate for changing the basis of comparison. The number of cases added was only four, resulting in an increase from 43 to 47.

Taking into account the foregoing points, we are left with the fact that TV and non-TV areas showed the same proportion of colleges increasing their attendance, and that televised colleges showed a somewhat higher (though not statistically significant) proportion of increase than non-televised colleges. In addition, data have subsequently been obtained from Jordan to indicate that average attendance per game increased only about 1.9% for televised colleges, and about 3.3% for non-televised colleges.

Ordinarily, we might conclude that the smaller gain for the televised colleges is not significant. But as Jordan has repeatedly emphasized, performance exerts a very powerful effect on attendance. He himself mentions that the colleges in TV areas improved their performance more than did the colleges in non-TV areas, so the question might be asked: Why did they not show better gains? (The corrected figures show that 50% of each group reported increased attendance.)

Our own analysis of the performance of the 32 televised colleges reveals that they improved their proportion of wins to total decisions from 56.2% to 60.4%, while the 160 non-televised colleges dropped from 53.5% to 52.6%. Apparently, performance operated to some extent as a selective factor in determining which games were telecast.

From what we know about the relation of performance to attendance, we would have expected the televised group, with a considerably better performance trend, to show a better attendance trend than the non-TV group. Instead, the actual attendance figures reveal a slightly inferior trend of attendance among the TV group.

These facts are certainly not inconsistent with, let us say, a 5% drop in attendance due to television; or, in other words, the possibility that the televised colleges would have shown a gain of 6.9% instead of 1.9% if TV had not been present.

Another obstacle in the analysis of comparative attendance trends is that the TV colleges are qualitatively a different group than the non-televised colleges. They include almost all the big, nationally known football teams, and they show an average of 38,000 admissions per game, as compared with only 11,000 for the non-TV colleges. In effect, we are comparing big league (televised) football with minor league (non-televised) football, and this casts some doubt on the validity of the comparison since other factors besides performance may be operating differentially on the two groups.

To sum up, we do not find any of the data cited in this section of Jordan's report inconsistent with an adverse effect of TV on attendance, though it may be granted that the over-all reduction has not been large.

* * * * *

Since the publication of the main body of this report, the actual attendance figures for each of the 193 colleges reporting have been made available to us by Jordan. We have analyzed these data in terms of the percent change in attendance (not percent of colleges increasing or decreasing) for televised colleges, non-televised colleges in TV areas, and colleges in non-TV areas. The findings, by region, are shown below:

PERCENT CHANGE IN ATTENDANCE, 1948-1949

	Colleges in TV Areas			Colleges in Non-TV Areas	Total
	Televised Colleges	Non-Televised Colleges	All Colleges in TV Areas		
U.S. TOTAL. .	+ 3.9	- 0.8	+ 1.0	+ 7.6	+ 3.7
East.	- 5.2	- 3.5	- 7.9	+ 3.7	- 6.4
Central . . .	+ 8.9	- 2.5	+ 3.7	+ 9.0	+ 6.2
Far West. . .	- 1.3	+11.7	- 2.1	- 0.6	+ 2.9
South	+ 2.8	- 0.4	+ 1.1	+ 7.0	+ 4.5
Mountain. . .	*	- 7.4	- 7.4	+23.5	+14.3
Southwest . .	+15.8	- 6.6	+15.7	+ 2.9	+ 9.6

* No colleges in the Mountain region were televised.

The fact is quite striking that for the United States as a whole, and in every region except the Southwest, the non-TV areas showed a much better attendance trend than the TV areas, the national difference amounting to 6.6%.

The relationships shown here for the South, Mountain and Southwest regions have little significance, since very few areas within these regions had TV stations in 1949, and even in those which did the number of sets owned was very small. But the analysis for the three regions where telecasting of football games and TV ownership were sufficiently extensive to measure TV effects, strongly suggests that telecasting hurts attendance.

The distribution of the loss between televised colleges and non-televised colleges in the TV area is probably a function of the relative attractiveness of the televised and non-televised games, from the standpoint of performance and other factors affecting public interest. In the East and Far West, the televised colleges suffered the greater loss; in the Central region, it was the non-televised colleges which suffered.

The apparent reason for the decline in the attendance of the non-televised colleges in the Central region, where attendance generally had a large increase, lies in the performance of the televised colleges in the area. It was the big colleges in the Midwest whose games were televised, and it was these same schools which showed much the greatest improvement in performance of all the big-name colleges in the country.

The non-televised colleges in the Central region thus had stronger competition from the TV colleges than was true in other areas. They showed a combined attendance loss, while both the televised colleges and the colleges in non-TV areas of that region were showing substantial increases. These data appear to support the "Big Ten" belief that in this case, TV had adverse effects upon the smaller, non-televised colleges.

Study of the Effects of Non-TV Factors

Findings and Conclusions:

In a section of his report called "The Atomic Age of Sports", Jordan cites U.S. Department of Commerce figures to show the tremendous increase in sports attendance during the last 20 years.

Personal incomes in the United States are up 250% since 1929, but the money spent on sports admissions has increased 440% during that same period. College and pro football are up even more than the average for all sports, 481% over the 1929 level. In contrast, the total increase in money spent on all types of organized entertainment is only 200%, less than the increase in personal income.

The point is further made that there was a tremendous pent-up demand for sports entertainment right after the war, and that some leveling off in these phenomenal increases is naturally to be expected. "The effect of television in this study is being measured against the highest peak of admissions in the long and successful history of sports."

The growth of sports attendance is attributed to a combination of factors, the first of which is increased personal incomes and shorter working hours. Jordan notes the larger number of families in the "over $2,000" income bracket since 1929, and cites a positive correlation of .96 between gross personal income and the amount of money spent on recreation.

Intelligent management is the second factor mentioned, in particular the trend toward night games in baseball and a more open, high-scoring type of football play. It is largely to alert, far-sighted management that Jordan ascribes the greater relative increase in sports attendance than in other types of entertainment.

The third major factor is performance, and to demonstrate the effects of this factor, Jordan cites a 7% attendance gain in 1949 over 1948 for major league baseball teams which improved performance, and a 15% decline in attendance among those teams with poorer performance. Since 15 of the 16 clubs followed performance, "television, obviously, was a very minor factor."

In the case of college football, the relationship of performance to attendance is not as close, due to a certain hard core of loyal alumni and students, but it nevertheless exists. Of 123 colleges analyzed, 63% of those with improved performance also showed attendance gains, while only 50% of the colleges with a decline in won-lost percentage showed a gain in attendance.

Further evidence of the effect of performance is seen in the fact that big league baseball attendance was off 4.4% in the first half of 1949, while during the last half of the season, "while TV ownership was increasing 47% over April, attendance improved so that the year closed with only a 3.6% drop. . .The reason was one of the most exciting races in baseball history."

Population growth is seen as contributing to the long-term rise in sports attendance, and economic conditions are also mentioned as an important factor. Changes in ticket prices do not seem thus far to have had much effect, except that where losses in college football attendance occurred in 1949, "the losses were concentrated almost entirely in the less desirable seats--where the prices had been raised."

Jordan concludes: "It is clear, from the record of increases, that economic conditions, management, performance and publicity are far more important factors than the growth of television to date."

Evaluation:

Much of this material is merely speculative, with the statistical evidence often deficient in some respects. Thus, attempts to show a correlation between personal incomes and money spent on entertainment must take into account changes in the price level and the rise in population.

Some of the reasoning is not supported by the data cited. Larger incomes and shorter working hours, for example, are listed first among the "four big factors" which have mainly contributed to the great growth in sports attendance. Yet if this were true, it is hard to see why the total spent on other forms of entertainment should have lagged behind the increase in incomes.

However, there is no quarrel with the statement that all these various non-TV factors cited by Jordan do affect attendance. The difficulty is that such a statement has little relevance to the effects of television. One cannot conclude that because these other factors do affect attendance, television does not.

Sports attendance was subject to the influence of other factors before TV existed. The addition of TV merely adds another variable which affects the situation, and whose influence can theoretically be isolated and measured. It may be taken for granted that the other factors will continue to operate, and the fact that they do does not tell us anything about TV's effects.

In the case of performance, particularly, Jordan concludes that since 15 of the 16 major league baseball clubs showed attendance gains or losses, as their performance improved or worsened, "television, obviously, was a very minor factor." The conclusion is not warranted because one would expect attendance to vary in relation to performance, whatever the influence of TV.

To what extent TV may have been responsible for the 3.6% drop in big league attendance during 1949 is not ascertainable from Jordan's data. The comparison of attendance for the first and last parts of the 1949 season merely reinforces the conclusion that performance affects attendance; it tells us nothing about TV's effects. It might be noted that attendance during the last half of 1949 did show a decline from 1948, in spite of "one of the most exciting races in history."

To sum up, the evidence marshaled to show that other variables besides TV affect attendance and that, in the individual case, performance is a very strong factor in attendance changes, leaves us without any demonstration of the effect or lack of effect of TV, either as an isolated factor or operating jointly with other factors. It does serve, of course, to remind us of the importance of controlling the other variables in trying to assess TV's effect.

The conclusion that other factors are far more important than the growth of television to date is probably true, but does not preclude a small over-all adverse effect of TV which may be important in individual cases and which may become more serious with increasing mass ownership.

APPENDIX B

THE CROSSLEY STUDY

Procedure:

One thousand individuals, including 400 TV owners, 400 guests of TV owners, and 200 viewers in public places, were interviewed in December 1948. The sample was divided equally among four cities: New York, Philadelphia, Baltimore and New Haven.

TV owners were selected from lists obtained from retail sources, and the guests were chosen from among people whom the owners had reported inviting in. The sample of patrons in public places was allocated by type of place and location.

Each interview provided a profile of the individual's exposure to college football games played within 90 miles of the city and telecast within 50 miles, during the 1947 and 1948 seasons. Exposure was broken down according to whether the respondent attended the game, heard it over the radio or watched it on television.

A printed card list of the games was used to aid the respondent's memory. Other questions sought information on past "normal" attendance, interest in college football, relative preference for viewing vs. actual attendance, and for each game viewed on TV, the likelihood of attendance had it not been televised.

Analysis was in terms of "game potentialities", so that for all three types of respondents, in each of the two seasons, there is reported the percent of total games attended, the percent heard over the radio, and the percent viewed on television.

Purpose of this analysis was to observe whether total exposure to games had increased or decreased in 1948, and whether increased viewing of telecasts bore a direct relationship to decreased attendance. A secondary line of analysis dealt with the proportion of games that might have been attended if TV had not been available, and with the reasons for non-attendance.

Technical Adequacy:

As far as we can determine from the brief description given, the sample is probably reasonably representative of the three groups of persons studied in the four cities. Interviewing techniques were well planned, and the use of printed lists of games undoubtedly minimized memory losses.

Conclusions drawn from the findings are properly qualified by calling attention to limitations in the survey's scope, its confinement to four cities, the fact that TV was just getting started as of 1948, and the high income and educational level of the persons interviewed.

Reservations may be held about the procedure for dealing with the "not sure" group -- those who couldn't remember whether or not, or in what manner, they had been exposed to a particular game -- especially since the trend of results actually depends upon the procedure chosen. Crossley has assigned them proportionately among the other groups, a decision which may or may not be sound. As he himself points out, it is equally difficult to justify any other method of procedure.

The problem of whether and how to combine the results for the four cities presents another dilemma which Crossley freely admits. On the one hand, the actual procedure followed of giving equal weight to all four appears unsatisfactory in view of the great differences in size and the fact that attendance trends vary sharply from one to another. On the other hand, any system of differential weighting would be difficult to apply, and would still not provide a representative sample of a particular universe.

Findings:

The sum total of exposure to games by attendance, radio and TV in 1948 appears to have increased over 1947 in the areas covered, but this increase was almost entirely in televiewing. Attendance and radio listening showed little change.

The attendance of TV owners declined from 2.9 to 2.7, that of guests rose from 2.9 to 3.6, while patrons of public places remained stationary at 1.8% of "game potentialities". These figures do not include any distribution of the "not sure" group, which accounted for 3-5% of game potentialities in 1948 and 12-15% in 1947. TV owners appear to have attended more games in the past than either guests or public patrons. In terms of actual number of games attended, rather than game potentialities, the three groups averaged 4.1, 3.6 and 3.3, respectively.

Although the summary of findings does not call attention to the facts mentioned in the preceding paragraph, they indicate an adverse effect of TV on the attendance of owners. However, since the proportion of all persons interviewed who attended at least one game rose from 23% to 27%, there may be some offset to this in a stimulative effect on attendance resulting from television.

Most people interviewed claimed their interest in football was increasing rather than decreasing, and TV owners were more likely than the other two groups to make this statement.

Twenty-two percent of the TV owners gave a preference for television as a reason for non-attendance, as compared with 9% of the guests and 6% of the public patrons giving this reason. TV owners were also much more likely to say they enjoy watching a game on television as much as actually attending.

A penciled conclusion in our copy of the report says: "It is significant to note that football attendance dropped slightly from '46 to '47, and again from '47 to '48 -- not enough to be alarming, but it is important that an acknowledged over-all increase of interest in football is pointed primarily toward television rather than attendance."

Validity of Findings:

The findings may be considered valid as far as they go, but the results provide no conclusive measure of TV effects for the following reasons:

Most of the TV owners were new owners, and there may be a "novelty effect" involved. Attendance of the same group of owners would have to be checked over a longer period of time to determine whether or not the initial effects are lasting.

The survey was conducted in a period when TV had not yet penetrated extensively into the middle and lower income groups, and the findings cannot be projected into present and future periods of mass ownership. Allowance must be made for the high income and educational level of this sample.

The four cities differ markedly in size, TV penetration, football audience composition and direction of attendance trends. Neither individually nor in combination can they be considered representative of the region, the nation or of other localities.

The study was restricted to TV owners, guests and patrons of public places. These groups involve an unknown fraction of the total college football audience, and we have no "control group" against which to evaluate the trends observed.

The proportions giving TV as a reason for non-attendance, while suggestive, are not a satisfactory measure of actual deterrent effect. The fact that only 22% of the TV owners volunteer this as a reason, while 51% of them say they enjoy watching the games on TV as much as actually attending, points up the difficulty.

The fact that 71% of the sample said their interest in college football was increasing must be evaluated in the light of the disposition of the group who said their interest was about the same. It is not made clear what proportion of the sample answered "about the same", nor what was done with these answers. If they were excluded from the percentages, or if they were thrown in with the "increasing" group, the 71% figure must be revised downward.

APPENDIX C

THE FACTS CONSOLIDATED STUDIES

Procedure:

Two studies were carried out in the Los Angeles area in 1949. Their purpose was to find out why people were going to more or fewer college football games than in 1948.

The first study covered 805 spectators at the So. California-U.C.L.A. game of November 19, 1949. Interviewers questioned ticket-holders outside the stadium gates before and after the game. Undergraduates of the two universities were excluded from the sample. Respondents were questioned about their college football attendance in 1948 and 1949, the reasons for any changes in their attendance, and the degree of their exposure to telecasts of games.

The second study covered 1,296 telephone interviews with persons whose names were selected at random from the Central Los Angeles telephone directory. The questions asked were similar to those of the first study, except that more detailed inquiries about TV exposure were included.

Technical Adequacy:

No details are provided as to the method of selection of the sample of spectators. It is apparent that no system for choosing a truly random cross-section of the audience could be applied, and it is not known what controls, if any, were exercised over the interviewers' choice. Nevertheless, we have no reason to suspect any particular type of bias, and the sample may have been sufficiently representative for the purpose of the study.

With the possible exception of the wording of the final question, we have no reason to question the technical adequacy of the studies for obtaining the kind of information sought. The final question ("Does watching college football on television make you want to go to the Coliseum to see games in person?") appears "loaded" in the context of the interview. It invites a "Yes" response, and it is probable that the respondent by that time has come to realize the survey's concern about the possible adverse effects of TV on attendance.

Findings:

In the first study, 12% of those who were attending fewer games in 1949 gave TV as the reason. Of those attending more games, 13% explained that they were "more interested", and among this group were "some who became interested from watching college football on television." Twenty-two percent of the spectators owned TV sets (a higher proportion than of the general public), and 60% of those who had seen college football on TV said it made them want to come out and see games in person.

Similar findings were obtained from the second study. Attendance among the telephone-owning public was off in 1949, only 23% saying they went to more games, while 48% went to fewer. But only 16% of the declining group mentioned TV as the reason, while 30% of those attending more games explained that they were "more interested". Half of this latter group "volunteered that they had become more interested from watching college football on television."

Among families which included someone who had attended a college football game in 1948 or 1949, 80% had been exposed to football on television; among families with no 1948 or 1949 attendance, only 40% had watched a game on TV. Forty-five percent of those who had seen a game on TV in 1949 said that it "made them want to come out to see games in person."

The findings were published by the television committee of the Los Angeles Chamber of Commerce in the form of "highlights" from the figures, with no explicit conclusions stated. Taken together, however, the results would strongly imply that TV was only a minor factor in any 1949 attendance losses, and that at the same time it was keeping some fans at home, it was exercising quite a stimulative effect on others.

Validity of Findings:

Since the study appears to have been competently executed, and since no explicit conclusions were drawn from the data, we have no reason to deny the validity of the stated findings. It is unquestionably true that TV is not the only factor which produces losses in attendance, and it is probably equally true that TV creates certain stimulative effects.

We would only point out that the design of the study precludes any measure of the magnitude of these opposing effects, and that the implications of the findings as stated may provide a misleading diagnosis of the situation. The data throw very little light on the basic questions of: How many people does TV keep away from the games? How many does it stimulate to attend? and What are its probable effects in the future?

As we noted in our discussion of the Crossley findings, the reasons which people volunteer in response to a "Why?" question cannot be accepted as valid measures of the relative importance of the various factors affecting them. That only 12-16% of those whose attendance declined attributed the reason to television does not necessarily mean that TV had no adverse effects on the rest of the group.

A vast complex of causes combine to influence a person's attendance or non-attendance, and these causes are usually so inter-related that the respondent himself is unable, on the spur of the moment, to assess the relative influence of each. Under such circumstances, he tends to mention only the most salient reason which occurs to him at the time.

Thus, the respondents who attribute their lower attendance to "less leisure time" or "too expensive" do not necessarily deny any influence of television. Perhaps, if the alternative of watching the game on TV were not available to them, the reasons they give would have much less influence. Conversely, some of those who cite TV as the reason for their non-attendance might have gone out to the stadium less frequently in any case.

The matching of TV owners and non-owners with equivalent 1948 attendance might have provided a more sound measure of TV effects in 1949, but apparently this was not done.

The fact that 45-60% of the TV viewers said that watching a game on television made them want to come out and see it in person has little significance. As we have indicated, the wording and context of the question may have encouraged a "Yes" answer. Furthermore, we have no way of judging to what extent this increased desire to attend is translated into actual attendance. One would normally expect any publicity about a game to increase the desire to attend. Perhaps the more significant finding is that, apparently, 55-40% of the viewers do not say that TV increases their interest.

For reasons indicated in our analysis of the Jordan research, the fact that more TV owners are found in a football stadium than among the general public does not prove that TV has a stimulative effect on attendance. TV owners are known to have had a higher past attendance in any case, and we would normally expect to find more of them among the spectators. The question is: How many would have been found in the stadium if the game had not been televised?

That 80% of the football attenders in the sample of the public had watched games on TV, whereas only 40% of the non-attenders had seen a telecast, again reveals nothing of the effect of TV on attendance. The common factor of interest in football underlies both viewing and attendance; it would be surprising if the non-attenders (with both a lower degree of interest in football and probably lower incomes) had watched football games on TV as often as those who actually attend the games.

The findings apply, of course, only to telephone homes in the Los Angeles area in 1949, and are therefore not necessarily applicable to other areas or to the present period.

APPENDIX D

SOUTHERN CALIFORNIA

TICKET HOLDERS STUDY

Procedure:

This was a survey of individuals who had purchased season football tickets to University of Southern California games in 1948, but not in 1949. Questions were asked concerning TV ownership, 1949 attendance, reasons for non-attendance, exposure to football telecasts, and related matters.

Two groups were studied: (A) Former public season ticket holders, and (B) Former alumni season ticket holders. From a list of 1,640 names in the first group, a random sample of 50 were drawn for personal interviews and another sample of 45 for telephone interviews. From the 220 persons in the second group, 42 names were drawn for personal interviews and 70 for telephone interviews.

It developed that 30% of the public group and 13% of the alumni group actually had bought 1949 tickets, so that these persons had to be discarded from the sample. Some of the others had moved away, or for other reasons could not be interviewed, and the actual findings are based on 57 public season ticket holders and 89 alumni.

Each respondent was told that the purpose of the study was to "inquire into the effect of television on the purchase of football season tickets." Reasons for non-attendance were obtained through spontaneous answers to a "Why?" question, while a check-list was used to obtain reasons for non-purchase. TV was not included as a possible reason on this check-list, but a follow-up question specifically asked whether TV was an important factor in the decision not to re-purchase.

Technical Adequacy:

A number of technical inadequacies cast serious doubt on the findings of this study. Perhaps the major difficulty is the small number of cases involved. When the 57 respondents in the public group and the 89 in the alumni group are subdivided into TV owners and non-owners, the cells include only 26, 31, 24 and 65 cases. These samples are far too small to yield statistically significant comparisons.

The large degree of inaccuracy in the original lists, as evidenced by the proportion who actually had purchased 1949 tickets, leaves the representativeness of the sample open to question.

The preliminary explanation to respondents that the study was an inquiry into TV effects constitutes a potential source of bias. TV owners, in particular, may well have played down the effects of TV in their answers, in order to insure the continuance of telecasting.

The questionnaire is poorly designed, and the questions concerning reasons for non-purchase of 1949 tickets and plans for purchasing 1950 tickets cannot be depended upon to produce valid answers. The statistical handling of results is also open to question. We discuss both these points in greater detail under "Validity of Findings."

Findings and Conclusions:

The general conclusion of the study is that "The attitudes of the group who were regular football fans, as indicated by the purchase of season tickets, has been little influenced by television." Other factors such as parking, poor seat locations and high costs account for most of the attendance loss in this group. "If television has a significant effect upon attendance, it is not among the season ticket purchasers, but rather in the marginal group who purchase individual game tickets."

A variety of evidence is cited in support of these conclusions. First, among both the public and alumni groups, TV owners attended more USC games in 1949 than non-owners did. Second, "The reasons given for not purchasing a season ticket in over 90% of the responses were reasons other than TV." Third, a higher proportion of TV owners than non-owners say they plan to buy season tickets next year, and among both owners and non-owners the number who say they plan to buy exceeds the number who say they plan to see the games on television.

Validity of Findings:

There are a great many reasons why the findings reported in this study have no validity, and we do not regard the conclusions as at all justified.

We have already remarked on the small number of cases on which some of the comparisons are based. There are only 26 TV owners in the public group, and 24 TV owners in the alumni group. The differences found in the 1949 attendance rates of owners and non-owners in the two groups could easily be due to chance.

But even if these differences were statistically significant, they could not be cited as evidence that television has little effect on attendance. The reason is that nowhere in the study are we told the proportion of all TV owners, as compared with non-owners among the 1948 season ticket buyers, who failed to renew in 1949.

The attendance loss for owners and non-owners is measured first by the proportions of each group who failed to renew their 1948 season ticket purchases, and only partly by the proportions of each group who saw one or more games in 1949. This study investigates only the second factor, and ignores the first.

We can illustrate by a hypothetical example. Suppose that 40% of the TV owners among the 1948 season ticket buyers failed to renew, but only 20% of the non-owners failed to re-purchase. It would be clear that television had a deterrent effect on attendance, even though a higher proportion of the non-renewing TV owners saw some of the games in 1949.

Actually, there is some evidence that this sort of situation may in fact have been the case. No less than 46% of the public group which failed to renew were TV owners. According to Pulse data, the ownership rate for the Los Angeles area at that time was 18%, and even for the "A" economic stratum was only 28%. We would not expect the ownership rate among 1948 season ticket buyers to be a great deal higher than that for the highest income group, so we may reasonably suppose that TV owners, more than non-owners, were likely to stop buying season tickets.

The same criticism applies to the finding that a higher proportion of TV owners than non-owners plan to buy season tickets next year. The fact that more of them who failed to buy in 1949 plan to buy in 1950, does not refute the fact that their 1949 attendance was adversely affected. To predict 1950 effects, one would also have to determine the proportion of TV owners among 1949 ticket buyers who plan to renew.

As we have pointed out in our evaluation of the Crossley and Facts Consolidated studies, one must be cautious in interpreting the reasons people give for a lower attendance. Attendance is not determined by any one factor, but by a combination of factors which interact with one another.

Thus, bad weather, parking, seating and cost difficulties would normally act as deterrents to attendance. When TV is available, however, their deterrent effects may be greater, because of the existence of an alternative for those interested in football. The respondent may still regard these non-TV factors as the reason for his lack of attendance, but we cannot interpret that to mean that TV had no effect.

Aside from this point, the design of the questionnaire and the method of percentaging the results make it very misleading to state that: "The reasons given for not purchasing a season ticket in over 90% of responses were reasons other than television."

The question asked: "Were any of the following factors important in your not getting a USC football season ticket this year?" -- and spaces were provided for checking: Parking, Seat location, No Notre Dame game, Cost of going to game, Other interests and None. Then followed a second question: "Was television an important factor in your not getting a USC football season ticket this year?"

There is no explanation of why TV was given a separate question instead of being included in the check-list, and there can be no justification for combining the answers received to that one item, asked independently, with the answers to the other items suggested to the respondent all at once.

One can only speculate on the effect of asking about TV independently, but it is quite possible that the technique produced fewer admissions that TV affected purchase than would have been the case had it been included in the check-list. After mentioning one or more reasons on the check-list, for instance, respondents may have felt they had satisfactorily explained their failure to purchase and thus have answered "No" when next asked about TV. Too, the singling out of TV for a special question, in conjunction with the opening explanation that the survey's purpose was to study TV's effects, may have induced some TV owners to deny any effect, in the hope that telecasts would thereby be encouraged.

The finding is further distorted by the method of percentaging employed, which is based on the percent of responses rather than the percent of persons answering. It will have been noted that a respondent could name two or more reasons on the check-list, and the number of responses consequently exceeds the number of persons answering. Thus, 57 persons in the public group gave 97 reasons for not buying, and the 89 alumni gave 166 reasons.

The study notes that only 8-9% of the responses in the two groups were in terms of television. That this statement is meaningless can be seen from an example. Suppose every respondent admitted that television was an important factor in his decision not to buy, but that every respondent also gave four other reasons. In such a case, TV would account for only one-fifth of the responses, but actually 100% of the sample would be testifying to TV's adverse effects.

If we re-compute the percentages, we find that 15-16% of the respondents in the two groups mentioned TV as an important factor. And if we assume that these individuals were TV owners (since it is unlikely that many non-owners attributed their failure to re-purchase to a preference for television), we find that over a third of the TV owners among the public group, and over half of the TV owners among the alumni group, did say that TV was an important factor in their decision not to re-purchase. Such a result hardly supports the conclusion that TV effects were negligible.

The evidence cited on intentions to buy 1950 season tickets deals with one of the least reliable of all types of opinion items -- long-range intentions to act. Even in the case of plans to buy such an important item as a house or an automobile, experience has shown that these intentions are not always translated into action. In the case of a relatively minor item such as the purchase of football tickets, we believe few people actually make plans a year in advance and we would not base any decision on the results of such a question. The unreliability of the item is demonstrated by the fact that 61-64% of the two groups were "Undecided."

Furthermore, the question itself is poorly designed, and while we are not sure of the procedure followed, it does not seem that respondents were given a fair opportunity to express any preference they may have had for watching the games on TV.

The question was: "Are you planning on buying a USC football season ticket next year?" -- and spaces were provided for checking that item, and also "Seeing games on television", "Neither" and "Don't know." It is not clear what happened when the respondent answered "No" to the main question, nor whether "seeing games on television" was suggested as an alternative to every respondent.

In summary, we cannot accept the stated conclusions of this survey. On the contrary, we find a good deal of evidence to support the contention that TV had an adverse effect on attendance in the case of these particular groups. It must be remembered, however, that the study was restricted to former season ticket buyers who failed to renew, at only one university, and at a single point in time.

APPENDIX E

ECAC POSTCARD STUDY

Procedure:

Over 30,000 postcards were mailed by members of the Eastern College Athletic Conference to a sample of their alumni living within 250 miles of the campus. The mailing was conducted in late November 1949.

Information was sought from each respondent on average 1945-1947 attendance, 1948 attendance and 1949 attendance; on number of games viewed by television in 1948 and 1949, TV ownership, and preference for TV vs. actual attendance.

Five thousand of the postcards were returned in time to be included in the tabulations turned over to NORC. These tabulations showed the attendance frequencies for 1945-47, 1948 and 1949, and the corresponding frequencies for number of games viewed on television in 1948 and 1949.

Technical Adequacy:

The method of selecting the original sample is not specified, although it is indicated that each larger college sent out 1,000 postcards and each smaller college 500. Presumably the individual respondents were selected on a random basis from alumni lists.

The study is open to the usual objection to mail surveys. Only one in six of the postcards were returned and tabulated, and the characteristics of the 5-in-6 who did not reply are unknown. A substantial bias may thus have resulted, if the returns came disproportionately from TV owners or non-owners, or from those who like or dislike watching football on TV.

Attendance data might have been obtained more easily and more accurately from official records of alumni ticket sales than from the retrospective reports of a group which may not be representative of the total. Data on the number of games televiewed in 1948 and 1949 is of little value by itself, since viewing was bound to increase with the wider distribution of TV in 1949.

No significant cross-tabulations of the data were made. Attendance by class year, by TV ownership and by attitude toward televiewing might have thrown additional light on the findings, but only the total frequencies are reported.

Findings and Conclusions:

Although no full study of the data or report of the findings has been made, an ECAC news release dated December 10, 1949, says that "On the basis of this information, the Committee feels grave concern in regard to television's effect on intercollegiate football in this area."

Reporting on the survey before the annual convention of the NCAA in January 1950, an ECAC spokesman said that on the basis of results thus far, over 16% of the respondents thought TV was better than actual attendance, and another 13% or more considered it as good. And since the proportion was even higher among alumni of the smaller colleges, he concluded that it was these institutions who "will be most affected by the televising of college games."

No other data from this survey have been published. From the tabulations given us, we have calculated the reported average number of games attended per year as 3.9 in 1945-47, 3.4 in 1948, and 2.9 in 1949.

Validity of Findings:

The fact that some 30% of the respondents agree that television is as good or better than attendance does indicate that TV may cause some losses, but the finding gives us no way of measuring the actual or potential loss, nor of calculating whatever stimulative effects may also be involved.

As we have noted, the doubtful representativeness of the sample sharply limits any conclusions which may be drawn from the data. Furthermore, one cannot assume, because an individual thinks televised football is equal or superior to attendance, that he will stop attending games.

Too many other factors intervene to affect attendance, to make it possible to translate the above 30% into actual effect. Even the individual who says he prefers to see the game on TV may find his attendance stimulated, or he may continue to attend games as often as he ever did, for other reasons.

Since the attendance data were not cross-tabulated with TV ownership or degree of exposure to television, we do not know to what extent TV was responsible for the indicated decline. It is likely, moreover, that the attendance losses revealed by this survey are considerably exaggerated, and we would not accept them as a valid measure of over-all trends.

Other data, for example, reveal a much smaller attendance decline in the East. Jordan's figures show about a 5% drop from 1948 to 1949, in contrast to the 15% loss reported by these alumni. Non-response biases and memory errors are probably responsible for at least a part of the exaggeration in these figures.

Since the postcard explained that the survey's purpose was to measure the impact of television on college football, replies may have come disproportionately from the minority which had some effect to report, while those whose attendance patterns were unchanged or who had no strong opinions did not bother to respond. No check-list of games or other memory aid was supplied, so that respondents may have tended to exaggerate their attendance in past years, while estimating accurately their current attendance.

Even more important, perhaps, is the probability that any group of alumni will, over a period of years, show a declining trend of attendance. It may be assumed that attendance falls off sharply when a student becomes an alumnus, and declines more slowly thereafter. The attendance losses, through the years, of any particular group of alumni are offset by the higher attendance rates of new alumni.

In summary, we find no data in this survey from which the net effect of TV may be measured. Some adverse effect on attendance is suggested, but it cannot be specified; and there is no evidence at all regarding the stimulative effects of TV. In addition, the findings pertain only to those alumni who responded to the survey, and cannot be generalized to describe all alumni, or non-alumni, or the football audience in other parts of the country or in future years.

APPENDIX F

TELEVISION FORECAST STUDY

Procedure:

This study, conducted in the Chicago area in February 1949, was designed to investigate the influence of TV ownership on the use of leisure time.

TV-effect was measured by comparing the owners' estimated participation in various leisure-time activities before and after they acquired their set. In addition, certain background information about the set owners was obtained.

The sample was randomly selected from the mailing list of "Television Forecast Magazine", which was apparently the most complete source of names of set owners for the area. Mail questionnaires were sent to 1,000 of these names, and 517 usable questionnaires were returned.

Technical adequacy:

The survey appears to have been well planned and executed. The conclusions drawn are properly qualified, and limitations on the generality of the findings are carefully pointed out. As is often the case with mail surveys, biases due to non-response are unknown, but this fact is recognized in the report and the reader is duly cautioned.

Findings and Conclusions:

Participation in all five of the leisure-time activities specified declined after TV ownership. Sports attendance showed the smallest percent decrease, approximately 8%, and this figure is said to be slightly below the level of statistical significance.

In the case of all activities, declines were greater among short-term owners than among long-term owners. The discrepancy was particularly marked in the case of sports attendance. Those who had owned a set for more than one year estimated only a 3% decline, while the more recent purchasers averaged a 10% decline. The report states that these findings could be indicative of a novelty effect, but "no conclusion can be drawn, as other factors could be causing the observed percentage discrepancy between the two groups."

About 85% of the respondents said they had become interested in sports that they were not interested in before getting their TV sets, and over 52% indicated that television had influenced them to attend in person. "These responses seem to support and be supported by the lower mean decrease in sports events attendance as compared with other leisure-time activities."

Validity of Findings:

The report itself does a good job in pointing out the limitations of the findings. As we have stated, the author draws attention to the fact that non-response biases may be present in the sample, that the observed decline in sports attendance could be due to sampling error, and that the suggested novelty effect is in no wise proved.

The writer also notes that all estimates of pre-ownership behavior are based on memories which may not be reliable. This might be especially true of those who had owned their sets for over a year. It is suggested that re-interviewing of the same people at several points in time before and after purchase, is the only feasible way of overcoming this difficulty.

Implicit in the author's comment that the findings do not prove a novelty effect is the fact that the income, interest and prior attendance of long- and short-term owners were not controlled. Thus, the long-term owners may simply be wealthier people who are less influenced by the cost differences and other competitive advantages of TV over actual attendance; or they may be more interested in sports than the short-term owners are.

It is interesting to note that this study does reveal a higher pre-TV attendance at sports events among long-term, than among short-term owners. If the finding is valid, it confirms some of our criticisms of Jordan's conclusions.

The fact that 52% of the sample testified that TV had influenced them to attend sports events they were never previously interested in provides one of the few data we have on the stimulative effects of television. The result must be substantially qualified, however, by the fact that an overall decline is nevertheless indicated and that the question has no special relevance to college football.

The broad scope of the study naturally limits its usefulness in assessing the specific effects of TV on college football attendance. Throughout, the survey refers only to "sports attendance", and there is good reason to believe that the effects of TV vary widely from one sport to another.

Finally, it must be remembered that the study was confined to a single area, and that its results may not hold for the present time or the future because of the changing composition of the TV ownership group.

APPENDIX G

NCAA TELEVISION STUDY

Procedure:

Mail questionnaires were sent to the athletic directors of the NCAA's 278 member colleges in the Spring of 1950.

The questionnaire, which was a very inclusive one covering three pages, sought detailed attendance data for the last four seasons, special information on experience with televised games, and opinions regarding TV effects thus far.

As of July, only 63 of the questionnaires had been returned, and a summary of tabulations on the more important questions was turned over to us by the NCAA television committee.

Technical Adequacy:

The design of the questionnaire reveals a keen understanding of the complexities of the problem and of the need for complete information. Thus, the athletic directors were asked to supply not only over-all attendance figures but also such additional data as: percent of advance sale to total attendance, number of competing telecasts, number of sets in the area, won-lost record of the team, weather and so on.

Unfortunately, the small number of returns (and the incomplete character of many of these) makes the study almost valueless. There are not enough cases to yield reliable totals for sub-groups of colleges, and even the total of 63 returned questionnaires cannot be considered representative of the entire group of 278.

There is evidence that the sample is very highly biased by the inclusion of too many televised colleges, and perhaps by too many colleges reporting unfavorable TV effects. Letters received from some of the non-responders testify to the fact that those colleges to whom TV is "a problem" were much more likely to reply.

Thus, one athletic director writes: "I am very glad we have no television problems as the questionnaire is rather elaborate and would take a great deal of time to answer." Another, returning a blank questionnaire, says: "Television is not a factor affecting attendance at this institution." In general, it seems that colleges in non-TV areas or colleges in TV areas who are not especially concerned about the problem, were not likely to furnish all the information required.

The questionnaire as a whole is rather difficult to fill out accurately, and some of the opinion questions are poorly designed. Thus, respondents are asked, "In your opinion, did game television or competing television increase or decrease the attendance at your home football games?" — and check-spaces are provided for "Yes" and "No".

Only if the respondent fills in the sub-question (which indicates percent gain or loss) can one be sure whether a "Yes" answer means an increase or decrease, and in no case can one be sure whether the answer refers to the televising of the college's own games or to competing telecasts.

Findings:

On the basis of the 63 questionnaires received as of July, it appears that attendance generally decreased at most colleges during 1949, and most respondents agree that TV has an adverse effect on attendance.

NORC was invited to add the remaining questionnaires which have been returned during the last month as the result of a follow-up appeal (about 25 have been lately received), and to conduct a thorough analysis of the replies. It is our feeling, however, that because of the considerations cited above, the effort would not produce any firm evidence on the question.

Validity of Findings:

Because of the small and probably highly biased sample of returns, we are unable to place any faith in the results.

Answers to the opinion questions provide no adequate measure of TV effects. After all, it is the respondents to this questionnaire who would like to find out the effects of TV, and no additional information can be gained by asking them. Such effects can only be measured in a series of controlled situations.

Additionally, there is a very high degree of indeterminacy in the findings because of the large proportion of omissions and "Don't know" answers in the questionnaires received. On one of the opinion questions, for example, the tabulations read: Yes-29, No-3, No reply-24 and Indeterminate-16. The "No reply" group frequently accounts for 30% or more of the responses, and interpretation is difficult.

APPENDIX H

MISCELLANEOUS SURVEYS AND REPORTS

We include in this appendix brief evaluations of a variety of other data which have come to our attention during the course of this project. Since none of these surveys, reports and opinions provide any direct evidence as to television's effects on college football attendance, we have not thought it worthwhile to analyze them in detail.

Pacific Coast Conference Attendance Study

Home attendance figures for each of the ten Pacific Coast Conference colleges are presented for the 1947, 1948 and 1949 seasons. For each team, the figures for "comparable" home games in the three seasons are reported separately from the figures for games having no "comparable counterpart" in other seasons. The basis for assessing comparability is not stated.

Average attendance for all home games in the "comparable" group is reported for each season, and comparisons between one season and another are made on the basis of the differences shown. No other comparisons are made, and no interpretations are advanced. Information concerning the source and reliability of the attendance figures is not furnished, but we assume they are official.

In its present form the report is chiefly valuable as a source of accurate attendance data for these colleges in these years. If the ascription of comparability is valid, the comparisons might be useful in future research, in conjunction with an analysis of TV variables.

The study makes an attempt to control at least one of the chief variables operating on attendance figures (lack of comparability between games from one season to another), and points the way toward an effective use of such data in research. But in its present form it lacks all relevance to the problem of TV effects.

1949 Survey of the U.S. College Football Market

This study was conducted by the Don Spencer Co. during the 1949 football season. All that is known regarding the survey's procedure is contained in these two sentences in the introduction to the report: "Comprehensive questionnaires were distributed to persons known to attend college football games," and "2,074 questionnaires were received from 14 colleges."

The basis for the selection of the 14 colleges is not stated, although they appear to represent all regions of the country and to include institutions of varying size and importance in the football world. It is not known whether the Spencer organization itself distributed the questionnaires, or whether this was done by the colleges.

The manner of distribution to the individual respondents is further unknown. It is not specified whether the questionnaires were mailed to persons known to have purchased tickets in the past, or whether they were distributed by hand among the actual spectators at particular games. Moreover, the report gives no indication of the total number of questionnaires distributed, so that the proportion and representativeness of the return cannot be evaluated.

In sum, nothing very definite is known about the means by which this study was conducted, nor about the nature of the population sampled. It is consequently difficult to evaluate the significance of the reported findings.

If the sample is at all representative, it would appear that the socio-economic level of the college football audience is very high. Almost 90% of these respondents had attended college; 63% of them were "business owners, partners, corporation officers, attorneys or doctors", and the average income reported for the group is $11,872. The fact that the average of these respondents attended 5.4 college football games per year, however, leads us to suspect that this is not a typical group.

Most of the questions appear to have dealt with brand purchases and intentions to buy, but the following inquiry, bearing on our problem, was also included: "If a college football game of national interest, such as Notre Dame vs. Southern California were being telecast in your town at the same time as your local college were playing, would you go to your local game or stay at home to watch the telecast of the other game?" Eighty-eight percent of the total sample and 90% of the TV owners said they would attend the local game.

For a number of reasons, however, this finding is of little value for ascertaining TV effects on football attendance. The representativeness of the sample is questionable, and it consists wholly of known attenders at football games -- and very frequent attenders, too. Moreover, the question is a hypothetical one and might easily have been biased by the context or stated purpose of the survey. Even for these respondents, it cannot be accepted as a valid indication of actual behavior.

In short, we find nothing in this study which provides a measurement of past TV effects or which sheds any light on effects in the future.

Television Ratings of Commercial Services, Inc.

The fragmentary information we have on these ratings consists of a report on the percent of TV owners who were watching the Army-Michigan game in the Detroit area in 1949, and of an estimate of the potential TV audience for football games in 1950.

We made no attempt to assess the validity of the ratings and estimates, because they are irrelevant to the question of TV's effect on attendance. They merely show us that a great many people watched football on television in 1949, and that as the number of TV sets increases, more people will watch it in 1950.

Newspaper and Magazine Reports and Opinions

Almost everyone today seems to have an opinion about the effects of television on our leisure-time activities, and in the course of this project, we have studied the statements of a great many sports promoters and others whose opinions have been reported in the press.

These statements vary all the way from complete optimism to deepest pessimism. An official of the San Francisco club predicts the end of baseball in San Francisco if TV continues to expand; a boxing promoter says that without the extra income from TV he would have to close down his arena. A prominent college athletic director estimated that on the Pacific Coast television had created a 20% loss in attendance; another university official noted that his 1949 attendance had jumped 40,000 when he started televising the games.

There have been many citations of individual situations in which attendance has fallen off drastically when sports events were televised, and many others in which attendance has stayed the same or even increased along with television. As one commentator has said: "Neither those who claim that television hurts sports, nor those who assert a gain in attendance will result, have been able to prove their case."

All such opinions are of little use for our purpose, first because they uniformly fail to show a causal connection between TV and attendance changes, and to allow for the operation of non-TV factors; and secondly because one cannot generalize from one situation or type of sports event or section of the country to another.

Part 2 of 8

THE EFFECTS OF TELEVISION

ON COLLEGE FOOTBALL ATTENDANCE

REPORT NO. 2

AN ANALYSIS

OF COLLEGE FOOTBALL ATTENDANCE DATA

Prepared for the

National Collegiate Athletic Association
and
the Four Television Networks

by the

NATIONAL OPINION RESEARCH CENTER
University of Chicago

April 30, 1951

INTRODUCTION

Early last summer, NORC was asked by the NCAA and the four television networks to evaluate a number of past research studies dealing with the effect of television on college football attendance, and to suggest a research program for the 1950 season. A report embodying our findings and proposals was delivered to the joint committee in August.

It was found that none of the surveys we had examined could provide a definitive answer regarding the magnitude, direction and consistency of TV effects, although, taken collectively, they did strongly suggest that television was responsible for some attendance losses. It was further concluded that the earlier research could provide no reliable guide toward the effect on attendance in 1950 and later seasons, as television became available to more (and different) people.

In the NORC view, a definitive answer to the question required a three-pronged approach: (1) Systematic collection of accurate attendance data for the 1950 and earlier seasons; (2) A nation-wide sample survey of trends in the attendance behavior of the college football audience, in relation to their degree of exposure to television; and (3) A number of local "case studies" in areas where a college game was televised, and where the various local factors influencing attendance could be isolated and measured.

Unfortunately, factors of time and cost, unsolved problems in the design of the national survey, and the difficulty of organizing and supervising the proposed local surveys, all contributed to the elimination of the second and third elements of this basic research program.

Instead, it was decided to expand the first point in the program through the intensive collection of attendance figures from all NCAA colleges for the last four seasons; to supplement these figures with systematic information regarding television, weather and other factors which might affect attendance; and to subject all these data to thorough analysis in an effort to isolate and measure the television variable. Preliminary results of this analysis were made available to the committee in early January 1951, and were presented briefly to the NCAA convention in Dallas the same month.

Although the general trend of the early figures was quite clear, it was emphasized that the January report was of a tentative, preliminary nature. Figures were still missing from some colleges, other information had been obtained from secondary and perhaps unreliable sources, and there had been no time for that refined analysis which might underscore or qualify the findings presented. The present report describes the study in detail, presents final tables, probes more deeply into the relationships found, and attempts to answer some of the questions which were left unanswered by the preliminary figures.

We would like to express once more our appreciation to Thomas Hamilton, Ralph Furey and Willis Hunter of the NCAA Television Committee; to Hugh Beville of NBC, Oscar Katz of CBS, Ben Gedalecia of ABC, and Leslie Aries of Dumont; and to Homer Cooke of the NCAA Statistical Bureau, for their advice and support throughout this project. Both the NCAA and the television networks have given us whole-hearted cooperation in this study, and without the help of both groups, our research could not have been carried out.

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CONTENTS

SUMMARY OF FINDINGS

The post-war rise in college football attendance continued in 1949 the first year in which television was a significant factor. Attendance was almost 3% above the 1947-48 average.

But in 1950 the upward trend was halted and even reversed. Six of the eight geographical regions showed declines from 1949, and total attendance actually fell almost 2% below the 1947-48 average, a loss of 4.6% from the preceding year.

Both in 1949 and 1950, those colleges located in television areas showed smaller attendance gains or larger attendance losses than the colleges outside of TV areas; but the differential was much larger in 1950 as the number of TV sets increased.

In 1950, unfavorable television effects were observable in seven of the eight NCAA districts. Over-all, the colleges in TV areas dropped about 4% from their normal attendance, while colleges outside of those areas gained 4%.

Such non-TV factors as weather and team performance influence attendance trends, and where these factors were favorable, attendance in television areas was normal or better. But under similarly favorable conditions, attendance outside of TV areas was even higher.

When the effects of weather and team performance are controlled, the colleges exposed to television consistently report smaller gains or greater losses than those which are not exposed.

Although adverse television effects are discernible at both good- and bad-weather games and at all levels of performance, they become smaller as the game is more attractive larger as its attractiveness declines. When the weather is bad or performance is poor, the attendance losses of colleges exposed to TV become relatively much greater.

The effects attributed to television cannot be accounted for by changes in ticket prices, stadium capacities, student enrollment, population or economic conditions -- although in certain parts of the country, such changes occasionally result in a slight over- or under-statement of the magnitude of the TV effect.

TV effects become generally more marked as the television competition becomes more direct. Colleges exposed only to the competition of network telecasts or telecasts of other local games report little or no loss. But those colleges whose own games are telecast report heavy declines, in spite of their gemerally strong performance.

TV effects become greater as the extent of ownership increases. When fewer than 20% of the families own sets, no effect is apparent; when 20-40% of the families own sets, the effects are clearly noticeable; in areas where more than 40% of the families own sets, the losses are heavy.

With increasing saturation in 1951, some attendance losses resulting from general TV competition are probable, even if the televising of football games were to be completely banned. But the losses would be much greater under conditions of unrestricted telecasting.

Experience to date offers no confirmation of the theory that attendance losses will be regained as television's novelty effect wears off. Thus far, the declines in attendance have become progressively more severe, as more and more sets are introduced into the area.

Regional variations in 1950 attendance trends conform in every case to the above findings. Where the proportion of TV owners was low and few colleges telecast their games, attendance generally held steady or improved. Where there were many televising colleges and a high proportion of TV owners, attendance losses were heavy.

I

THE PROBLEM AND THE METHOD

The isolation and measurement of the effect of a single variable in a complex situation is one of the most difficult of all kinds of research.

The problem constantly arises in the form of such questions as "How many of the product's sales can be attributed to this advertisement?", or "How many opinions were changed by this particular argument?" Lacking the necessary features of a controlled-experiment situation, research techniques can usually provide only approximate answers, seldom if ever complete or definitive ones.

The effect of television on college football attendance poses this same type of problem, and it may be useful to repeat here very briefly some of the observations in the first NORC report which explain the difficulty.

> First, football attendance is affected not only, or even primarily, by television, but also by a host of other factors which interact with each other and with television to bring about attendance changes. Thus, the weather, the records of the two teams, the amount of money in his pocket, the number and types of competing attractions -- all these considerations, and scores of others, affect the individual's decision as to whether or not he will attend the game. If the game happens to be televised, that is merely one additional factor involved in his decision.
>
> Second, the conditions of television itself vary greatly from place to place and from time to time. Its effects will be differentially felt, depending on such factors as the number and characteristics of TV owners in the area, the accessibility of the telecast in theatres, bars and other public places, the amount and type of promotion devoted to the game on TV, etc.
>
> Third, television may have both depressing and stimulating effects on attendance, and the net of these may vary from one situation or time period to another. For example, any latent benefits of television, which may not show up in attendance gains till later years, obviously cannot be calculated by means of studies of past attendance.
>
> Fourth, television is still young and its future is uncertain. Its effects on football attendance a few years from now, when TV is available in all areas and reaches virtually everyone in the population with clearer, larger images in color, may be very much different from the effects of the kind of television we have known in 1949 and 1950.

Given these complexities, it is clear that a simple analysis of the attendance data from recent football seasons cannot possibly answer all the questions that may be asked about "the effect of television on football attendance." Personal interview data from a good cross-section of the football audience would be needed to explain the dynamics of the relationships found, and intensive studies of local areas would be required to clarify all the various departures from the over-all or "normal" effect.

Advantages of Attendance Approach

But having said this, we may say also that the approach to the problem through a systematic analysis of attendance trends is superior to any past approaches, and that the present study has been carefully planned and executed.

As noted in our first report, the usefulness of the earlier surveys we examined was limited either by their failure to take into account the higher normal attendance of TV owners, their reliance on verbal reports of reasons for attendance changes, their sampling of specialized or irrelevant population groups, or their application to a single local situation.

Potentially the most fruitful of all the earlier approaches was Jordan's collection of attendance data from 193 colleges for the 1948 and 1949 seasons. Although we criticized Jordan's handling of these figures in certain respects, it was his initiative in approaching the problem from this standpoint which suggested the present study.

By placing the emphasis on actual attendance changes, one can avoid the limitations and difficulties of the interview-type survey, and obtain a definitive measure of the dependent variable -- college football attendance -- undistorted by interviewing or sampling error. And while analysis of attendance figures cannot always tell us the reasons for the changes we find, it is usually possible to make sound inferences.

In the present study, we have collected not only attendance data from all major colleges and most minor ones in all sections of the country, but information also on most of the other important variables: television, performance, weather, etc. And we have this information for all four seasons, 1947 through 1950.

As a result, we can look at over-all attendance trends in television areas, as compared with other parts of the country, and we can conduct more refined analyses of particular groups of colleges in which one or more of the other important variables is held constant.

For example, we can compare the attendance trends of teams with poor performance records in television areas with those of similar teams in areas which are not exposed to television. The difference between the trends would not necessarily prove the influence of TV, but the inference would be strong -- especially if there were enough colleges in both groups to iron out the chance effects of uncontrolled factors.

The Data

Although the 1950 Official Football Guide lists some 753 football-playing colleges throughout the country, it was early decided to restrict this analysis to the 288 member institutions of the NCAA.

These NCAA colleges account for all but two of the 119 "major" football teams in the country,* and the NCAA college games may be presumed to draw close to 98% of the total paid attendance. The negligible effect which the figures from the remaining four or five hundred colleges and junior colleges would have on our results was not deemed worthy of the prodigious time, effort and expense needed to obtain them.

Our primary source of data in this research was the two questionnaires which were sent to the athletic directors of the NCAA colleges -- one in October, requesting attendance and other information for the 1947, 1948 and 1949 seasons, and the second in late November, soliciting similar data for the 1950 season.

Table 1 below shows the number and proportion of returns from the 117 major colleges and the 171 minor ones. Although all non-responding colleges were sent at least two follow-up requests, our most intensive efforts toward the goal of 100% returns were devoted to the major colleges which account for so large a share of the total attendance.

Non-returns from these major colleges were followed up by mail, telephone, telegraph and personal solicitation from NORC interviewers residing in the locality. As a result, questionnaires were finally received from all but nine of these 117 schools, and data on these nine were acquired from the most reliable secondary sources: the earlier Jordan figures, NCAA information, or, in a few cases, newspaper estimates.

Questionnaires were received from 98 of the 171 minor institutions, and secondary sources of information were used for five or the more important schools in this group. Of the remaining 68, 22 reported no football team in 1950 and many of the others said no admission was charged or attendance records were not kept. It is unlikely that the missing institutions could account for more than 3 or 4 % of the total attendance at NCAA college games.**

TABLE 1

NUMBER OF COLLEGES INCLUDED IN THE STUDY

	Major Colleges		Minor Colleges		Total	
	N	%	N	%	N	%
Questionnaires returned	108	92%	98	66%	206	78%
Data from secondary sources	9	8	5	3	14	5
No information	--	--	46	31	46	17
No football team	--	--	22	--	22	--
Total	117	100%	171	100%	288	100%

* As defined by the NCAA Statistical Bureau.

** For some of these non-responding colleges, we have fragmentary attendance data (not included in our study), and we can further infer their probable contribution to total attendance from available data on their stadium capacities and student enrollment.

The following items of information were sought from the athletic directors for each of the four seasons 1947-50:

Names of opponents at each home game
Date and time of each game
Designation of each game as "major" or "minor"
Total attendance at each game
Total gate receipts less tax at each game
Weather ("good" or "bad") at each game
Special factors which may have affected attendance at each game
Number of season tickets sold
Changes in general level of ticket prices
Capacity of home stadium
Data on games played in neutral stadiums
Size of student body

In an effort to keep the questionnaire as short and simple as possible, the above items were the only ones solicited from the college athletic directors. Television data, performance records and other information were obtained from other sources, as follows:

Through the cooperation of the four television networks, each of the 107 TV stations in the country was sent a questionnaire which asked for the following information:*

Listing of all football games televised
Designation of each game as high school, professional or college
Date and time of the telecast
Origination of the telecast (network or local)
Designation of the telecast as sponsored or unsponsored

In addition to the information obtained from these two questionnaire forms, we had access to the following materials:

Performance records for all colleges, from the Official Football Guides, 1950 newspaper reports and the NCAA Statistical Bureau.

Listings of membership in the various leagues and conferences, from the Official Football Guides.

Designation of each college as "major" or "minor", according to the NCAA Statistical Bureau, a rating based on the strength of opposing teams played.

Definitions of the counties included within each of the 63 television areas, from NBC data.

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* Information was ultimately obtained from 98 of the 107, and the omission of the remaining nine did not seriously handicap the analysis.

Data from NBC monthly sales figures, Sales Management magazine and other sources, on the year of introduction of TV into each area, number of set-owners month by month, number of families in the area, etc.

It may readily be seen that the problem of collecting, editing, grouping, tabulating and analyzing such a wealth of data, from such a variety of sources, was a formidable one. Actually, neither time nor money was available for all the research that might have been done on this material, and primary emphasis was placed on completing the major analyses as promptly as possible for the benefit of the committee's 1951 deliberations.

A Common Error

The weaknesses of a very common method of interpreting attendance data, mentioned briefly in our earlier report, should perhaps be stressed here. That method involves the simple comparison of two sets of figures contrasted on the television variable.

Frequently, the comparisons note the difference between the attendance at a particular game or for a particular college (or groups of games or colleges) at two different points in time. Thus, one hears it said that television hurts football because. . .

College A's attendance dropped 40% when it started televising its games, or

Attendance at B Conference games was off 30% the year that television was introduced into the area, or

The game between College C and College D drew only 35,000 when it was televised this year, whereas last year, when it was not televised, it drew 55,000.

Persons of the opposing view can with equal facility, of course, cite various instances in which attendance was not harmed, or even increased, under conditions of television.

In other cases, the comparisons note the difference between the attendance at two different games or for two different colleges (or groups of games or colleges) at the same point in time. Thus, one hears it said that television does not hurt football because. . .

Of two games in a particular area on a particular Saturday, the televised game drew more than the non-televised one, or

College A, which televised its games this year, had a splendid year at the gate, while College B, which did not televise, drew very poorly, or

C Conference, which banned television, had mediocre crowds at its games, while D Conference, which permitted telecasting drew very well.

And again, proponents of the opposite view can quickly cite other instances of the same type, in which it was the televised games and colleges which had the lower attendance.

All such simple comparisons of two figures or two groups of figures contrasted on the television variable tell us nothing about the effect of television on attendance, and serve merely to becloud the issue. The reason is twofold.

First, if the comparison is to have any meaning, the two situations must be completely comparable in all respects except television -- and this is never the case. Thus, the differences cited can as easily be explained by differences in the weather, the records of the two teams, or a score of other factors, as by the effects of television.

Secondly, if the comparison is to have any meaning, we must have some systematic estimate of what the televised games would have drawn if there had veen no television. Merely to show that a televised game or group of games drew more or less people than an untelevised, begs the question. The real issue is: What would those games have drawn had there been no television?

The Plan of Analysis

It was early apparent that no definitive analysis could be conducted on the basis of "comparable" games or "comparable" colleges, or groups of these.

If we controlled only on two or three of the most important variables -- such as size of the college, team performance and weather -- there remained a host of other variables -- such as geographical region, competing attractions, or special factors about the game or college -- which were still uncontrolled and which could destroy the comparability. On the other hand, if we tried to hold constant all the major variables, we could never find a sufficient number of truly comparable situations to justify any conclusions.

Actually, the whole concept of comparability is impractical when it comes to college football. One could find several colleges, for instance, in the same region as Notre Dame, with approximately the same schedule and performance record, but there is just no college that is "comparable" to Notre Dame for the purpose of an analysis such as this. There is an element of uniqueness about every game, every college, every conference, every region, which makes simple comparisons very doubtful.

What was required, therefore, was some measure of the "normal", or "base", or "expected" attendance for the particular situation, against which the actual attendance could be evaluated. Thus, if we found that televised games drew only 80% of their "normal" or "expected" attendance, whereas non-televised games drew 110%, we would be justified in concluding that television hurt attendance. If we found, on the other hand, that both televised and non-televised games drew the same percentage of their "expected" attendance (no matter whether that percentage were higher or lower than "expected"), we could conclude that TV had no effect.

For the findings from such a scheme of analysis to have any validity, two conditions must be met. First, the "normal" or "expected" attendance figure must be derived in some systematic way, and in identical fashion for both the TV and non-TV group. If the "expected" figures were determined by guess or by hunch on an individual basis, or if they were determined in one way for the TV group and in another way for the non-TV group, the scheme would not be valid.

Secondly, there must be enough cases in the two groups for chance and numbers to iron out the effects of other variables. It is not enough to show that one televised college drew less than its expected attendance, while one untelevised college drew more than its expected. Such a finding could easily occur because of differences in team performance or other factors. But if the same finding held true for all televised colleges, or for televised colleges when compared with untelevised on the same performance level, we could feel pretty sure that the apparent conclusion was valid.

It is for these reasons that we were forced to conduct the bulk of our analysis on a "college" rather than on a "game" basis. Because college football schedules vary from season to season and many of the games have no precedent, it was not possible to set up expected attendance figures for each game in any systematic fashion. But a convenient way of deriving expected seasonal attendance figures for each college was available to us in the 1947-48 attendance reports.

There seemed a number of arguments for treating the average 1947-48 attendance of each college as its "normal" attendance, which could be regarded as its expected attendance in 1949 and 1950. For one thing, these were perhaps the most "normal" of all the post-war years for the colleges.

More important, television was a negligible factor in college football during those two seasons. Even in those instances where games were televised, the number of set owners in the area was hardly large enough to affect attendance seriously. The years 1947-48, therefore, give us a pre-television base, against which we can evaluate the 1949 and 1950 experience when the televising of games was quite common and the number of set owners had greatly increased.

We could conceivably have accepted either the 1947 or the 1948 figures alone as the base for each college, but it seemed wiser to combine the two and take an average. This had the effect of ironing out fluctuations due to varying performance and other factors between the two seasons, and thus provided a more stable base. Furthermore, since many college football rivalries are conducted on a "home-and-home" basis the combined figure also equalizes the effect of the "big game" being played at home one year and away the next.

For each college, therefore, we computed the average attendance per home game during the two seasons, 1947 and 1948. When this figure is multiplied by the number of home games played in 1949, we have the college's expected attendance for that season; multiplied by the number of home games in 1950, we obtain the 1950 expected attendance. Against this expected attendance, we can then look at the actual experience in those years.

Obviously, for any single college, this expected attendance may be an unrealistic norm. For instance, if the school had a particularly good team in 1947-48 and a poor one in 1949-50, we would hardly expect it to match its "expected" attendance, and for many similar reasons the figure may be unfair in the individual case.

But in dealing with total attendance and large groups of colleges, factors like performance can either be controlled or may be presumed to cancel out, and the "expected" attendance becomes a sound base against which to evaluate subsequent changes.

I I

OVER-ALL TRENDS IN ATTENDANCE

Before endeavoring to isolate and measure the effects of television on college football, it may be well to look for a moment at the over-all attendance picture. It is within this framework that the effects of TV must be weighed, and a necessary first step is to discover just what the general trends in attendance have been.

Table 2, then, shows the over-all record of college football attendance during the last four years -- the television era.

TABLE 2

NATIONAL ATTENDANCE TRENDS, 1947-50

Year	Total Attendance	"Expected" Attendance on Basis of 1947-48 Average	Percent of Expected
1947	14,902,802	xxxxxxxxxx	xxxxx
1948	15,355,524	xxxxxxxxxx	xxxxx
1949	15,725,057	15,293,359	102.8
1950	14,786,035	15,058,179*	98.2

* Since "expected" attendance is always adjusted to number of games played, the "expected" figure varies from season to season.

These findings confirm previous estimates by the Associated Press, the United Press and other sources, based on somewhat smaller numbers of colleges, and they also accord with Department of Commerce figures on national expenditures for college football attendance.

The upward trend in attendance which had been underway since the end of the war was not halted in 1949, the first year in which television became a factor to reckon with. As a matter of fact, total attendance for all colleges was up almost 3% over the 1947-48 base period and set a new high mark.

But in 1950, the post-war upsurge was not only halted; the trend was actually reversed. Total attendance fell off 4.6% from the peak level of 1949, and slipped almost 2% below the 1947-48 average.

As might be expected, those gross figures conceal some sharp regional variations. In some sections of the country the losses were heavier than average, while other sections not only held their own but even increased their attendance in 1950. Table 3 reveals how the over-all attendance changes were apportioned from one region to another.

TABLE 3

1949-1950 ATTENDANCE BY REGION

NCAA District:	1949 (Percent of Expected)	Percent Change, 1949 to 1950	1950 (Percent of Expected)
1 - New England. . .	102.1	Down 26.4%	75.7
2 - Middle Atlantic.	94.7	Down 11.2	83.5
3 - Southeast . . .	105.4	Down 4.8	100.6
4 - Midwest.	103.8	Down 2.7	101.1
5 - West Central . .	101.5	Up 6.5	108.0
6 - Southwest. . . .	115.5	Up 13.2	128.7
7 - Mountain	99.4	Down 10.8	88.6
8 - Pacific.	99.8	Down 5.3	94.5
Total U.S. . . .	102.8	Down 4.6%	98.2

Looking at the first column of the table, we find that in spite of the continued upswing in total attendance in 1949, the post-war boom had just about leveled off in all regions except the South. The Southwest alone accounted for almost all of the national increase, with attendance records 15.5% over their 1947-48 average, while Southeastern colleges reported a 5% increase.

Elsewhere, gains and losses were about evenly balanced. In the Middle West, 1949 attendance was up almost 4%, but the West Central, Mountain and Pacific sections showed insignificant changes from their 1947-48 average. In the East, colleges outside of New England actually experienced a noticeable decline in this banner year for football attendance.

In 1950, as shown in the second column of Table 3, only two of the eight regoins were exempt from the general pattern of lower attendance. The Southwest continued its upward surge, jumping 13.2% over the preceding boom year, while the West Central (Missouri Valley) region also registered an impressive gain.*

But elsewhere throughout the country, attendance dropped back from the 1949 levels: in the Midwest slightly; in the Southeast and on the Pacific Coast moderately; and in the Mountain region and in the East very considerably. New England suffered a spectacular drop in 1950 attendance, and the Middle Atlantic region, continuing the downward trend which started there the previous year, fell off an additional 11%.

Prior to 1949, of course, the number of television sets in the country was too small to exert any appreciable influence, and it was not until 1949 and 1950 that TV became sufficiently widespread to affect attendance either favorably or unfavorably.** Our "expected" attendance, therefore,

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* When we speak of attendance "jumping 13.2% we should say, more precisely, "13.2 percentage points". Actually, a 13.2% gain over 115.5 would produce a figure of 130.7 rather than 128.7. But the differences are normally so very slight, and the simplicity of the former phrasing so superior, that we have felt justified in using the short form throughout.

** See Table 14, P. 29

based on 1947-48 averages, may be regarded as a "pre-TV norm", and in the light of this, it is interesting to note the deviations from this norm in 1950, recorded in the third column of the above table.

Here we find impressive gains over the pre-TV norms in two of the eight regions (West Central and Southwest), approximately "normal" attendance in two others (Southeast and Midwest), and substantial attendance losses, ranging from 5% to 25%, in the other sections of the country. Eastern colleges suffered most severely, with New England attendance off almost one-fourth from the 1947-48 average, and the rest of the East losing one-sixth of its normal attendance.

TABLE 4

1950 ATTENDANCE BY MAJOR-MINOR COLLEGES

	1950 Actual Attendance	"Expected" Attendance	Percent of Expected
Major colleges. .	13,164,924	13,370,994	98.5
Minor colleges. .	1,621,111	1,687,185	96.1
All colleges. .	14,786,035	15,058,179	98.2

Table 4 shows the 1950 attendance experience of those institutions classified as "major" colleges, as compared with "minor" colleges. The major-minor distinction is based on the "league" in which the college's football team plays. All schools in the nine top conferences in the country, plus those independents who play a "major" schedule, are included in the list.

It is perhaps worth noting that the 117 major colleges account for 89% of the total attendance, while the 103 minor colleges included in this study account for only 11%. True, we are lacking data on 46 additional minor colleges which, if they were indluded, would undoubtedly boost the contribution of the smaller schools. But we believe we have included all the "bigger" minor schools, and it is unlikely that the 46 missing institutions would add more than a half million to the grand total.

As may be seen, the over-all attendance loss in 1950 was not concentrated among either the major or minor colleges, but of the two, the minors suffered more heavily. Attendance at the smaller schools was off 4%, while among the major colleges the drop was only 1.5%.

It is against this background, then, of a general leveling off of the post-war boom in 1949 and of a marked decline in 1950 attendance in most parts of the country, that we can turn now to an examination of the particular effects of television.

III

THE EFFECT OF TELEVISION

Table 5 presents a breakdown of 1949 and 1950 attendance trends, by region, for colleges located in television areas, and for colleges outside of such areas and consequently unexposed to the influence of TV. This basic table will repay careful study, since it provides the best single measure of television effect.

TABLE 5

ATTENDANCE TRENDS FOR COLLEGES INSIDE AND OUTSIDE OF TELEVISION AREAS, 1949 AND 1950

	Percent of Expected Attendance			
	1949		1950	
	Colleges in Areas Where There Was		Colleges in Areas Where There Was	
Region:	TV	No TV	TV	No TV
1 - New England	99.8	112.7	70.6	99.8
2 - Middle Atlantic	92.7	114.6	81.5	105.0
3 - Southeast	102.0	108.8	99.1	102.4
4 - Midwest	103.0	105.1	100.2	103.8
5 - West Central	112.4	88.6	106.9	110.9
6 - Southwest	128.1	105.2	149.7	112.2
7 - Mountain	92.0	102.9	81.8	91.5
8 - Pacific	100.7	95.8	94.1	95.8
Total U.S.	102.2	104.0	95.9	103.7

Looking first at the 1949 experience, we see that, for the country as a whole, the colleges located in television areas had a prosperous year at the gate, exceeding their normal or expected attendance by 2.2%. But outside of TV areas, relative attendance was even better in 1949. Colleges beyond the range of television gained 4% over their 1947-48 average.

As we see from the regional breakdowns above, however, the national experience of slightly lower relative attendance in the TV areas did not hold equally true for each part of the country in 1949. In some sections, the colleges exposed to television suffered badly, relative to the others; while in other parts of the country they showed even superior attendance trends.

In the East, for example, the differential between the two types of areas was very unfavorable to television in 1949. We have already noted that attendance outside of New England in the East registered a significant decline during that generally prosperous year for college football, and in Table 5 we discover that the drop is accounted for entirely by the colleges exposed to television. Outside of TV areas in this region, attendance continued its upward trend and climed 14.6%.

The Southeast, Midwest and Mountain regions also report a lower relative attendance in TV areas during 1949, but elsewhere in the country it is the colleges who were exposed to TV which fared better. In the Southwest and West Central regions, the TV-area colleges had markedly better attendance, and on the Pacific Coast as well, crowds held steady in localities served by television but showed a moderate decline elsewhere.

In general, then, it appears that in 1949 television did exercise an adverse effect on attendance, but that the effect was far from consistent from one region to another, and for the country as a whole was quite small -- in the neighborhood of 2%. It should be remembered, of course, that there were in 1949 only one or two regions which contained an apperciable number of TV sets; hence, most of the changes are explainable in terms of other factors.

Turning to the 1950 experience, we find a stronger and more consistent pattern. During the recent season those colleges outside the range of TV again bettered their 1947-48 average attendance and, indeed, just about matched the peak levels of 1949. Their combined attendance showed a 3.7% gain over the base period.

But in areas where television was present, football attendance dropped 6.3% from the 1949 levels and actually fell 4.1% below the normal or expected figure. In contrast to 1949, when the differential between the two types of areas was only 2%, it now stands in the neighborhood of 8%, and we see that the over-all decline in attendance last year was concentrated almost exclusively in the television areas.

Furthermore, and again in contrast to 1949, the experience was remarkably consistent in all parts of the country. Although the size of the differential varies from one section to another, in only one of the eight regions do the colleges in TV areas fare better than those outside.

This one exception is the Southwest region, where both TV- and non-TV-area colleges continued to chalk up impressive attendance gains, but where the colleges exposed to television scored by far the greater percentage increase. In four of the other seven regions, the unfavorable television differentials are moderate or slight, but in the Mountain section, and particularly in the East, the losses suffered by colleges in the TV areas are extreme in comparison with the trends outside.*

Some Questions

The fact that in 1950 colleges outside the range of television increased their attendance by 3.7% over their 1947-48 average, while colleges within the influence of the new medium showed a loss of 4.1% from their pre-TV norm -- and that the same relationship held true in seven of the eight regions -- is strong prima facie evidence that TV has a harmful effect on football attendance.

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* A detailed discussion of regional trends may be found in Section V of this report, starting on P. 39.

Without the data showing an attendance increase in non-TV areas, it might have been argued that the over-all 1950 attendance decline of almost 2% from the base period would have occurred anyway, even if there had been no television; or, citing the possibility that television actually increases attendance by making new fans, it might have been contended that attendance would have dropped even more had it not been for the stimulating effects of TV. But the attendance gain in non-TV areas, coupled with the loss in TV areas, makes such a position now impossible to maintain.

Nevertheless, although an adverse effect of television on attendance is strongly indicated, neither its existence nor its magnitude is yet proved. This is because we do not have here a fully contrulled experimental situation.

If this were an academic laboratory experiment, we could take the 266 football-playing members of the NCAA and expose every alternate one to television. Any significant difference in the attendance trends of the two groups could then, within the limits of sampling error, positively be ascribed to television, because the random nature of the two samples would insure their statistical equivalence in all other respects.

But the present TV and non-TV areas were not selected randomly or for experimental purposes. Whether and when television was introduced into an area was determined by a host of demographic, technical and economic factors which were not distributed randomly over the country. As a result, the two types of areas differ in many important respects, and, more important, their characteristics may have shifted in different ways since 1947-48.

It should be emphasized that the mere fact of inherent differences between the TV and non-TV areas is not at issue. No one would contend that the colleges located in television areas are "comparable" with the colleges outside. They are not, and they do not have to be, since the inherent differences between them which held in 1947-48 are equated by the use of separate "expected" figures based on actual past attendance in each of the two types of areas.

But if we are to take the data of Table 5 at face value, as proving the harmful effect of television on attendance, we must assume that the relationship of the two groups of colleges has changed only with respect to the television variable since the 1947-48 base period. In other words, we would have to assume that all other relevant characteristics of the two groups either have not changed at all, or have changed in the same direction and by approximately the same amount. The possibility of a differential change in some other variable, which might account for all or part of the effects now apparently traceable to TV, has thus far been ignored.

Thus, the TV areas include all the big cities in the country, and the question might well be asked: Are there factors aside from television which could cause a group of predominantly big-city colleges to lose 4% in attendance while colleges in smaller towns were gaining 4%? If there are, our Table 5 may not reflect TV effects, but merely differential city-size attendance trends.

Similarly, such factors as weather or team performance may have changed differentially between the two types of areas. If the TV areas suffered from particularly unfavorable weather conditions in 1950, or if their teams were relatively weaker that year, our table may be reflecting the effect of these factors instead of the influence of television. The fact that attendance differentials unfavorable to TV have been demonstrated in 1949 as well as 1950, and that the larger differential in 1950 coincides with the more widespread TV ownership of that year, makes these possibilities seem less likely, but they cannot be ignored.

If our attendance trends stretched back twenty or thirty years, and we could show that not until the effective debut of television in 1949 did the present TV and non-TV areas reveal any significant differential trends, we would have a more compelling argument for the adverse effect of TV, since it would be difficult to ascribe the sudden change in the trends to anything except television. But unfortunately, systematic and complete attendance data for earlier years are simply not available.

In order really to prove the effects of television, therefore, we must investigate the other major factors influencing attendance, and we must show either that there was no differential change in these factors between TV and non-TV areas, or, if there was a differential change, that it could not have accounted for the opposing attendance trends.

Obviously, it is not possible to investigate <u>every</u> factor which could possibly affect attendance. We can look only at those which appear to have some plausible likelihood, control their effects, and then look again at the attendance trends in the two types of areas. If none of these most plausible factors can be shown to account for the differences observed, there may be no reasonable doubt that television effects have been proved.

We not pass on to examination of some of these non-TV variables affecting attendance, to see whether television effects are still discernible when those factors are controlled.

<u>1. Team Performance</u>

It is universally recognized that team performance is one of the most powerful factors affecting football attendance, and the question naturally arises: Could a generally improved performance trend of the teams in non-TV areas, as compared with those in TV areas, have accounted for their superior attendance trends?

To ascertain this point, all colleges were grouped into three classes, according to their 1950 performance records: those who won more than one game <u>more</u> than their 1947-48 average ("Better"); those who had the <u>same</u> records as in the base period, or who won only one game more or one game less ("Same"); and those who won more than one game <u>less</u> than they did in 1947-48 ("Worse").

Table 6 confirms the impression that performance is a strong determinant of attendance, but it also confirms the unfavorable effects of television. <u>Whatever the trend in performance</u>, the colleges located in TV areas report poorer attendance trends than those outside.

TABLE 6

1950 ATTENDANCE IN TV AND NON-TV AREAS, BY TEAM PERFORMANCE

Colleges Whose Team Performance in 1950 Was:	Percent of Expected Attendance: All Areas	TV Areas	Non-TV Areas	TV Differential
Better than in base period.	105.2	104.1	107.4	3.3%
About the same as in base period. .	103.8	101.6	107.8	6.2%
Worse than in base period	88.1	85.5	97.7	12.2
All Colleges	98.2	95.9	103.7	7.8%

This is an important finding, because in the absence of the comparitive figures one could speciously argue that only the weaker teams suffered attendance losses in 1950 and that to blame this loss on television is hardly fair. As we see in the "TV Areas" column, it is quite true that those colleges in television areas whose performance was normal or better actually exceeded their expected attendance, and that only those who had poorer teams fared worse than in their pre-TV base period.

But the comparative figures for colleges in non-TV areas show clearly that unfavorable television effects persist on all three levels of performance. True, the good teams in TV areas gained in attendance, but in areas outside the range of television the gain was even larger. True, the poorer teams outside of TV areas showed attendance losses, but where television was present, the loss was even greater.

It is only when the colleges in TV areas have an edge in performance (and even then, not uniformly) that their attendance trends are superior. Thus, only the TV-area teams whose won-lost records were "better" or "about the same" could surpass the attendance trends of the non-TV-area teams which had "worse" won-lost records. When performance factors are equalized, the colleges in TV areas showed smaller gains or greater losses on every level.

It is noteworthy that although team performance does not affect the direction of TV effects, it seems to have a significant bearing on their magnitude. The TV-area colleges fare less well at all levels of performance, but the good teams are hurt much less. Thus, the better teams in TV areas gained only 3.3% less than those outside; the average teams suffered a 6.2% differential; but the poorer teams underwent an attendance decline 12.2% greater than equivalent teams outside the range of television.

2 Weather

A second factor which obviously affects attendance at football games is the weather. If weather conditions were particularly favorable to the TV

areas in the base period, or particularly unfavorable to them in 1950, we might find that this difference accounted for some or all of the attendance differences which now seem attributable to the effects of television.

It should be pointed out that the weather conditions at each game cannot be measured objectively and precisely. The threat of rain on a day when temperatures are ideal and there is no precipitation may keep attendance down; a sudden snowfall may have no effect at all if the weather up to game-time is good; and a 60-degree temperature may be excessively warm in some parts of the country and average in others.

Rather than abandon completely any analysis of this factor, however, we asked each college athletic director to describe the conditions at each home game as "Good" or "Bad". While there may be a certain unreliability to these reports, they were the best measure obtainable, and we assume that the athletic directors can recall fairly accurately at least those games during the last four seasons which were played under "bad" weather conditions. Furthermore, the large number of athletic directors reporting tends to reduce the bias that might be caused by defects in the memory or information of any particular one.

Our method of analysis was to take the usual average of all games played in 1947-48 as our base or expected attendance, and then to calculate for both TV and non-TV areas the percent of this expected attendance drawn to good-weather and bad-weather games in 1950. Table 7 shows the result of this tabulation.

TABLE 7

1950 ATTENDANCE IN TV AND NON-TV AREAS, BY WEATHER CONDITIONS

Type of Game:	Percent of Expected Attendance			TV Differential
	All Areas	TV Areas	Non-TV Areas	
Good-weather games	104.4	102.8	108.4	5.6%
Bad-weather games	85.6	82.3	93.6	11.3
All games	98.2	95.9	103.7	7.8%

As expected, the good-weather games outdrew the bad, regardless of the presence or absence of television. But whatever the weather, the colleges located in TV areas report poorer attendance trends than those outside.

These findings destroy the notion that television affects attendance adversely only when the weather is bad. True, the colleges in TV areas exceed their expected attendance by 2.8% under conditions of good weather, but when we consider that the "expected" is based on the average for all games in the base period, one would suppose that the figure would be even higher.

As we see, when television is not present, the figure is higher. In non-TV areas, the good-weather games in 1950 exceeded the expected attendance by 8.4%. Thus, it is clear that differences in weather conditions could not have accounted for the superior attendance outside of TV areas. When this factor is controlled, we still find that the colleges exposed to television do less well, no matter what the weather.

But like team performance, although weather does not affect the direction of TV effects, it has a strong bearing on their magnitude. The TV-area colleges fare relatively worse whatever the conditions, but they are hurt more when the weather is bad. The average 7.8% differential between the two types of areas drops to 5.6% when the weather is good, but when the weather is bad it jumps to 11.3%.

Our analyses of the two most important independent variables -- weather and performance -- confirm what appear to be certain general principles regarding television effects.

First, we have established what everyone admits: that television is not the only thing that affects attendance. As we have seen, both performance and weather are important factors, and there are many others.

But secondly, we have seen that when weather and performance are controlled -- under conditions of "all things equal" -- the apparent adverse effect of television, which in 1950 varied around the over-all differential of approximately 8%, still persists.

And thirdly, it appears that the unfavorable effects of television are magnified as the attractiveness of the game diminishes. Under good-weather conditions or when team performance is good, the adverse TV effects are smaller than average. But when the weather is bad or the team is a poor one, attendance is hurt considerably more.

3. Ticket Prices

Another possible explanation of the lower attendance in TV areas is the effect of differential changes in ticket prices.

It may be, for example, that during the last two years, ticket prices in the larger metropolitan centers (where the TV-area colleges are predominantly located) were generally increased, whereas in the smaller towns outside of TV areas, the price level remained about the same or showed much smaller increases. If such were the case, it might be argued that the attendance decline in TV areas merely reflects public reaction to the higher prices, and would have occurred regardless of television.

As with our analysis of the weather factor, it was impossible to collect and tabulate all the varying ticket prices of each college for the last four years. But the athletic directors were asked to indicate, for each season, whether the general level of prices was higher, lower or about the same as in the previous year. Thus, we have a rough measure of the differential changes since 1948, and Table 8 on the next page shows the results of the analysis.

The findings appear to destroy completely the notion that higher ticket prices could have caused the attendance decline in TV areas. Actually, we see that higher ticker prices go with increased attendance, and it is the colleges that lowered their prices which suffered the sharpest decline. The same experience is found both in television areas and in areas where TV was not present.

TABLE 8

1950 ATTENDANCE IN TV AND NON-TV AREAS, BY TICKET PRICE CHANGES

Colleges Whose General Level of Ticket Prices in 1950 Was:	Percent of Expected Attendance			TV Differential
	All Areas	TV Areas	Non-TV Areas	
Higher than in base period.	108.3	108.6	107.8	-- 0.8%
About the same as in base period. .	101.5	99.5	106.5	7.0
Lower than in base period	75.7	73.4	83.4	10.0
All colleges	98.2	95.9	103.7	7.8%

At first glance, this result is unexpected and puzzling. It seems to indicate that higher prices stimulate attendance, while lower prices affect it adversely -- obviously an absurd assumption. But the meaning becomes clearer when one reflects on the economics of the situation.

Colleges do not normally raise ticket prices when attendance is already low; under such conditions, they are more likely to lower them in order to obtain larger crowds. It is only when attendance is already high, or gives prospect of being high, that price rises can be considered. As in economics generally, although high prices go with increased demand, it is the greater demand which brings about the price rises, and not the reverse.

Nevertheless, we see that in general, irrespective of ticket price changes, the colleges outside of television areas fared better. True, among those colleges which raised their prices, those in TV areas showed a slightly better attendance trend; but it can be demonstrated that the exceptional Southwest area accounted for this reversal from the general rule, and the difference is very small.

Where prices were the same or lower, the usual differentials appear. In the controlled situation in which prices remained unchanged, the teams in TV areas dropped slightly below their expected attendance, while in non-TV areas, a 6.5% increase was registered. And in the few instances where lower ticket prices prevailed, the colleges in TV areas reported an even larger attendance decline.

4. Stadium Capacity

Information on stadium capacity at all colleges for each of the four years was collected on our questionaires, so that we can investigate the

possibly that the relatively better attendance trends in non-TV areas came about through enlargements in the capacity of the stadiums in those regions. If stadiums in non-TV areas were generally enlarged since 1947-48, while those in television areas remained about the same, this factor might account for the differential attendance trends.

It should be emphasized, however, that stadium capacity, like ticket prices, is not a truly independent variable. Factors like performance and weather affect attendance; they are not affected by attendance. But we have seen the reverse situation in regard to ticket sales, and to a large extent, the same is true with respect to changes in stadium capacity.

Thus, it is not likely that a college would set out to enlarge its stadium or to build a new one in the face of a decline in attendance. Rather, increases in stadium capacity would appear to arise most usually as the result of the pressure of already high attendance on existing capacity For this reason, almost any analysis of changes is stadium size, and their relation to attendance in TV and non-TV areas, is subject to ambiguous interpretation.

If it is found, for instance, that a greater measure of stadium enlargement occurred in the non-TV areas, one could argue that it is this fact, rather than television, which explains the attendance differentials between the two types of areas. But one could argue with equal plausibility, that it was the booming attendance in areas where there was no television which forced the increases in stadium capacity, while in the TV areas no such pressure of attendance on capacity existed.

TABLE 9

1950 ATTENDANCE IN TV AND NON-TV AREAS, BY CHANGES IN STADIUM CAPACITY

Colleges Whose 1950 Stadium Capacity Was:	Percent of Expected Attendance			TV Differential
	All Areas	TV Areas	Non-TV Areas	
Larger than in base period. . . .	122.1	129.6	109.4	--20.2%
The same as in base period. . . .	82.5	77.3	98.0	20.7%
All colleges.	98.2	95.9	103.7	7.8

The figures in Table 9, however, prove conclusively that differential changes in stadium capacity could not account for the opposing attendance trends we have observed in the two types of areas.

When the factor of increased capacity is controlled, and we look only at the experience of colleges whose stadiums remained the same size, we see that attendance in TV areas was only 77% of expected, whereas in non-TV areas it was 98% of expected. Where there was no increase in stadium

capacity at all, therefore, the attendance differential between TV and non-TV areas was more than 20%.

Actually, not only do changes in stadium capacity fail to account for the superior attendance of the non-TV-area colleges, they have the opposite effect of reducing the differential below what it would otherwise have been. As we see in Table 9, it was the TV-area colleges which benefited most from increases in stadium capacity, and their superior trends in those cases help to balance their larger losses when capacity was unchanged, bringing the over-all differential down to 7.8%.

The reason for the superior attendance trends in TV areas, among those colleges which increased their stadium capacity, appears to lie in the fact that much of the stadium expansion in the country took place in the Southwest. It is in this region that we have already noticed the largest attendance boom, and it is in this region alone that the colleges in TV areas have superior attendance trends to those outside.

We shall discuss later the probable reasons for the attendance behavior of this region. For the moment, it is sufficient to show that differential changes in stadium capacity could not have accounted for the more favorable attendance trends in non-TV areas.

5. Student Enrollment

Having investigated, and dismissed, the two most powerful independent variables -- performance and weather -- as factors in the poorer attendance records of the colleges in TV areas; and having shown that neither differential changes in ticket prices nor stadium capacities could have accounted for the result, we turn now to certain demographic variables which might explain the situation: changes in student enrollment, population and economic conditions.

Data are completely lacking on the contribution which college students make to the total national football attendance. If we accept 1947 figures of approximately 2,000,000 students and assume that most of these go to two or three games a year, it is apparent that the group, with their families and friends, would represent a very large proportion of the roughly 15,000,000 total during our base period.

On the other hand, large numbers of these students attend colleges which do not play football or which charge no admission to their games, and one guess is as good as another regarding the average attendance frequency of the remainder. It is perhaps best not to speculate too freely on this matter, but to accept the possibility that differential trends in student enrollment could have affected the attendance data, and to investigate its validity.

The hypothesis, then, would be that student enrollment has declined since the 1947-48 base period, that the decline has been markedly greater in those colleges located in large cities (predominantly TV areas), and that it is this fact, rather than the influence of television, which accounts for all or part of the inferior attendance trends of the TV-area colleges.

Since our questionaire solicited data on student enrollment for each of the four years, we were able to tabulate the trends in enrollment for both TV-area and non-TV-area colleges, and Table 10 shows the results of this research, by geographical region.

As we see, student enrollment has declined considerably since the base period in both types of areas, largely owing to the dwindling number of students attending under GI benefits. But for the country as a whole the drop has been proportionately greater outside of the television areas, so that this factor can be eliminated as a possible explanation of the attendance differential.

TABLE 10

1950 STUDENT ENROLLMENT
IN TV AND NON-TV AREAS, BY REGION

Region:	Percent of 1947-48 Student Enrollment	
	TV Areas	Non-TV Areas
1 - New England	89.8	94.6
2 - Middle Atlantic	95.4	100.3
3 - Southeast	90.8	88.3
4 - Midwest	92.2	88.9
5 - West Central	82.3	88.7
6 - Southwest	105.9	90.9
7 - Mountain	99.7	96.8
8 - Pacific	90.5	88.6
Total U.S.	92.5	90.8

Regionally, the pattern is inconsistant. In the two Eastern regions and in the West Central region, the decline in enrollments was relatively greater in the television areas, and this fact probably accounts for a portion of the attendance differential in those areas, which we have hitherto attributed to television.

But in no way can the greater decline in enrollments in the TV areas of these three regions explain the attendance differential, for they approximate only about 5%. Even if we attribute half the total attendance to students, the 5% differential in enrollment decline would make for only a 2.5% differential in attendance -- and in the East the attendance trends in TV areas were off more than 20% from those in non-TV areas. In the West Central region, the greater enrollment declines in television areas could have accounted for a much larger part, but still not all, of the unfavorable TV differential of 4%.

On the other hand, it will be noted that in the Southwest -- the only section of the country to report more favorable attendance trends within TV areas -- student enrollment was 6% higher than in the base period in the areas served by television, and 9% lower outside.

Although differencital changes in student enrollment could therefore account for a small part of the attendance differentials in particular regions, it is clear that no part of the new national differential of 7.8% between the attendance trends of TV and non-TV areas can be attributed to relatively larger enrollment declines in the areas where television was present.

6. Population and Economic Changes

A question might further arise as to whether differential population trends, or differential changes in economic conditions, could have accounted for the opposing attendance trends in TV and non-TV areas. One might speculate that the areas not yet exposed to television had shown relatively larger population gains since 1948, or that employment, income and spending had all increased more in those areas. If such were the case, it could easily be argued that the differential trends in football attendance were a reflection of these factors rather than of television.

In order to test this hypothesis, county-by-county data on population estimates and on "effective buying income" were compiled from the Sales Management Annuals of 1948 and 1950.* The figures for each of these two years were totaled for all of the counties included in each television area, and the ratio of change from 1948 to 1950 computed. The figures for all TV areas were then totaled to obtain national estimates.

A problem arose in computing the equivalent figures for non-television areas. It seemed unreal and perhaps unfair simply to take all counties in the United States which were outside of television areas, and to regard them as the "non-TV areas" for comparative purposes, since many such counties are far from the "football market" of any college.

For instance, suppost it were found that the counties not exposed to television showed generally no change in population. It might nevertheless be true that such non-TV football centers as Portland, Denver and other large cities showed big population gains, which were canceled by population losses in South Dakota and similar areas which contribute virtually nothing to the football market. So the basic question would still remain.

For the purposes of this analysis, therefore, it was necessary to create more or less arbitrary non-TV football areas which would be comparable to the TV football areas. Our procedure was to draw a 50-mile radius, corresponding roughly to the usual limits of a TV signal, around each major college located in a non-television area. All counties falling within this radius were considered as constituting the "non-TV area" for that college.

Forty-seven such arbitrary "non-TV areas" were ultimately defined, and the changes, from 1948 to 1950, in population and "effective buying income" were calculated in the same way as for the television areas. The results of the comparative analysis are presented in Table 11.

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* The source of the various figures which go into the "effective buying income" estimates, and the manner in which the estimates are computed, are too complicated to detail in this report. Full information is provided in the Sales Management Annuals. These publications supplied the only index of economic changes broken down by county for both of the two years in question.

TABLE 11

1950 POPULATION AND BUYING INCOME
FOR TV AREAS AND EQUIVALENT NON-TV AREAS

	Percent of 1948 Estimates	
	Population	"Effective Buying Income"
Television areas.	103.8	111.9
Equivalent non-TV areas . .	103.1	113.7

It is clear at once that these factors do not explain the different trends in football attendance in the two types of areas. Both TV and non-TV areas increased in population, and both participated in the general prosperity of the last two years, with substantial increases in buying power. But the differences between them, when they are compared with respect to these two factors, are slight indeed.

It should be remembered that football attendance in the television areas actually declined 4.1% during this period, in the face of both population and income gains, while in non-TV areas attendance was 3.7% above the 1947-48 levels. The gain in the latter areas would be normally expected in view of the population rise and the improved economic conditions. That these factors did not prevent a decline in football attendance where television was present seems to us a very significant finding.

The further fact that the trends in population and effective buying income are almost exactly alike in the television and non-television areas points up the size of the differential in their football attendance trends. The population differential between the two types of areas is less than 1%, the buying power differential is less than 2%; but the attendance differential approximates 8%. It seems the more unlikely that any factor but television could account for the result.

7. Gate Receipts

Finally, it will be of interest to look at the trend in gate receipts for the two types of areas, since we may find that the inferior attendance trends of the television areas are balanced, at least in part, by a relatively bigger "take" at the box office. Table 12 presents the evidence on this point.

TABLE 12

TRENDS IN GATE RECEIPTS IN TV AND NON-TV AREAS

	Percent of 1947-48 Gate Receipts	
Colleges located in:	1949	1950
Television areas.	107.3	103.9
Non-television areas.	110.3	117.7

1950 gate receipts in TV areas were below 1949, but still 3.9% above the 1947-48 average. In non-TV areas, however, gate receipts exceeded the 1949 levels, and were up 17% over the base period. In both types of areas, the trends in gate receipts were superior to those in attendance, probably owing to rises in ticket prices.

The significant fact for the purposes of this report, however, is the larger differential between the two areas on gate receipts than on attendance. The difference in the two attendance trends was, as we have seen, in the neighborhood of 8%, but here, when we consider only gate receipts, the differential approaches 14%.

This finding indicates that the colleges in television areas were hurt worse "in the pocketbook" than the mere attendance figures show, and the results are a further confirmation of the adverse effects on TV.

Conclusions

In general, the major findings of Table 5 are thus not affected by our careful study of any of the seven most plausible factors examined.

This is not to say, of course, that such variables as weather, team performance, student enrollment, etc., do not affect football attendance. Obviously, they do, as the prededing analyses have shown.

The more unfavorable these factors are, the greater the likelihood of attendance declines, whether or not there is television competition in the area. The more favorable these other factors are, the greater the likelihood that attendance will rise, even though TV is present. But under conditions of "all things equal", whether the additional factors are favorable or unfavorable, the adverse effects of television persist.

Thus, as we have seen, a strong team playing in good weather will usually exceed its expected attendance, but by a smaller amount when TV is present than when it is absent. A poor team playing in bad weather will usually draw poorly, but it will draw even worse if there is television in the area.

Under conditions of "all things equal", the teams playing in television areas report lower attendance trends. It is only when the TV-area teams have a favorable edge in performance, whether conditions or other factors that their attendance trends equal or exceed those of the colleges not faced with TV competition.

Theoretically, it is still possible that some unknown factor which we have not examined could have operated differentially between the TV and non-TV areas since 1947-48 to produce the effects which we have attributed to television. But none of those suggested thus far have done so, and we regard the possibility as extremely remote.

We have demonstrated that:

1. Colleges exposed to television competition report relatively lower attendance trends than those in areas where TV is absent.

2. The same finding held both in 1949 and in 1950, and the differential increased significantly last year when more games were televised and more sets were in use.

3. The unfavorable effects of television are observable in seven of the eight geographical regions of the NCAA.

4. The adverse effects persist no matter what the weather or level of team performance, and indeed become even more noticeable as the attractiveness of the game declines.

5. The effects cannot be accounted for by differential changes in ticket prices, stadium capacities, student enrollment, population or economic conditions -- although in a few specific instances such differential changes result in a slight over- or under-statement of the degree of the unfavorable TV effects.

To our mind, the data are conclusive, and we can conceive of no reasonable argument that in 1949 and 1950, the presence of television did not affect attendance in the same manner and to approximately the same degree as we have shown.

IV

THE VARYING EFFECTS WITHIN TELEVISION AREAS

In order to ascertain the general or over-all effects of television on football attendance, we compared simply the attendance trends of colleges in those areas where TV was present with the trends in those areas where it was not present, and we found that the normal difference was in the neighborhood of 8%.

But as we have pointed out before, TV itself is a variable which is not merely present or absent, but which can be present in various degrees and under varying conditions, and we cannot assume that all colleges located in television areas are equally affected by the medium. Rather, the over-all 8% differential we found in the previous analysis may be expected to vary according to the amount and type of television competition.

Thus, in some areas only local games were telecast; in others, only games from outside the area were available. In some television areas, only 5% or 10% of the families owned sets, while in others, the games could be seen in fully half the homes. And while some areas had extremely high proportions of new set-owners, other areas had only a moderate share of this group.

Under all these varying conditions of TV, we would expect differential effects on football attendance, and it is the purpose of this section of the report to examine the influence of such factors.

Types of TV Competition

Attendance at the football games of any particular college in a television area may be affected by various types of TV competition.

First, the college may have all or most of its own games televised. This is the most direct form of competition, since the TV owner who wants to see that particular game has the clear alternative of viewing it on his set or buying a ticket to the stadium.

Secondly, the college may not televise its own games, but some larger college in the area may have its games on TV. In this case, some of the TV owners who would otherwise attend the game may prefer to watch the larger college on television.

A third instance is the case in which neither the college itself nor any other college in the area is televising, but a big game from some other region is available on network TV. Again, some portion of the TV owners may prefer to watch the distant game on television than to attend the local games.

And finally, there may be no football games at all telecast in the area, but some of the TV owners who would otherwise attend the game may choose instead to view other types of programs on their sets.

We have information on the actual and expected attendance of colleges exposed to each of the first three types of television competition, so that we can test the hypothesis that the adverse effects of TV are greater as the competition is more direct. As a point of comparison, we have the trends in attendance in non-TV areas where there was no television competition at all.

As far as we know, the fourth situation mentioned above, in which TV was present in the area but no college football games at all were available, occurred in only a few areas during 1950; and in at least one of these, there was competition from televised high school games on Saturday afternoons. Since the number of colleges affected only by this type of non-college-football TV competition is too small for separate analysis, we have included them with those exposed only to network football telecasts under the designation "No local games telecast in the area."

One would expect the smallest effect on attendance to occur among this group of colleges whose only TV competition came from network games played in other areas, high school games or other non-football programs on TV. Somewhat larger effects would be expected among those colleges located in areas where another local team was telecasting its games; and the greatest effects of all we would expect to find among the televising colleges themselves.

In defining the televised colleges, one slight problem arises because not all of these televised all their games. Some telecast only one or two out of their full home schedule of five or six, and since the great majority of the games of these colleges were not televised, we have not included them in the televising group. In table 13 below, and in all our subsequent analyses, the colleges whose "own games" were telecast in the area comprise only those institutions which televised three or more of their home games in 1950.

The table shows, for all colleges, the variations in attendance trends, according to the type of TV competition they faced. As we see, the findings are quite in accord with our expectations, the order of attendance decline coinciding exactly with the severity of the television competition.

Where teams in TV areas were not exposed to the competition of local football telecasts, the attendance loss was relatively small, only 2% below the level of those colleges which were completely outside of television areas. In contrast, the colleges in areas where other local games were televised lost 6%, while those teams facing the maximum TV competition, the ones who had all or most of their own games televised locally, suffered by far the heaviest losses. In the latter case, the unfavorable differential soars to 15%.

TABLE 13

1950 ATTENDANCE TRENDS OF FOUR GROUPS OF COLLEGES
EXPOSED TO VARYING DEGREES OF TELEVISION COMPETITION

TV Status of College:	Percent of Expected Attendance	TV Differential
No television in area.	103.7	--
No local games telecast in area.	101.7	2.0%
Other local games telecast in area . . .	97.6	6.1
Own games telecast in area	88.6	15.1

Naturally, the effects of these various types of competition would be expected to vary according to the attractiveness of the game in question. Thus, if it were especially attractive, as when two strong major colleges meet each other under good weather conditions, even the alternative choice of watching the same game on television might not reduce the attendance.

On the other hand, if the game were not especially attractive, as when two disappointing teams contend, and the weather is uncertain, even the alternative of watching two unfamiliar teams from another part of the country, or indeed of tuning in a variety show on television, may suffice to reduce attendance below what it would have been had TV not been available at all.

But as we see, the average effect, for all games, becomes greater as the nature of the television competition becomes more direct. The orderliness of the progression is further confirmation of the reality of the adverse effects of television which we find so consistently in every phase of the analysis of these attendance data.

Actually, the attendance losses of the televising colleges themselves must be viewed in the light of the fact that these colleges represent, to a large extent, a specially selected group whose attendance would seem least likely to suffer, all other things equal.

They were not selected at random, but are instead those colleges which attract a high degree of public interest, either because of their exceptionally fine performance or because of the traditional character of their games. It is to us a very striking finding that such a group would show the largest relative decline from their 1947-48 attendance levels.

Extent of TV Ownership

We have seen that in general the colleges which are exposed to television report inferior attendance trends, and that the size of the differential varies accoridng to the directness of the competition. A second important factor which would be expected to influence the magnitude of the differential is the proportion of television owners in the area, or what has been called the "level of saturation."

Where only one person out of every fifteen or twenty is able to sit home and watch the game on TV, we would not expect the effect on attendance to be very great. But if the level of saturation approaches half the families in the area, many more people would have an opportunity to substitute televiewing for actual presence at the stadium, and we would expect a considerably larger attendance decline.

We have already observed the operation of this factor nationally, and Table 14 summarizes the experience of the U. S. as a whole.

TABLE 14

TV OWNERSHIP FIGURES, 1947-50,
WITH FOOTBALL ATTENDANCE TRENDS FOR TV AND NON-TV AREAS

Year	Number of TV Sets in U.S., Nov. 1	Percent of Expected Attendance			TV Differential
		All Areas	TV Areas	Non-TV Areas	
1947.	134,400	100.0	100.0	100.0	--
1948.	718,000				
1949.	3,025,000	102.8	102.2	104.0	1.8%
1950.	9,169,300	98.2	95.9	103.7	7.8%

Although the number of set-owners increased sharply in 1949, the level of saturation was still relatively low. Only in New York, Philadelphia and Baltimore did the proportion of TV-owners amount to as many as 20% of the families in the area, and in most TV areas the saturation level was less than 10%. Football attendance continued to climb during this year, although TV effects were already making themselves apparent; in television areas the attendance increase was only 2%, while outside of these areas there was a 4% gain.

But from November 1949 to November 1950 the number of set-owners in the country tripled, and during the recent football season nine million TV sets were in operation. In contrast to 1949, there were 37 cities in which 20% or more of the families were TV-owners, and in three of these better than half the population had television in their homes. As we have seen, the effects on attendance were much greater. While the non-television areas just about matched their 1949 attendance, there was a 6% decline where TV was present, and the total differential attributable to television increased from 2% in 1949 to the 8% figure we have observed in 1950.

Such evidence strongly supports the view that attendance losses increase as the number of TV sets grows larger, but the precise nature of the relationship can be studied more fruitfully through a comparison of the 1950 attendance trends of colleges actually located in areas of varying saturation. Table 15 presents these findings.

TABLE 15

1950 ATTENDANCE TRENDS,
BY LEVEL OF TV SATURATION

Colleges located in:	Percent of Expected Attendance
Areas without television.	103.7
Areas of light saturation (Less than 20% of families own TV).	114.5
Areas of medium saturation (20-39% of families own TV)	94.2
Areas of heavy saturation (40% of more of families own TV).	83.4
All colleges.	98.2

As expected, the 1950 attendance losses are concentrated in those localities where TV saturation is highest. Between the heavy and medium saturation areas there is an 11% differential in attendance trends, and between the colleges in heavily saturated areas and those colleges completely unexposed to television, there is a 20% differential in the course of their attendance.

When it is remembered that television is by no means the only factor that affects attendance, and that small TV effects can easily be obscured by differences in performance, weather and other factors, the size of these differentials becomes striking evidence of the potentially powerful effects of television.

Although it is clear that the TV areas in general show inferior attendance trends, and that the size of the differential varies according to the proportion of TV owners in the area, it will be noted that the lightly saturated areas seem not only unaffected by television, but actually report considerably larger attendance increases than do those areas where TV is totally absent.

It should perhaps be pointed out that the largest part of these increases are contributed by the two booming Southwest television areas of Dallas and Houston, where attendance was high and the telecasting of games was restricted. Omitting Dallas and Houston, attendance in the low-saturation areas was only 105.3% of expected, instead of the 114.5% indicated in Table 15.

Combined Effects

The two variables we have just discussed -- the type of competition on TV and the proportion of set-owners in the area -- may be regarded as the major components of the total TV effect. We have seen that attendance trends fluctuate with each of these two factors, and it will now be of interest to observe their operation in combination with one another.

Such an analysis will serve as a check on the conclusions drawn thus far in this section of our report. For example, it might be argued that the reason the colleges which telecast their own games show poorer attendance trends, lies in the fact that the majority of these colleges are situated in heavily saturated areas. If such were actually the case, and we found no difference within the heavily saturated areas between the trends of televising and non-televising colleges, our conclusions regarding the adverse effects of telecasting would be erroneous.

In Table 16, we control the effects of these two factors, and can observe their effects both independently and in combination with one another.

TABLE 16

1950 ATTENDANCE TRENDS BY TV SATURATION LEVEL, CONTROLLED FOR TYPE OF TV COMPETITION

Type of Competition:	Attendance Trends of Colleges in Areas Where TV Saturation is Light	Medium	Heavy	Total
No television in area.	--	--	--	103.7
No local games telecast.	115.5	93.3	97.1	101.7
Other local games telecast	115.5	98.6	93.8	97.6
Own games telecast	112.5	95.4	74.8	88.6
All types of TV Competition. . . .	114.5	94.2	83.4	95.9

We have already observed that as the competition becomes more direct, the adverse effects of TV on attendance grow larger. These figures appear again in the right-hand column of the preceding table. We have also observed that as saturation increases, the TV effects become progressively more marked and we see these figures once more across the bottom line of the table.

Looking now at the effect of saturation level when the type of TV competition is controlled (reading across on each line), we find that, with one exception, the progression is exactly as expected.

While the televising colleges actually show attendance gains (as do all types of colleges) where saturation is light, their attendance falls below expected in the areas of medium saturation, and drops to 74.8% in the heavily saturated areas. Colleges facing the TV competition of other local schools show the same progression, though to a less marked degree. Only among those TV-area colleges which faced no local television competition at all does attendance fail to decline progressively with increasing saturation. Among this group, the losses are greater when saturation is medium than they are when it is heavy.

We shall notice this group again in the following discussion. For the moment, it is sufficient to show that in general, whatever the type of competition in the area, attendance losses become greater as the proportion of TV owners rises.

We turn now to the effect of the various types of competition when the level of saturation is controlled (reading down each column). Here the picture is somewhat less clear-cut, for only in the heavily saturated areas does the progression plainly bear out what we would expect. In these areas the telecasting colleges lose most heavily, those exposed to other local telecasts suffer smaller losses, and those exposed only to network or no football telecasts undergo still smaller losses.

In the areas of medium saturation, the picture is the same except for the one group of colleges previously noted. Where there was no local football telecasting at all, attendance losses were even greater than among the telecasting colleges themselves. In the lightly saturated areas, the telecasting colleges again report the lowest attendance trends, while there is no difference in those of the other two type-of-competition groups.

The essential finding from this analysis is that, in general, whatever the level of saturation, the televising colleges have the lowest attendance trends, and that the differential is most strongly marked in the heavily saturated areas.

The one group of colleges which is out of line with the expected results, and which makes the table somewhat hard to interpret, comprises those in medium saturation areas where no local games are telecast. We have commented earlier on other instances in this report where the figures have not uniformly followed the expected pattern, and such occasional deviations should not be a matter of surprise. We have emphasized and shown that other factors besides television affect attendance, and in some situations these factors play a part greater than that of television, especially when they operate in combination.

In this instance, for example, it was the Pittsburgh area which accounted for a large part of the attendance losses in the deviant cell. Saturation was only medium and no local teams telecast their games. But a combination of such factors are below-average performance, bad weather conditions and a lengthy newspaper strike operated to hold attendance down, and consequently lowered the figure for the whole group below what we would expect had television been the only variable.

The striking fact throughout this study continues to be the consistency and magnitude with which the TV effects generally manifest themselves, from whatever standpoint the attendance data are analyzed.

The combined effects of saturation and type of competition may be seen from the diagonals in Table 16. In lightly saturated areas where no local teams televised, attendance was 115.5% of expected; in heavily saturated areas, among colleges which telecast their games, attendance was only 75% of expected -- a differential of 40.5% in the two extreme situations. But among telecasting colleges in lightly saturated areas, the figure was 112.5%, while in those heavily saturated areas where no local

games were televised, it was 97% -- a differential of only 15.5% when the two factors are opposed to each other.

Before we leave Table 16, it is worth noting again that the adverse effects of TV become relatively even more pronounced when other factors are also unfavorable. We have already observed that while TV generally hurts all teams, it hurts the poorer teams worse, and that while TV effects operate no matter what the weather, the effects are greater when the weather is bad than when it is good. Here again we observe the same phenomenon.

When the TV area is lightly saturated, the type of competition still has an effect, but a relatively small one: the telecasting colleges gain only 3% less than do the non-televised. But when saturation is heavy, the unfavorable differential rises to 20 points or more. The harmful effects of telecasting are much more pronounced in the heavily saturated areas.

Similarly, the difference in the attendance trends of lightly vs. heavily saturated areas is 18.4% when no local football is telecast in the area. But among colleges whose own games are telecast, the difference between lightly and heavily saturated areas rises to 37.7%. The effect of saturation becomes much more pronounced as the type of competition becomes more direct.

It appears to be a general rule, then, that when the other factors affecting attendance are favorable, television exerts a relatively small effect. But when the other factors are unfavorable, the introduction or intensification of the unfavorable TV factor does not merely add its own effect; it seems to magnify the other unfavorable effects as well, producing a joint effect which is greater than the sum of the individual parts.

The Effects of a Television Ban

The preceding analyses throw some light on the question of the effects of television per se, in the absence of any football telecasting at all.

In presenting preliminary findings from this study at the Dallas meetings of the NCAA, we speculated that the differences in attendance trends between colleges in TV and non-TV areas might be due not to the telecasting of football, but to the competition of television itself. It was conceivable that even with a total ban on football telecasts, attendance might continue to decline, simply because the viewing of other TV programs might provide an attractive alternative to attendance at the stadium.

The findings reported in Table 13 appear to cast considerable doubt on the validity of this argument for we saw that the largest part of the 1950 attendance losses were contributed by the televising colleges themselves, where attendance was off more than 10%. Colleges exposed to other local games on TV lost only about 2.5% of their normal attendance, while those which were exposed only to network football telecasts actually exceeded their expected attendance. In view of this progression, one would expect TV itself, in the absence of football telecasts, to have little or no effect on attendance.

But the situation is a complicated one, and in applying this 1950 experience to the coming season, we must consider two additional facts. First, it should be noted that even though the colleges which had no local football competition on TV exceeded their expected attendance, their trends were still 2% below those of colleges which were completely outside of television areas (Table 13).

Secondly, it may be seen in Table 16 that the favorable trends of the colleges which had no local football competition on TV were accounted for entirely by the lightly saturated areas, where attendance was 15.5% better than expected. In areas of medium and heavy saturation, there were attendance losses even when no local games were televised.

If we consider only these areas of medium and heavy saturation, we see that the colleges with no local football competition on TV lost from 3% to 7% of their normal attendance (the weighted average is close to 6%), while colleges completely outside of television areas gained almost 4% -- a differential in the neighborhood of 10%. Most of this differential can probably be charged to the competition of network football telecasts, but it seems reasonably certain that at least some part of it can be attributed to the competition of high school games and other types of TV programs.

Predictions regarding the future are hazardous in such a complex situation as this. Nevertheless, our data imply that as more and more areas become heavily saturated with TV sets, attendance will still be hurt, even if all local football telecasts are banned -- though the losses will of course be much less than if football telecasting were unrestricted.

The "Novelty" Theory

It has been argued that the unfavorable influence of TV on football attendance during 1949 and 1950 reflects merely the so-called "novelty effect" of television. According to this theory, first advanced by Jerry Jordan in his 1948 and 1949 studies of the effects of TV on sports attendance, the unfavorable effects thus far noted are only temporary, resulting from the large proportion of new owners among those people having television sets. As these people become long-term owners and the novelty of television wears off, it is argued, they will resume their former habits and TV will then have little or no effect on attendance.

As evidence supporting this theory, there is cited Jordan's 1948 study in the Philadelphia area, which showed that brand-new TV owners reported a much lower frequency of attendance than non-owners, but that the frequency progressively increased, the longer the person had owned his set. Among long-term owners (one year or more), reported attendance was actually higher than it was for persons who did not own a set, leading Jordan to speculate that TV might well be counted upon to produce attendance increases, once its novelty effect had worn off and its stimulating effects became apparent.

We examined this theory in some detail in our earlier report, and concluded that while there was a suggestion of a novelty effect in the fact that very new owners (3 months or less) reported much lower attendance than non-owners did, there was no evidence for the statement that attendance would eventually "return to normal", nor that as the number of long-term owners increased, "the net loss due to television should be practically negligible."

It was pointed out that the higher attendance rates of the long-term owners merely reflected, in all probability, the superior economic status and greater interest in sports which had made them among the earliest purchasers of TV sets in the first place. Since Jordan had no measure of the prior attendance of these long-term owners, there was no grounds for assuming that their relatively high current attendance reflected a return to "normal"; actually, it may still have been well below their pre-TV patterns.

Since it is universally admitted that the attendance habits of later TV purchasers are different from those of earlier purchasers, we emphasized in our first report that there could be no true test of the novelty theory unless data were available concerning the pre-TV levels of attendance of the various length-of-ownership groups. This could only be done through a study of the attendance behavior of given individuals over a period of time after their purchase of television.

Jordan was unable to find any seriously adverse TV effects during the 1949 season, and attributed this to (a) the greater attendance of long-term owners which compensated for the temporary decline among new owners, (b) not even a temporary decline in attendance among alumni, and (c) the stimulating effects of television in making new fans.*

At the same time, he implied that if any harmful effects were to come from television, they should have appeared at their worst during 1949. "1949 was the last year when such high percentages of new owners will exist in most TV markets. By 1950, in some of them, long-term owners will outnumber the new owners. . .This should mean balancing out part of the hurt from new owners, and eventually the elimination of much of the worry over TV."

Actually, as we have seen, TV did exert a relatively small unfavorable effect on football attendance during 1949, but in 1950, as saturation increased, the adverse effects, far from being balanced out, became very much more pronounced.

In his most recent statement of the novelty theory, after the 1950 season, Jordan agrees that TV affected attendance, but marks three separate stages in its development within any given area:**

1. The Initial Stage -- "When television is just starting and only 5 or 10% of the families own sets...There are not enough sets in the area to have any measurable influence on the gate."

---

* "The Long Range Effects of Television on Sports Attendance", p. 88.

** "Sports Met TV's First Big Threat in 1950", talk by Jerry M. Jordan at annual convention of Collegiate Physical Education Association, Philadelphia, Pennsylvania, December 29, 1950.

2. The Novelty Period -- "When the TV saturation builds up to about 20 to 50% of the families, and most of them are new owners. This is currently the period of greatest danger to sports attendance. It is the period that existed in most large cities in 1950."

3. The Normal Stage -- "When the majority of owners have had their sets for more than one year, and the effects of novelty and cost have worn off. At this time, my studies indicate that attendance picks up again."

Certainly one cannot quarrel with Jordan's description of the first of these stages. When saturation is very low, any attendance declines among the small number of TV owners can hardly affect over-all attendance, and during 1949 this was precisely the situation in almost half the television areas.

It is likewise true (although apparently unforeseen by Jordan a year earlier) that when saturation rises above 20%, one reaches a period of great danger to sports attendance (though not necessarily the period of "greatest" danger), and that this was the situation in most TV areas during 1950. We have seen the effects, in the 1950 attendance trends reported in this study.

It might be noted, incidentally, that a projection of existing trends indicates that this same level of saturation will exist in about the same number of TV areas during 1951, so that the "period of greatest danger" will be no less present during the coming football season. Those present areas in the 20-50% saturation group which pass beyond the 50% level during the coming year will be replaced by many other areas, now lightly saturated, which will move over the 20% mark.

The positing of a third, or "normal", stage, however, is pure speculation. In no TV area, as of the present time, have more than half the owners held their sets more than one year, so no actual evidence is available regarding the effects of such a situation. As we have pointed out, the expectation that attendance will "pick up again" after one year's ownership is based on the fallacious premise that early, late and non-TV-buyers all attended games with equal frequency in the past.

We had hoped that an analysis of our attendance data could throw some light on the "novelty" theory, through a comparison of attendance trends in TV areas having varying proportions of new owners. In any such analysis, however, the level of saturation of the areas had to be controlled, so the comparisons would not be obscured by the over-all number of sets in the various areas.

Unfortunately, when the TV areas are divided into the three saturation levels (heavy, medium and light), the differences in the proportion of new owners from one area to another in the same group does not permit any contrast. In the 12 most heavily saturated areas, for example, the average percent of new owners (less than one year) in the four areas that are highest in this respect is 72%, of the four that are lowest, 60%. In the lightly saturated areas, the range is even narrower.

Regarding the "novelty" effect, therefore, we can only say that the theory has not yet been proved, either by survey research findings or by attendance experience thus far; and that speculations regarding its possible effects in 1951 are sheer surmise which deserve no greater weight than any other guesses about the future.

We said in our earlier report that "Past research does not offer even a suggestion of what the future effects will be, as saturation increases, except that the future trend will be a function of at least three basic factors now working in different directions, the net result of which is not predictable on the basis of past research.

"These factors are: the future increase in the public's exposure to TV; a decline in the proportion of viewers whose attendance will be adversely affected as TV penetrates more extensively into the lower economic levels which do not ordinarily attend college football games, and unknown changes in the behavior of owners of differing characteristics as they hold their sets for longer and longer periods of time."

As a result of the 1950 experience, the first of these three factors can be said to outweigh the others by far, and the "novelty" theory appears to us more tenuous than ever. Even granting a temporary decline in attendance among new owners, the powerful effects of increasing saturation seem to obliterate completely any minor variations in the attendance patterns of old and new owners.

We have seen that in the lightly saturated areas, where the proportion of new owners is largest, attendance does not seem at all affected by TV, as we would expect under the "novelty" theory. Instead, it actually shows better trends than in the areas where television is totally absent. And we have seen that as saturation increases, attendance losses become steadily, and progressively, greater.

Obviously, there must ultimately come a time when the rate of attendance loss brought about by increasing saturation will start to taper off. In general, the higher-income groups have been the first to purchase TV sets and these groups, too, have constituted most of the college football audience. At some point (not yet discernible), virtually all of that audience will attain ownership status, and increasing saturation beyond that point would be expected to have, if anything, a stimulating effect on attendance.

There is still lacking, of course, any accurate information on changes in individual attendance behavior as people purchase and use their television sets over a period of time. And the TV situation itself is still subject to great change. Most television owners have still had their sets for less than a year, and that condition will exist for some time to come. Saturation is still increasing, and will continue to do so, perhaps at an accelerated rate. Technical changes and improvements in telecasting are still in prospect, and such new factors as Phonevision may also enter the situation.

Under such unstable conditions, no sound predictions can be made regarding the future, but we see no reason at all for supposing that given a similar level of telecast games, TV effects would be any <u>less</u> adverse in 1951 than they were in 1950.

V

REGIONAL EXPERIENCES

In this section of the report, we discuss briefly the experience of the eight NCAA regions and thus round out our report of what happened to college football attendance in 1950. Table 17 recapitulates the regional attendance trends for TV and non-TV areas which were presented earlier in Table 5, and shows also, for the television areas, how those colleges which televised their games fared in comparison with those which did not.

TABLE 17

1950 ATTENDANCE IN TV AND NON-TV AREAS, BY REGION

	Percent of Expected Attendance				
Region:	All Colleges	Telecast Colleges	Non-Telecast in TV Areas	All in TV Areas	Non-TV Areas
New England. . .	75.7	65.5	87.4	70.6	99.8
Middle Atlantic.	83.5	79.0	83.3	81.5	105.0
Southeast. . . .	100.6	90.8	102.5	99.1	102.4
Midwest.	101.1	102.8	99.9	100.2	103.8
West Central . .	108.0	126.0	94.8	106.9	110.9
Southwest. . . .	128.7	166.3	147.6	149.7	112.2
Mountain	88.6	--	81.8	81.8	91.5
Pacific.	94.5	89.2	119.8	94.1	95.8
Total U.S. . . .	98.2	88.6	100.7	95.9	103.7

It has already been emphasized that television effects are not invariable and uniform throughout the country, but range rather widely around the over-all differential of 8%.

Thus, in the New England region, we see (last two columns of the table) that the trends of colleges in TV areas were almost 30% below those outside, but in the Southwest the trends of the TV-area colleges were actually 37.5% better than those not exposed to television. In TV areas in the Pacific region, colleges which televised their games showed trends which were 30% below those which did not telecast (second and third columns of the table); but in the West Central TV areas, the trends of telecasting colleges were 30% better than those which did not televise their games.

For the country as a whole, and when other factors are held constant, we have shown that television exerts an adverse effect on attendance, and that the telecasting colleges suffer more than those which do not televise their games. But what accounts for these large variations from one region to another?

To some extent, as we have already indicated, they are accounted for by differential changes in such statistical factors as student enrollment, population, stadium capacity, etc. Thus, in New England, the colleges in television areas suffered a greater decline in student enrollment, and this could have contributed to their lower attendance trends; in the Southwest, on the other hand, both the number of students and the capacity of the stadiums increased much more rapidly in the television areas.

Furthermore, when we break down the attendance data for particular types of colleges in particular regions, we rapidly reduce the number under consideration, and consequently allow more scope for the operation of any peculiar factors about each. For example, when we discuss the "telecasting colleges" in some regions, we are talking about only two or three institutions; and if those two or three institutions happen to have unusually strong teams or to encounter unusually bad weather conditions, their attendance trends will reflect the influence of these factors. When we dealt, as before, with large numbers of colleges from all regions, these individual variations cancel out.

But the main reason for the regional variations in TV effects lies simply in the differences in the intensity and directness of the television competition from one area to another. We have demonstrated in the preceding section that telecasting colleges are hurt worse than non-telecasting, and that TV effects increase as the number of sets in the area grows. But the figures in Table 17 fail to show the regional variations in these two powerful factors.

In the East, for instance, the level of saturation in most TV areas is among the highest; in the South, it is in many cases negligible. In the Pacific region the telecasting colleges accounted for the great bulk of the attendance in the television areas; in the Midwest only Notre Dame telecast its games. In treating all TV areas as equal, therefore, and in implying equal numbers of televising and non-televising colleges in each region, Table 17 obscures the true effects of the television variable.

The impact of television on attendance will vary according to (a) the number of people in the area who own sets, and (b) the amount of opportunity they have to view the game on TV rather than attend in person. Where saturation is low, attendance losses are non-existent or slight. Where saturation is high but few local games are telecast, attendance is also only mildly affected. But where saturation is high and many games are telecast, the adverse effects, as we have seen, are large.

Table 18 shows how the impact of these two TV factors varied from region to region in 1950, and how the size of the unfavorable TV differentials we have noticed varied according to their combined weight.

TABLE 18

IMPACT OF TELEVISION
IN TV AREAS IN 1950, BY REGION

TV Areas in Region:	Percent of TV AREA Attendance Expected at Games of TELECAST COLLEGES	Percent of TELECAST COLLEGES Attendance Expected From TV OWNERS	Percent of TV AREA Attendance Expected From TV OWNERS at Games of TELECAST COLLEGES	TV Differential
1 - New England. . . .	76.7	39.3	30.1	29.2
2 - Middle Atlantic. .	41.6	49.7	20.7	23.5
3 - Southeast.	29.4	23.5	6.9	3.3
4 - Midwest.	11.5	42.6	4.9	3.6
5 - West Central . . .	38.8	21.2	8.2	4.0
6 - Southwest.	11.2	19.1	2.1	--37.5
7 - Mountain	NO TELECASTING COLLEGES			
8 - Pacific.	83.9	28.5	23.9	1.7
Total U.S.	40.1	34.3	13.8	7.8

The first two columns of the above table show the separate contribution of the two factors. The first column provides a measure of the amount of local television available to fans in the TV areas of each region. For the U.S. as a whole, for example, the total expected attendance of colleges in television areas was about ten and a half million; of this, the expected attendance of telecasting colleges accounted for about four and a quarter million, or 40.1%.

As we see, the figure varies rather widely from region to region, according to the amount of football telecasting. In New England and on the Pacific Coast, the telecasting colleges account for the great majority of the base attendance in TV areas; in the Midwest, where only Notre Dame televised its games in 1950, the telecasting colleges contributed only a minor share of the total base attendance.

In the second column, we have a measure of the effective saturation of each region. Again, for the U.S. as a whole, the telecasting colleges had an expected attendance of about four and a quarter million. Assuming that TV has no adverse effect and that TV owners attend as frequently as non-owners, and applying the appropriate saturation figure in each TV area, we would expect 34.3% of the telecasting colleges' attendance to be made up of television owners.

Again, this figure varies from region to region. In the East and Midwest, where saturation is high, TV owners constitute over 40% of the expected attendance of telecast colleges. But in the Southwest, where the TV areas are only lightly saturated, we would expect TV owners to account for less than 20% of the telecasting colleges' attendance.

The figures in the third column represent a measure of the combined effect of the two factors, and are a product of the percentages in the first two columns. For the U.S. as a whole, for example, the telecasting colleges in 1950 accounted for about 40% of the expected attendance in TV areas, and about one-third of this 40% were television owners. In other words, 13.8% of the normal attendance in TV areas was made up of television owners who had a chance to watch their local team on television.

This figure is a good measure of the effective television competition. If all games were televised (100% in the first column) and everybody had a TV set (100% in the second column), the figure would be 100% and conceivably attendance could drop to nothing. If no games were televised (as in the Mountain region in 1950) or if no private sets were in operation, the effective competition would be zero.

As we see, this figure, too, varies from region to region, depending on the amount of telecasting and level of saturation; and it is instructive to note the way in which its variations coincide with those in the final column -- where we recapitulate the differential attendance trends between the TV and non-TV areas of each region.

Where saturation was high and the big colleges telecast their games, as in New England, no less than 30% of the expected attendance in TV areas was made up of television owners who had a chance to watch the games on TV. As we see it was in New England that the unfavorable TV effects were greatest, and the inference is inescapable that many of this 30% just stayed away from the telecast games.

Where saturation was high but the big colleges did not telecast their games, as in the Midwest, only 5% of the expected attendance in TV areas were able to watch a local team on television, and the TV areas showed only a slightly inferior attendance trend. In the Southeast, the televising colleges represented more of the expected attendance, but saturation levels were low, and again the differentials were relatively small.

And here we have some explanation of the contrary attendance differentials in the Southwest region, for we can see in Table 18 that there was virtually no effective television competition in that part of the country at all. Saturation was very low, and televising was very much restricted, so that as a result, only 2% of the expected attendance was contributed by TV owners who could watch their local teams on television.

In the light of these regional differences in the effective television competition, we can turn now to a quick rundown of what happened in each of the NCAA districts. Two points, however, should be emphasized before we begin.

First, the individual attendance figures for each college were given to us in confidence, and some of the athletic directors sought specific assurance that their particular data would not be publicly divulged. We are not able, therefore, to cite the experience of individual colleges in explaining the attendance changes which took place.

Secondly, we have noted before that the magnitude of TV effects varies greatly according to the local situation, and that analysis of attendance data is useful only when large numbers of colleges are involved. Nothing conclusive can be learned about TV effects from a study of the experience of only four or five colleges, because too many other factors intervene to affect their attendance.

When we look, therefore, at the experience in a particular region, where frequently only four or five colleges account for the great bulk of the attendance, we cannot prove from the mere attendance data the cause of whatever changes we find. We can only speculate regarding these matters, but we can speculate more wisely because of the insights we have obtained from our previous analyses.

To illustrate: We know that the telecasting colleges in New England had very high attendance losses. We know also that most of these losses were contributed by Harvard and Boston College, each of which had unusually poor teams in 1950. In the absence of the preceding data in this report, one could argue indefinitely over which of the two factors caused the loss: was television responsible, or was it their disappointing performance?

No one will ever know precisely how much of the loss was caused by each factor, because of the interaction between them. A person considering attendance at a Harvard or Boston College game had both deterrents to face and it is certain that each reinforced the other. But on the basis of this research, we can make a more informed judgment than would otherwise be possible.

We have established that both TV and performance affect attendance, so we know that both of the factors had some share in the attendance drop. Even without television, the attendance of New England colleges in TV areas would be expected to decline because of the poor performance of those two teams which make up so large a part of the total. But we know also that TV hurts the poorer teams more than it hurts the good ones, so that the expected attendance losses were undoubtedly magnified when the games became available on television.

Fortified by what we have discovered regarding the general nature of TV effects, we are encouraged to apply these general findings to specific geographical areas and local situations.

Region 1 - New England*

In 1949 New England attendance was slightly over the expected figure and exactly matched the small national gain, but last season's attendance drop was the largest in the country. Colleges in this area drew only about three-quarters of their expected attendance in 1950.

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* See Appendix H for list of colleges in each region.

The spectacular decline occurred almost entirely in television areas. Where there was no TV, attendance held at just about normal, but in the TV areas, it dropped to 70% of the base period. The 29-point differential between the two types of areas, like the total attendance decline, was the largest in the country.

The slightly greater decline in student enrollment among the TV-area colleges could have accounted for some slight proportion of this differential, but hardly more than two or three of the 29 points. New England faced the severest type of television competition in 1950, and it is here that we must look for the explanation.

All of the big colleges except Dartmouth were exposed to TV; and Boston College, Harvard and Yale, which normally draw about three-fourths of the attendance in TV areas, all had their games on television.

Saturation in the important Boston area was among the highest in the country, so that no less than 30% of the normal attendance in the TV areas were Boston College, Harvard and Yale fans who owned television sets. It is clear that a large portion of this expected 30% simply failed to materialize at the gate.

The adverse effects of television were aggravated by the generally poor performance of the telecasting teams; both Boston College and Harvard had extremely bad won-lost records. We would have expected attendance declines because of this factor, regardless of television; but, as we have seen, TV hurts the poorer teams even worse than the good ones, so that attendance dropped a great deal more than would otherwise have been the case.

Region 2 - Middle Atlantic

Attendance experience in the rest of the East closely paralleled that of New England, except that the over-all decline started a year earlier. The Middle Atlantic was the only region to report a significant attendance drop during the generally boom year of 1949, a fact which is not surprising when we consider that even then most of the large cities in the region had substantial numbers of TV owners. During 1950 the decline was accelerated, and Middle Atlantic colleges suffered a loss of one-sixth of their normal attendance.

As in New England, the few colleges outside of television areas had normal attendance or better; the losses came entirely from those institutions which were exposed to TV. The 1949 attendance differential between TV and non-TV areas was the largest in the country, and the 23.5% differential in 1950 was second only to New England in magnitude.

Aside from television, declines in student enrollment and unfavorable weather conditions have received some blame for the attendance losses in this region. As we saw in Table 10 (p. 22), enrollments were off 5% in the TV-area colleges, while holding steady elsewhere, but this small differential could hardly account for more than two or three points of the large differential in attendance trends between the two types of areas.

The weather was undoubtedly bad in the East, most particularly on November 25, when many "big games" were either canceled entirely, postponed to less desirable dates; or played under hurricane or blizzard conditions. There is no reason to believe that the weather was any worse in the TV areas of this region, where attendance declined, than it was outside these areas, where attendance was better than normal; but aside from this point, it can be shown that while the weather may have magnified the TV effect, it could in no way account for it.

It is apparent, for one thing, that the athletic directors generally reported paid attendance figures rather than the actual number of persons who attended these bad-weather games. Thus, while only some 2,500 were estimated to have attended the Princeton-Dartmouth game on November 25, over 30,000 tickets had already been sold and our attendance data are based on the latter figure. Our figures understate, therefore, the actual magnitude of the attendance decline in the East, though we believe they reflect the truer situation, since there is no loss when the ticket is sold but not used.

In order to get a definitive measure of the effect of the particularly bad weather on November 25 (and on December 2, which was rainy or overcast in most areas east of the Mississippi) we re-tabulated our data for the East, Southeast and Midwest, omitting all games played on those two Saturdays.

The results of this re-tabulation show quite clearly that the weather on these two Saturdays caused little or none of the attendance differential that we have attributed to television. The 29.2% differential in New England changes to 29.3% if we omit the last two Saturdays of the season; in the Middle Atlantic region it drops from 23.5% to 23.3%; in the Southeast, it moves from 3.3% to 3.9%, and in the Midwest from 3.6% to 1.8%.

It is to television, therefore, rather than to minor changes in less weighty factors, that we must again look for the real explanation of what happened; for in the Middle Atlantic region, as in New England, the TV competition was most severe.

Of all the many large Eastern colleges, only Penn State and West Virginia were outside the range of competitive telecasts, and the games of such powers as Army, Princeton and Penn were available on TV sets throughout the region almost every Saturday. Furthermore, saturation was heavier than in any other part of the country, averaging about 50% in the important New York and Philadelphia areas.

Under such conditions of television competition, all our analysis indicates that substantial attendance losses in this region could hardly have been avoided, even if the various non-TV factors like weather and performance had been universally favorable.

Region 3 - The Southeast

Southeastern football attendance has held up relatively well during the last two season. In 1949 the gains in this region were second only to the Southwest, and although attendance fell off almost 5% in 1950, the region still drew all of its normal or expected attendance. In both years its "percent of expected" was higher than the national average, and the amount of the 1950 decline was almost exactly in line with the national trend.

Performance was generally good among Southeastern colleges, and in Kentucky, Tennessee, Alabama and Miami the region included some of the strongest teams in the country. Only four of the 21 largest colleges in the region had significantly poorer won-lost records than they did in their base period.

The 1950 television differential was small, but, as in every other region except the Southwest, unfavorable. Colleges in TV areas drew 99.1% of their expected attendance; those outside, 102.4%. The small size of the differential reflects the relative lack of TV competition here during 1950. There was very little live telecasting of local games, and saturation in the TV areas which contributed most heavily to the region's attendance was in the neighborhood of only 20%.

Of the two major conferences in the area, the Southern Conference showed virtually no change from the base period (100.2%), while the Southeastern dropped 3.3%. Attendance losses at Georgia Tech, which suffered from the double handicap of live telecasting and a poor team, more than accounted for the latter result.

In general, this region fared just about as would have been expected, considering the limited amount of TV competition involved. There appears to have been some adverse effect, but there were not enough TV owners and not enough live telecasting to cause any serious attendance losses.

Region 4 - The Midwest

Midwest attendance, like the Southeast, exceeded the national average in both 1949 and 1950, and exceeded as well its own expected attendance in both years. The 1950 loss was slight -- only 2.7% for the whole region.

The unfavorable television differential was small, but perceptible, in both years. In 1950 the colleges located in TV areas drew 100.2% of their expected attendance, in contrast to 103.8% for those colleges not exposed to TV.

It seems evident, in the light of what happened in the East, that the decision of the Western Conference to ban live telecasting during 1950 was justified by the attendance trends of those colleges. The TV differential had already appeared in this region in 1949, when telecasting was permitted, and the fact that it was no larger at that time may be explained by the low saturation rates then prevailing.

In 1950 TV saturation in this region averaged over 40% in the big football centers, and it seems likely that a continued policy of unlimited telecasting would have produced severe attendance losses. The small TV differential which has been observed may be attributed to the less intense competition of network television which brought games from other parts of the country into the region.

The Western Conference itself, which contributes a large share of the region's attendance, drew 102.2% of its expected attendance in 1950.

Region 5 - West Central

This region, along with the Southwest, constituted the only exception to the general pattern of lower attendance in 1950. In contrast to the over-all national decline of 4.6%, the West Central or Missouri Valley region actually reported a 6.5% gain in admissions, and total attendance was 8% better than expected.

It is noteworthy, however, that the gain over the 1949 attendance was contributed entirely by the colleges located outside the range of television. Within the TV areas, attendance fell off 5.5% (though it was still better than average), while elsewhere in the region a striking gain of 22.3% was registered over the 1949 levels.

Even the TV areas, however, shared in the general prosperity of the region. Despite their slight drop from 1949, these colleges drew 106.9% of their expected attendance, while in the non-TV areas, admissions were 110.9% of expected, a differential of 4%.

As in the East, there was a differential decline in student enrollments which could have accounted for some share of the TV differential, but this factor is balanced, or perhaps outweighed, by the superior performance of television-area teams in this region. In any case, the TV differential remains small, and in view of what we have learned about how TV effects operate, the fact is not surprising.

Only two colleges in the region telecast their games, and both of these (Oklahoma and Nebraska) had very strong teams which were in contention for national honors. Largely because of the attractiveness of these two teams, the Big Seven Conference, which accounts for most of the football attendance in the region, registered a 19% gain over its expected figure. Every team in the conference, regardless of performance, surpassed its base period average.

Saturation in the TV areas was relatively low, 23% in Oklahoma City and 19% in Omaha, with the region as a whole showing a weighted average of slightly over 20%. This fact, together with the small number of games telecast, and the striking performance of the two telecasting colleges, helps explain the low TV differential and the generally high attendance among the West Central colleges.

Oklahoma and Nebraska offer good examples of the conditions under which live telecasting and high attendance may be found together; their combined admissions were 26% better than expected. Yet the evidence of this research would indicate that attendance would have been even higher (by a slight amount) without the telecasting; and that, given a 40% saturation level instead of 20%, or average performance instead of exceptional, they might even have suffered a loss.

Region 6 - The Southwest

Throughout most of this report, the Southwest region has had to be noted as an exception to the general pattern of football attendance. Whereas 1949 attendance was up 2.8% for the country as a whole, in the Southwest it was up 15.5%. Whereas in most areas attendance turned downward in 1950, in the Southwest it jumped still another 13 points to a startling high of 128.7% of its base period average -- over 30 points better than the equivalent national figure.

Furthermore, we have found the Southwest to provide the sole exception to the general rule that the colleges located in television areas report the lower attendance trends. In both 1949 and 1950, the TV-area colleges in this region registered relatively larger attendance gains than did those outside. In 1950, the "reverse differential" was no less than 37.5%.

The general attendance boom in this area seems to have been caused largely by continuing population and economic gains. Sales Management estimates for the West South Central region as defined by the Bureau of the Census (roughly co-extensive with the NCAA's Region 6), show a 19.4% increase in "effective buying income" since 1947-48, the highest of any region in the country. Partly this arises from population increases, partly from prosperous economic conditions.

It is unfortunate that there are no survey trend figures on popular interest in football in the various sections of the country. One could speculate quite plausibly that over the years the scene of the most intense football interest has shifted from the East, to the Midwest and Pacific Coast, and more lately, to the booming Southwest. It is only within the past decade or two that the Southwest has arisen to challenge the football supremacy of the older areas, and apparently the peak of enthusiasm in that region has even yet not been reached.

But to turn back from philocophical speculations to our research data, we do know that student enrollments, while dropping 9% in the country as a whole, fell only 2% in the Southwest; and that total stadium capacity in the region showed a striking increase of 39%, in contrast to the modest 6% figure for the total United States. Thus, one may say that the large gains in attendance were made possible by the great increase in capacity, and that this in turn reflected the pressure of a growing population, booming economic conditions, and tremendous interest in football.

The reason for the reverse television differential has already been alluded to in our discussion of Table 18 earlier in this section. From the standpoint of effective television competition to football attendance, the TV areas of the Southwest were TV areas in name only.

Two minor colleges (New Mexico and Houston) were the only ones in Region 6 to televise three or more of their games. The occasional games telecast by Rice and Southern Methodist were assured sellouts before the TV rights were granted. No coaxial cable facilities existed in the region, so that there was no network competition. And finally, both Dallas and Houston, the two largest cities, had saturation figures of 15-20%. The weighted average of all TV areas in the region was under 20%.

Under such conditions, any unfavorable attendance trends we might find in the TV areas would be purely coincidental. The minor telecasting colleges, even if they lost attendance, account for so small a part of the total that they could only slightly affect the over-all trends. The telecasting of only those major games which were assured sellouts could not possibly affect attendance. And the saturation levels, even if there were unrestricted telecasting, were not yet high enough to exert any significant effect.

With a minimum of TV competition, we might look for approximately equal attendance trends inside and outside TV areas, but an explanation seems in order for the vastly <u>superior</u> trends reported by the TV-area colleges.

This appears to have come about largely as the result of differential changes in population, student enrollment and stadium capacity between the two types of areas. The two largest cities in the region, Dallas and Houston, both had television, and the TV-area experience is determined to a great extent by what happened to them.

These areas (largely because of Dallas and Houston) gained 10.6% in population between 1948 and 1950, in contrast to a 3.6% gain in other localities. Student enrollments, which dropped 9% outside of the TV areas, gained 6% in the places that had television. And stadium capacity, which increased 16% in the non-TV areas, almost doubled (up 72%) where television was present -- again, almost entirely because Rice built a new stadium and Southern Methodist played all its games in the Cotton Bowl.

It might be noted parenthetically that the spectacular attendance gains in Dallas and Houston help to explain the surprisingly good trends for the lightly saturated TV areas. We have noted that the areas with less than 20% saturation actually surpass the non-TV areas in attendance gains, and there seems no logical reason why this should be so.

We see, however, that there was scarcely any TV competition in Dallas and Houston and that the striking attendance gains of these two areas, which weight the total so heavily, were made possible through extraordinary increases in capacity. Omitting Dallas and Houston from the total group of lightly saturated areas, we find that colleges in such localities show only a 5% attendance gain instead of the 14% they are credited with when these two cities are included.

Region 7 - Mountain

NCAA Region 7 colleges account for less than 3% of the country's normal football attendance, and TV was a very minor factor during 1950, so that a discussion of the situation in this region need not detain us long.

Mountain state colleges just about equaled their expected attendance in 1949, but in 1950 they drew only 88.6% of their base period average, a decline of more than 10%. The loss was considerably larger in the television areas (81.8, as compared to 91.5), but this differential derives less from the influence of TV than from the small number of colleges on which the figures are based.

There is only one TV area in the whole region (Salt Lake City), and while saturation was fairly high at 37.6%, the effective football competition on TV was almost nil. Neither of the Salt Lake City colleges telecast their games, and no network football could come into the area because of the absence of cable facilities. The only football competition on television consisted of high school and junior college games.

The over-all regional decline was contributed almost entirely by Utah and Denver, which together account for a large part of the total expected attendance. Both of these universities had below-average teams in 1950.

The TV-area figures for the Mountain region are necessarily based on the experience of only two colleges, one of which recorded a slight increase while the other, and by far the larger in terms of attendance, suffered a fairly heavy decline from its 1947-48 levels. While the amount of saturation and the competition of high school football on TV probably had some adverse effect on a college with a below-average team, the evidence of this report indicates that the losses we can accurately attribute to television must have been considerably smaller than the figures show.

Region 8 - Pacific

The Pacific Coast experience appears at first glance to constitute an exception to our general rule that the more television, the greater the attendance loss.

Los Angeles was one of the most heavily saturated TV areas in the country, and the region as a whole had a weighted saturation figure of 27.4%. Furthermore, all five of the largest colleges televised their games, so that we saw in Table 18, no less than 83.9% of the expected TV-area attendance was contributed by telecasting colleges. Under such severe conditions of television competition, we would expect to find rather heavy attendance losses.

Actually, over-all attendance in the region did show a significant decline in 1950, dropping 5.3% from the 1949 levels to 94.5% of expected, but the loss was small in comparison with those in the East where similar conditions of TV competition prevailed. And while the non-TV-area colleges in the Pacific states did have slightly superior attendance trends, the differential was only 1.7% and hardly appears significant. Only the experience of the telecasting colleges fully conforms to our expectations. This group suffered a 10.8% attendance decline.

Yet, as we have just seen that the unfavorable effects of TV were exaggerated by our figures from the Mountain region, so it is possible to show that on the Pacific Coast our tables understate the losses which can be attributed to television. It must constantly be remembered that when only small groups of colleges are under consideration, as when we look at particular localities or regions, the exceptional experience of only one or two institutions can obscure the analysis.

The fact that West Coast colleges reported a much smaller decline than occurred in the East, although the TV competition was almost as severe, is largely explained by the following figures from the three biggest football centers in the region.

TABLE 19

1950 ATTENDANCE IN THREE MAJOR AREAS OF PACIFIC REGION

Area:	Saturation Level	Expected Attendance	Actual Attendance	Percent of Expected
Los Angeles. . . .	48.2	716,127	522,404	72.9
San Francisco. . .	11.8	801,311	847,198	105.7
Seattle.	11.8	163,570	207,373	126.8

It would be hard to find a more striking contrast than the attendance trend in the heavily saturated Los Angeles area, where almost half the families owned TV sets, and in the lightly saturated San Francisco and Seattle areas, where ownership was still highly exceptional. In Los Angeles the loss was huge; in the Bay area and in Seattle, there were actual increases.

Although some portion of these differences may be attributed to the superior performance of the northern teams, it should be remembered that these teams also had better won-lost records during 1947-48, so that the trends are very little affected by this factor. California, which had an unbeaten record in 1950, lost only one game during the 2-year base period, and UCLA, one of the major Los Angeles teams, actually improved its performance last season.

The Pacific Coast Conference as a group lost approximately 113,000 of its expected 1,670,990 attendance, sufficient to lower its "percent of expected" to 93.2; and it may be seen that the heavy decline in the Los Angeles area not only accounted for all of the missing admissions, but was sufficient to counterbalance some of the attendance gains recorded in other areas.

The unexpectedly high attendance trend of the non-telecasting teams in the Pacific TV areas (See Table 17: their percent of expected was 119.8) was due almost entirely to the College of the Pacific, which dedicated an enlarged stadium and just about doubled its 1947-48 attendance. This college's 1950 attendance was exceeded only by that of the five big telecasting institutions, and it very heavily weighted the figures for the whole non-telecasting group.

The low differential of 1.7% between the trends of TV-area and non-TV-area colleges in this region is also due to one peculiar situation; in this case, the University of Hawaii. Actually, it would have been wiser to exclude this institution from our analysis altogether, since the college is outside the continental United States; but it is listed as a Region 8 college by the NCAA and was automatically included in the study.

During the 1947-48 base period the University of Hawaii entertained such major U. S. college elevens as Michigan State, Oregon State and St. Mary's. All of its 1947 home games were played with United States teams, and its base period attendance was thus quite high. In 1950, however, three of the University's eight home games were with local island teams, and the five visitors from the mainland comprised San Diego State, Brigham Young, Texas Western, Utah and Denver. Attendance understandably suffered a serious decline.

It is this unusually heavy decline in Hawaii that accounts for the low attendance trends of the colleges in "non-TV areas" on "the Pacific Coast." Hawaii had the largest base attendance of any of the non-TV-area colleges in the region, and its abnormal losses caused by the changing schedule drove the average for the whole group down to 95.8% of expected.

If the substantial Hawaii attendance is omitted from the group, we find that the colleges outside of TV areas in Region 8 drew 108.1% of their expected attendance. In other words, in the localities not yet exposed to television, attendance continued to gain on the Pacific Coast, and the TV differential is actually 14.0% instead of 1.7%. The large shifts which can be caused by even one extraordinary case are a constant warning to us that the actual effects of television can be pinned down conclusively only when the data are based on large numbers.

On closer analysis, then, the Pacific Coast experience does confirm our general expectations. The TV differential with Hawaii excluded becomes 14%, by far the largest in the country outside the East. While attendance gained 8 points in the non-TV areas, it dropped 6 points where television was present, and the telecasting colleges suffered an 11% loss. And the TV-area loss was concentrated entirely in Los Angeles, where saturation was heavy.

APPENDIX TABLES

The following tables present the main tabulations on which our analysis is based.

Additional information regarding any aspect of this report is available from

NATIONAL OPINION RESEARCH CENTER
University of Chicago
100 Fifth Avenue
New York 11, N.Y.

APPENDIX TABLE A

1949

ATTENDANCE IN TV AND NON-TV AREAS, BY REGION

REGION:	TV AREAS			NON-TV AREAS			ALL AREAS		
	Expected	Actual	%	Expected	Actual	%	Expected	Actual	%
1 - New England . . .	803,922	802,097	99.8	179,725	202,490	112.7	983,647	1,004,587	102.1
2 - Middle Atlantic .	2,137,793	1,981,162	92.7	222,814	255,411	114.6	2,360,607	2,236,573	94.7
3 - Southeast	1,505,005	1,535,591	102.0	1,495,490	1,627,061	108.8	3,000,495	3,162,652	105.4
4 - Midwest	2,226,698	2,294,331	103.0	1,214,079	1,276,128	105.1	3,440,777	3,570,459	103.8
5 - West Central . .	758,027	851,853	112.4	639,383	566,753	88.6	1,397,410	1,418,606	101.5
6 - Southwest	666,520	854,096	128.1	814,692	856,726	105.2	1,481,212	1,710,822	115.5
7 - Mountain	129,335	118,952	92.0	276,579	284,548	102.9	405,914	403,500	99.4
8 - Pacific	1,815,289	1,827,127	100.7	408,008	390,731	95.8	2,223,297	2,217,858	99.8
TOTAL U.S. . . .	10,042,589	10,265,209	102.2	5,250,770	5,459,848	104.0	15,293,359	15,725,057	102.8

APPENDIX TABLE B

1950

ATTENDANCE IN TV AND NON-TV AREAS, BY REGION

REGION:	TV AREAS			NON-TV AREAS			ALL AREAS		
	Expected	Actual	%	Expected	Actual	%	Expected	Actual	%
1 - New England . . .	930,900	657,260	70.6	195,290	194,989	99.8	1,126,190	852,249	75.7
2 - Middle Atlantic .	2,119,117	1,727,207	81.5	196,418	206,294	105.0	2,315,535	1,933,501	83.5
3 - Southeast	1,643,568	1,628,429	99.1	1,411,907	1,446,027	102.4	3,055,475	3,074,456	100.6
4 - Midwest	2,485,851	2,490,914	100.2	849,046	881,687	103.8	3,334,897	3,372,601	101.1
5 - West Central . .	953,054	1,018,604	106.9	363,151	402,641	110.9	1,316,205	1,421,245	108.0
6 - Southwest	595,546	891,461	149.7	754,548	846,730	112.2	1,350,094	1,738,191	128.7
7 - Mountain	124,248	101,622	81.8	294,188	269,206	91.5	418,436	370,828	88.6
8 - Pacific	1,700,436	1,600,475	94.1	440,911	422,489	95.8	2,141,347	2,022,964	94.5
TOTAL U.S. . . .	10,552,720	10,115,972	95.9	4,505,459	4,670,063	103.7	15,058,179	14,786,035	98.2

APPENDIX TABLE C

1950 ATTENDANCE IN TV AND NON-TV AREAS, BY TEAM PERFORMANCE

COLLEGES WHOSE TEAM PERFORMANCE IN 1950 WAS:	TV AREAS			NON-TV AREAS			ALL AREAS		
	Expected	Actual	%	Expected	Actual	%	Expected	Actual	%
BETTER than in base period. . .	3,024,904	3,150,057	104.1	1,479,361	1,588,769	107.4	4,504,265	4,738,826	105.2
ABOUT THE SAME as in base period. . .	2,912,980	2,960,555	101.6	1,517,698	1,636,297	107.8	4,430,678	4,596,852	103.8
WORSE than in base period. . .	4,196,732	3,587,663	85.5	1,164,298	1,137,827	97.7	5,361,030	4,725,490	88.1
NOT ASCERTAINABLE . .	418,104	417,697	99.9	344,102	307,170	89.3	762,206	724,867	95.1
ALL COLLEGES . . .	10,552,720	10,115,972	95.9	4,505,459	4,670,063	103.7	15,058,179	14,786,035	98.2

APPENDIX TABLE D

1950 ATTENDANCE IN TV AND NON-TV AREAS, BY WEATHER CONDITIONS

TYPE OF GAME:	TV AREAS			NON-TV AREAS			ALL AREAS		
	Expected	Actual	%	Expected	Actual	%	Expected	Actual	%
GOOD-WEATHER games. .	7,391,674	7,599,090	102.8	3,062,812	3,319,663	108.4	10,454,486	10,918,753	104.4
BAD-WEATHER games . .	1,906,224	1,569,458	82.3	764,101	715,105	93.6	2,670,325	2,284,563	85.6
Weather NOT REPORTED.	1,254,822	947,424	75.5	678,546	635,295	93.6	1,933,368	1,582,719	81.9
ALL GAMES	10,552,720	10,115,972	95.9	4,505,459	4,670,063	103.7	15,058,179	14,786,035	98.2

APPENDIX TABLE E

1950 ATTENDANCE IN TV AREAS FOR TELECAST AND NON-TELECAST COLLEGES, BY REGION

REGION:	TELECAST COLLEGES			NON-TELECAST COLLEGES			ALL TV-AREA COLLEGES		
	Expected	Actual	%	Expected	Actual	%	Expected	Actual	%
1 - New England . . .	713,381	467,163	65.5	217,519	190,097	87.4	930,900	657,260	70.6
2 - Middle Atlantic .	882,326	697,247	79.0	1,236,791	1,029,960	83.3	2,119,117	1,727,207	81.5
3 - Southeast	483,294	438,626	90.8	1,160,274	1,189,803	102.5	1,643,568	1,628,429	99.1
4 - Midwest	286,320	294,220	102.8	2,199,531	2,196,694	99.9	2,485,851	2,490,914	100.2
5 - West Central . .	369,453	465,502	126.0	583,601	553,102	94.8	953,054	1,018,604	106.9
6 - Southwest	66,854	111,206	166.3	528,692	780,255	147.6	595,546	891,461	149.7
7 - Mountain	---	---	---	124,248	101,622	81.8	124,248	101,622	81.8
8 - Pacific	1,426,804	1,272,781	89.2	273,632	327,694	119.8	1,700,436	1,600,475	94.1
TOTAL U.S. . . .	4,228,432	3,746,745	88.6	6,324,288	6,369,227	100.7	10,552,720	10,115,972	95.9

APPENDIX TABLE F

1950 ATTENDANCE IN TV AREAS BY SATURATION LEVEL AND TYPE OF TV COMPETITION

TYPE OF COMPETITION:	ATTENDANCE TRENDS OF COLLEGES IN AREAS WHERE TV SATURATION IS			
	LIGHT	MEDIUM	HEAVY	TOTAL
NO LOCAL GAMES TELECAST				
Expected attendance	1,717,558	2,492,911	604,990	4,815,459
Actual attendance	1,984,069	2,324,730	587,462	4,896,261
Percent of expected	115.5	93.3	97.1	101.7
OTHER LOCAL GAMES TELECAST				
Expected attendance	202,349	289,589	1,016,891	1,508,829
Actual attendance	233,658	285,510	953,798	1,472,966
Percent of expected	115.5	98.6	93.8	97.6
OWN GAMES TELECAST				
Expected attendance	995,231	1,010,323	2,222,878	4,228,432
Actual attendance	1,119,748	963,483	1,663,514	3,746,745
Percent of expected	112.5	95.4	74.8	88.6
ALL TYPES OF TV COMPETITION				
Expected attendance	2,915,138	3,792,823	3,844,759	10,552,720
Actual attendance	3,337,475	3,573,723	3,204,774	10,115,972
Percent of expected	114.5	94.2	83.4	95.9

APPENDIX TABLE G.

IMPACT OF TELEVISION IN TV AREAS IN 1950, BY REGION

REGION:	EXPECTED ATTENDANCE IN TV AREAS	EXPECTED ATTENDANCE At Games of TELECAST COLLEGES	Percent of TV AREA Attendance Expected at Games of TELECAST COLLEGES	Expected Attendance OF TV OWNERS At Games of TELECAST COLLEGES	Percent of TELECAST COLLEGE Attendance Expected From TV OWNERS	Percent of TV AREA Attendance Expected From TV OWNERS At Games of TELECAST COLLEGES
1 - New England.	930,900	713,381	76.6	280,335	39.3	30.1
2 - Middle Atlantic. . .	2,119,117	882,326	41.6	438,549	49.7	20.7
3 - Southeast.	1,643,568	483,294	29.4	113,401	23.5	6.9
4 - Midwest.	2,485,851	286,320	11.5	121,972	42.6	4.9
5 - West Central	953,054	369,453	38.8	78,437	21.2	8.2
6 - Southwest.	595,546	66,854	11.2	12,740	19.1	2.1
7 - Mountain	124,248	---	--	---	--	--
8 - Pacific.	1,700,436	1,426,804	83.9	406,983	28.5	23.9
TOTAL U.S.	10,552,720	4,228,432	40.1	1,452,417	34.3	13.8

APPENDIX H

COLLEGES ON WHOSE ATTENDANCE DATA THIS REPORT IS BASED

REGION 1

American Itl.
Amherst
Bates
Boston College
Boston Univ.
Bowdoin
Brown
Colby
Dartmouth
Harvard
Holy Cross
Main
Massachusetts Univ.
Middlebury
New Hampshire
Northeastern
Norwich
Springfield
Trinity
Tufts
Vermont
Wesleyan
Williams
Worcester Poly.
Yale

REGION 2

Alfred
Allegheny
Army
Brooklyn College
Bucknell
Buffalo
C. C. N. Y.
Clarkson
Colgate
Columbia
Cornell
Cortland St. Tchrs.
Delaware
Duquesne
Fordham
Franklin & Marshall
Georgetown
Gettysburg

REGION 2 (cont'd)

Hamilton
Hartwick
Haverford
Hobart
Hofstra
Ithaca
Kings Point
Lafayette
Lehigh
Marshall
Muhlenberg
Navy
N. Y. U.
Penn
Penn State
Pittsburgh
Princeton
Rensselaer
Rutgers
St. Lawrence
Slippery Rock
Swathmore
Syracuse
Temple
Union
Upsala
Villanova
Westminster
West Virginia

REGION 3

Alabama
Auburn
Catholic Univ.
Clemson
Davidson
Duke
Florida State
Florida Univ.
Furman
George Washington
Georgia Tech.
Georgia
Kentucky
La. State

REGION 3 (cont'd)

Maryland
Miami
Mississippi College
Mississippi State
Mississippi Univ.
North Carolina
No. Car. State
Presbyterian
Richmond
South Carolina
Tennessee
Tulane
Tuskegee
Univ. of South
Vanderbilt
V. M. I.
Virginia Poly.
Virginia Univ.
Wake Forest
Wash. & Lee
Wash. College
W. Kentucky State
William & Mary

REGION 4

Albion
Ashland
Beloit
Bowling Green
Butler
Carroll
Case
Central Michigan
Cincinnati
De Pauw
Illinois State
Illinois
Indiana
Iowa
John Carroll
Kenyon
Lawrence
Marquette
Miami
Michigan College

Part 3 of 8

The Effects of Television on College Football Attendance

REPORT No. 3

PREPARED FOR THE

National Collegiate Athletic Association

BY THE

NATIONAL OPINION RESEARCH CENTER

University of Chicago

April 22, 1952

THE EFFECTS OF TELEVISION ON COLLEGE FOOTBALL ATTENDANCE

Report No. 3

prepared for the

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NATIONAL OPINION RESEARCH CENTER

UNIVERSITY OF CHICAGO

April 22, 1952

CONTENTS

INTRODUCTION

This is the third annual report by the National Opinion Research Center on the effects of television on college football attendance. The two previous studies, covering the 1949 and 1950 seasons, were sponsored jointly by the National Collegiate Athletic Association and by the four television networks. The present survey was supported entirely by the NCAA.

A sum of $50,000 was made available to NORC for the 1951 research, and this amount was expended on the following types of investigations:

Two national surveys (just before and just after the 1951 football season) conducted by means of personal interviews with a cross-section of all adults who express some interest in college football.

Pre-season questionnaires to all athletic directors, soliciting information on the seasonal attendance outlook, and on specialized local factors which might affect the situation.

Week-by-week game reports from every NCAA member college engaging in football competition, including all data on ticket sales, weather, game attractiveness, competing attractions, etc.

Personal interviews with a cross-section of football fans in the two metropolitan areas of Boston and Pittsburgh, with telephone callbacks to ascertain their activity during each week of the season.

Arrangements with 16 colleges to distribute questionnaires to the stadium audience at a total of 37 games played under varying degrees of television competition.

Weekly telephone surveys with a cross-section of fans in six additional cities besides Boston and Pittsburgh.

Mail questionnaire surveys of a cross-section of the alumni of four universities.

Collections of game-by-game attendance data for the past five seasons from a cross-section of high schools throughout the nation.

More than 100,000 individuals were contacted during the course of these investigations, and the resultant information represents the most thorough and detailed study ever made of the "college football market". The present report summarizes our major findings, while technical appendices are available which describe the methods and procedures employed, and some of the more detailed statistical findings.

We would like to thank the NCAA Television Committee—and particularly the steering committee of Thomas J. Hamilton, Ralph Furey, Robert A. Hall and Max Farrington—for their whole-hearted support and cooperation during the course of this entire study. NORC was given a completely free hand in the design and execution of the research, and the committee at all times lent their influence among the NCAA membership to the support of our work. We express our particular appreciation to Edwin S. Reynolds, NCAA television program director, and his secretary Lynn Warren, and to Joseph L. Rauh, Jr., legal counsel to the television committee, for their cooperation throughout the season. We are grateful to William R. Parker, research director of the Ketchum, MacLeod & Grove agency, for his suggestions and advice, and to Lansing Lindquist of the same agency for his understanding of the research problems while arranging the 1951 TV schedule for Westinghouse. Mention should also be made of the valuable contributions of David E. Ryan and Ann F. Brunswick, NORC staff members who were responsible for much of the day-to-day execution of the research. Finally, our special thanks go to the many athletic directors, students and faculty members of the 239 colleges and 124 high schools who cooperated in this research, and to the thousands of football fans throughout the country who helped us by answering our questions.

Paul B. Sheatsley
Paul N. Borsky
Study Directors

SUMMARY OF FINDINGS

Television continued to exercise an adverse effect on college football attendance in 1951. As in 1950, colleges located outside of television areas continued to hold or surpass their pre-television 1947-48 attendance, while those colleges which were exposed to TV competition found their attendance down approximately one and one-half million or 15% from their "expected" pre-television levels. Attendance is particularly off in those "heavily saturated" TV areas where 40% or more of the families are set-owners.

It is clear, however, that the NCAA's 1951 experimental plan of limited telecasting of college games succeeded in reducing television's harmful effects on attendance. In 1950, when there was unrestricted televising of college games, the "TV differential"—the difference between the relative attendance trends of colleges exposed to television competition and those not exposed—was significantly greater than it was in 1951, when football telecasting was sharply restricted.

Had unlimited telecasting continued to rule, and the 1950 TV differential remained the same, the loss in 1951 attendance compared to the "expected" 1947-48 base would have been substantially in excess of two million admissions instead of the actual drop of one and one-half million. In fact, as the proportion of set-owning families rose in TV areas, it would have been reasonable to assume that the 1950 TV differential and the corresponding loss in attendance would have been even greater than the conservative estimate of two million.

Over-all attendance, both in TV and non-TV areas, was down from 1950, largely as a result of declining student enrollment and the pinch of inflation. The decline, averaging 6% for all colleges, was characteristic of all parts of the country, although in every region it was the colleges with limited TV competition which suffered relatively less. That the colleges in television areas were able to hold closer to their 1950 attendance levels (which were, of course, already much lower than those of the non-TV group), in spite of a larger number of TV owners and of the factors making for a general attendance decline regardless of television, may be credited again to the helpful effects of the NCAA's 1951 program.

Adverse television effects were found in the attendance trends of all types of colleges, and for all types of games. Large, medium and small colleges all reported very much lower attendance figures when they were exposed to television competition than when TV was absent. The "TV differential" was similarly found both for attractive games, between traditional rivals or involving teams of high performance, and for less attractive games, when the teams were colorless or ill-matched. In both cases, games played outside the range of television consistently outdrew those which faced the competition of TV.

Within television areas, small college attendance was markedly higher on "blackout Saturdays" and Friday nights, when no game was available on TV. That such differences did not generally occur among larger colleges can be attributed primarily to two factors. First, 100% blackouts of most TV areas were very difficult to achieve because many set-owners could tune in the games from stations in adjacent cities. Nation-wide, 7% of the TV-owner fans actually watched NCAA telecasts over nearby stations when their own area was "blacked-out". And secondly, the public was not generally well informed about the TV football schedule; in few cases were they aware of impending "blackout" days in sufficient time to make plans to attend a local game. From our personal interview data, we know that 95% of the fans go to a game in the company of other people and that three-fourths of the attendance decisions are made in advance of the day of the game. Since most fans were not aware of the TV schedule in advance and did not realize until the last day or so before the game that their area was scheduled for a "blackout", it was generally too late for them to change their plans, to round up a companion or group with which to attend, or to obtain a satisfactory seat for a game.

Generally, fans continued during 1951 to make their attendance decisions on the false assumption that some college football game would be telecast in their area every weekend. Since fans generally learned of the "blackout" only a few days before game time, any "blackout effect" would therefore have to manifest itself primarily in gate sales. It is consistent that these effects were indeed observed in the case of small colleges, where gate sales account for the majority of tickets sold, but were not consistently manifested in the case of larger colleges, where most of the attendance is decided on and tickets purchased in advance. It is fair to assume that if the absence of football on TV had been as widely known on "blackout" Saturdays as it was on the Friday night playing dates (when, for most schools, attendance was significantly higher), "blackout effects" would have made themselves more clearly apparent.

No precise or consistent attendance differences were observed at games played while teams from the same region were available on television, as opposed to games played while teams from a distant region were telecast. There is evidence that most fans take a greater interest in the teams in their nearby area, and we would

thus expect attendance to be lower when such games were available on TV. That no substantial difference was found may again be ascribed partly to the general lack of awareness of the television schedule, and partly to the fact that even the non-regional games which were telecast usually involved highly attractive and nationally prominent teams.

High school football attendance, studied for the first time this year, shows the same 3-year trend of television effects as that shown for colleges, with one exception. While the "TV differential" first made itself apparent in 1949 in the case of both colleges and high schools, and while it grew during the 1950 season, the differential, which was narrowed for the colleges in 1951 as a result of the NCAA plan, continued to increase in the case of the high schools. The apparent lack of success of the NCAA experimental program in slowing the rate of decline among high schools in TV areas, as it did among colleges, is simply explained by the fact that less than one-third of high school games in television areas were played on Saturday afternoons and subject to direct competition with televised college football. In general, therefore, high schools faced the same sort of competitive TV situation they met in 1950, and the restricted Saturday afternoon telecasts during 1951 could not greatly affect their attendance trends. The fact that high schools continue to report a substantial "TV differential" may be due primarily to two factors—the general competition of other television programs and the indirect effects of televised Saturday football games. Many fans may satisfy their moderate game interest by substituting a Saturday football telecast for actual attendance at high school games during the week. In any event, in the case of both small colleges and of high schools where games in TV areas were played without direct TV competition on "blackouts" or non-Saturday dates, attendance was significantly higher than when they competed against a 1951 Saturday college football telecast.

Interview data collected during the 1951 season reveal that college football fans are found primarily among men, among the younger age groups, those who have themselves attended college, persons employed in professions, and among the upper and middle economic levels. Interest and attendance are markedly lower in rural areas than in cities and towns. The personal characteristics of television owners closely resemble those of football fans. TV owners, too, are more generally found among the upper and middle income groups and among those with at least a high school education. And TV ownership and interest in football are themselves highly correlated. Football fans are much more likely to own a TV set than are people who lack an interest in the game.

It is likely that the extent of televiewing among football fans who do not themselves own sets has never been fully appreciated. In Boston and Pittsburgh, four out of five non-owning fans say they watch television programs at least occasionally, and during the 1951 season, more than one-third of the Boston fans and over half of those in Pittsburgh managed to watch at least one of the NCAA football telecasts. On any given Saturday in Pittsburgh, it was possible to find up to one-fourth of the non-owners who were interested in football watching such attractive televised games as Pitt-Duke or Notre Dame-Michigan State.

The fact that most non-owners have easy access to a TV set when they are interested in a particular game, and that non-owners are generally older, less well off financially and less interested in football, tends to reduce average non-owner attendance and makes it difficult to establish significant differences in the attendance behavior of TV owners and non-owners. Only about one-fourth of the average football audience consists of season ticket holders or regular attenders; most fans are infrequent attenders who buy tickets for only one, two or three games a year. If the non-owners on the average lose only one game a year or less as the result of their ability to see the games on television in public places or at the home of friends, the differences in average attendance of owners and non-owners become so small that it is extremely difficult to establish any statistical significance.

Nevertheless, it was found that among the male fans in Pittsburgh, when age and interest in football were controlled for the two groups, the TV owners did report a definitely lower attendance. In Boston the difference was in the same direction, though not statistically significant. When the differences were analyzed in terms of interest in football, it was apparent that TV exerted its greatest depressing effect among those fans with only a small or moderate interest in the game. In both cities, the greatly interested groups attend about the same number of games, but in both cities and particularly in Pittsburgh, among those fans with less interest, TV owners reported a substantially lower attendance than non-owners. Analyses were also made, on the basis of both the Boston-Pittsburgh data and the questionnaires obtained in the stadium surveys, of the effect of length of ownership on TV owners' attendance behavior, but the differences were never consistent or large enough to have statistical significance.

Detailed pre-season interviews with the cross-sections of football "attenders" in Boston and Pittsburgh shed light on the factors underlying interest in the game and decisions on attendance, and help explain some of the attendance and TV-ownership data. It was found, for example, that college football fans are almost always interested in other sports as well. Only about one in five restricted his sports attendance to football. Therefore, if he finds no college football on TV on a particular Saturday, the average fan can fairly easily satisfy his sports interest by

watching a baseball or World's Series game on his set (if early in the season) or by attending a high school game or some other sports event later on. Football fans, too, are strongly attached to their alma maters or favorite teams. Reasons given for attending or desiring to attend particular games are almost always in these terms, and their past attendance histories document the fact that the overwhelming majority of fans concentrate their attendance on the games of only one college. Thus, if the favorite team has a poor season, television rather than actual attendance at another stadium becomes an easy substitute; while if a blackout is unexpectedly encountered, the fan is more likely to substitute some other activity than to patronize the disappointing team of his choice or to visit an unfamiliar stadium.

Despite the adverse newspaper publicity in a few areas, national survey results reveal that two-thirds of the people who follow college football in television areas were completely unaware of the NCAA program and knew nothing about it. Even among the one-third who expressed some familiarity with the plan, the majority lacked accurate information about its purposes and operation. Only 7% of all the fans in TV areas (and 12% of the TV owners) can be classified as having correct information. The lack of understanding was reflected in the fact that a slight majority of those who had opinions about the plan expressed unfavorable attitudes, usually making the point that TV owners "were entitled" to have the top college games shown to them on television and that it was "not fair" to restrict them. Yet there seems to have been relatively little specific dissatisfaction with the plan. Only 40% of the TV owners answered "Yes" when asked if there were any games they had wanted to watch on TV, which were not shown, and it is interesting that when this group was asked which particular games they had in mind, only about one-fourth mentioned games outside their region, which they could not easily have attended.

The history of television's impact on college football attendance can be summarized as follows:

In 1948: imperceptible, because there were fewer than one million sets installed in the country.

In 1949: perceptible but small; still only three million sets.

In 1950 (nine million TV sets): substantial attendance declines in television areas in the face of attendance gains elsewhere.

In 1951 (close to 14 million TV sets): falling attendance everywhere, but a relatively smaller loss in TV areas with the end of unrestricted telecasting of college games.

What the pattern for the future will be cannot now be predicted, except that as saturation remains high and college games are available on TV, actual attendance will certainly continue to be adversely affected. The degree of the adverse effect depends upon factors which are not known at this time. Set-ownership is still expanding rapidly, and when additional areas are opened up to TV-reception, the competition will increase.

We still know very little about the long-run effects of television ownership. Only one-fourth of all TV owners have had their sets for three years; only slightly more than half have been able to watch televised football for even two seasons. The amount and type of college football available on television was not the same in 1951 as it was in 1950, and the pattern for 1952 has not yet been established. Technical improvements and changes in the television medium may further affect the future behavior of TV owners.

For all these reasons, it is obviously too early to expect basic attendance behavior to have fully adjusted to television competition. The situation is still a fluid one, and any "final" determination of TV effects must await further years of experience and research.

I

COLLEGE ATTENDANCE TRENDS

There is no doubt that television continues to exercise a harmful effect on college football attendance.

Colleges competing with televised football in 1951 reported a loss of one and a half million ticket sales compared to their "expected" attendance based on the pre-television levels of 1947-48. In contrast, colleges with no TV competition boosted 1951 paid attendance by 318,000 over their "expected" 1947-48 average.

In relative terms, this means a loss of over 15% for the colleges competing against TV, compared to a gain of more than 6% for the colleges without such competition—a "TV differential" of 21%.

Over-all paid admissions to college football games last season dropped to slightly over 13,930,000, representing a decline of about 6% from both the 1950 levels and from the "expected" attendance of the pre-television base period. As shown in Table 1 below, the decline from 1950 was characteristic of all regions and of both major and minor colleges.

It should be noted that the over-all drop in attendance during 1951 was due largely to such factors as the pinch of inflation and the decline in student enrollment. But these influences did not more seriously affect the colleges located in television areas than those in other parts of the country. On the contrary, in the case of student enrollment, the colleges in TV areas were relatively better off: they suffered only a 19% loss in student body from the 1947-48 base years, while colleges outside the range of television lost 23% of their enrollment.

The adverse effects of TV can especially be seen in the experience of those colleges located in "heavily saturated" areas, areas in which 40% or more of all families own a television set.

Large colleges, with an average base period attendance of 15,000 or more per game, and medium colleges, averaging 5,000 to 14,999 per game, which were located in these heavily saturated areas both reported markedly inferior trends; while in areas of moderate saturation, where fewer than 40% of the families own sets, attendance levels remained high.

In the case of small colleges, only 16 games were played in moderately saturated areas, so that no accurate "TV saturation" effects could be established. And due to the phenomenal increase in TV ownership during the past year—over 4½ million sets were sold, according to NBC estimates—only one minor TV area continued to report less than 20% of its families as TV owners. Consequently a test of low TV set saturation was also not possible.

TABLE 1

1950-1951 ATTENDANCE BY REGION AND SIZE

BY NCAA DISTRICT	1950* (Percent of Expected)**	Change, 1950 to 1951	1951 (Percent of Expected)**
1—New England	82.2	Down 8.0	74.2
2—Middle Atlantic	83.6	Down 9.4	74.2
3—Southeast	101.0	Down 5.4	95.6
4—Midwest	100.9	Down 1.7	99.2
5—West Central	113.0	Down 11.6	101.4
6—Southwest	127.3	Down 1.5	125.8
7—Mountain	88.4	Down 34.8	53.6
8—Pacific	96.9	Down 3.1	93.8
BY SIZE			
Major Colleges	100.0	Down 3.6	96.4
Minor Colleges	95.5	Down 23.5	72.0
ALL COLLEGES	99.5	Down 5.9	93.6

*1950 figures differ slightly from those reported last year due to shifts in TV classification and adjustments for free admissions. Free admissions accounted for about 10% of the total attendance reported in prior years.

**"Expected" attendance is the actual average paid attendance reported by each college for the two pre-television years 1947-48.

Table 2 summarizes the effects of heavy set saturation on large and medium colleges.

TABLE 2

In heavily saturated television areas, attendance trends are markedly lower.

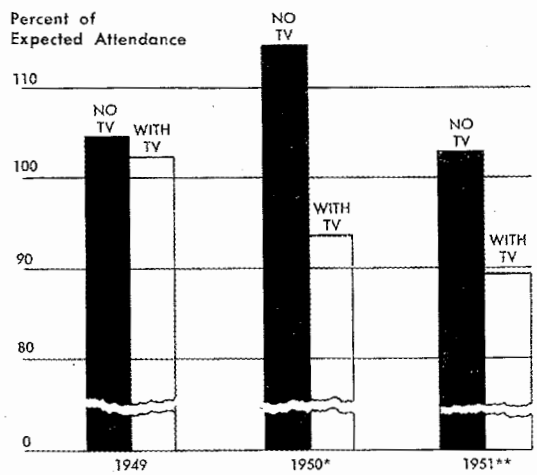
	Percent of Expected Attendance	
	Large Colleges	Medium Colleges
Areas where fewer than 40% of families own TV	113.7	132.2
Areas where 40% or more of families own TV	85.0	75.5

While television continues to affect football attendance unfavorably, the NCAA's 1951 experimental program of limited TV did succeed in slowing the rate of decline among those colleges faced with TV competition.

As Table 3 indicates, the difference in the attendance trends of colleges with and without television competition was much greater in 1950, when unlimited telecasting of football games was the rule, than it was in 1951, when the NCAA's limited program was in effect.

TABLE 3
THE "TV DIFFERENTIAL", 1949-51

Colleges with television competition report smaller loss under NCAA plan.



*1950 figures differ somewhat from those reported last year due to shifts in TV classification and adjustments for free admission.

**Figures are not corrected for differences in attractiveness of game, weather, or size of college.

Colleges with TV competition in 1951 reported only a moderate loss of 4% from their 1950 levels, compared to a more serious 10% decline for colleges with no TV competition. Put another way, attendance in TV areas was down only about 360,000 from 1950. If this decline had equalled the 10% loss in areas outside the range of TV, the drop in attendance would have been half a million more, totaling over 900,000 paid admissions.

Had unrestricted televising of college football games continued to rule, we would have expected attendance both in and out of TV areas to decline (because of the factors previously noted: inflation, lower enrollments, etc.), but we would have expected the "TV differential" of 1950 to remain the same or even to increase, as the TV areas became more heavily saturated.

The fact that the differential remains attests to the adverse effects of television competition—even limited competition—and the fact that the loss in TV areas was 360,000 rather than 900,000 during the 1951 season attests to the partial relief afforded by the NCAA's experimental program.

THE PATTERN BY REGION

The national trends for colleges with and without television competition, reported in Table 3, were also reflected in most of the eight NCAA regional districts.

In all regions except the Midwest, where the televising of college games had already been sharply restricted in 1950, the limited TV program succeeded in narrowing the gap created by television effects.

The percentage figures presented in Table 4 on this page must be interpreted with caution in the several cases in which they are based on the experience of only a few colleges; and the estimates, which are based on seasonal attendance totals, have not been corrected for differences in size of school, weather and game attractiveness.

Comparisons are especially difficult in the East and Mountain districts. In both the New England and Middle Atlantic regions, no major college and only a relatively few minor colleges still remain outside the full scope of television. Conversely, in the Mountain states, only two colleges are located within television areas.

It is more than likely, therefore, that special game considerations, which tend to offset each other when large numbers of colleges are compared, could easily distort a comparison made on the basis of only a few schools.

Nevertheless, one may note the remarkable relative improvement among the colleges exposed to TV competition in the West Central region and on the Pacific Coast.

In spite of the over-all decline in attendance and the increasing number of television owners, the TV-area colleges in Region 8 held to their 1950 attendance levels and in Region 5 the TV-area colleges actually showed a slight gain over 1950.

These slight gains or slower rates of loss, relative to the non-TV area colleges, reflect the alleviation during 1951 of the unrestricted television competition which they faced in 1950.

TABLE 4
TELEVISION EFFECTS BY REGION

NCAA DISTRICT	No. of Colleges	Percent of Expected Attendance		Percentage Change in Attendance
		1950	1951	1950-1951
1—New England				
TV competition	(18)	80.2	75.2	Down 6.2
No TV competition	(7)	101.9	63.8	Down 37.4
2—Middle Atlantic				
TV competition	(44)	83.2	74.0	Down 11.1
No TV competition	(6)	103.4	83.8	Down 19.0
3—Southeast				
TV competition	(20)	99.1	95.6	Down 3.5
No TV competition	(17)	103.9	95.6	Down 8.0
4—Midwest				
TV competition	(39)	101.2	99.4	Down 1.8
No TV competition	(13)	99.6	98.2	Down 1.4
5—West Central				
TV competition	(8)	96.7	98.9	Up 2.0
No TV competition	(16)	128.0	103.4	Down 19.2
*6—Southwest				
No TV competition	(19)	127.3	125.8	Down 1.2
7—Mountain				
TV competition	(2)	81.8	58.5	Down 28.0
No TV competition	(7)	91.5	51.6	Down 44.0
8—Pacific				
TV competition	(11)	90.9	90.6	Down 0.3
No TV competition	(12)	114.1	102.0	Down 10.6

*No network TV football programs were telecast in this region and there was generally no effective television competition in 1950-1951.

TV EFFECTS BY SIZE OF COLLEGE

In the foregoing description of the trends in football attendance from 1950 to 1951, it was necessary to use over-all seasonal averages for the various colleges in order to maintain comparability with our 1950 research results.

This procedure, which was necessary last year because of our limited resources, did not control for differences among colleges with and without TV competition with respect to size of college,

attractiveness of the games, free admissions, poor weather or type of TV competition. It was assumed that differences in these variables would offset each other when large numbers of colleges were involved in the comparisons, and to a great extent they did.

In 1951, however, we were able to control for these factors, and results show that when they are fully taken into account, the TV differential is increased. Table 5 shows the 1951 attendance experience of large, medium and small colleges, with and without television competition.

TABLE 5
1951 TV EFFECTS BY SIZE OF COLLEGE

	"Expected" Attendance			
	All Colleges	No TV	TV	TV Differential
Large Colleges	99.1	110.7	87.6	23.1
Medium Colleges	99.5	113.4	85.7	27.7
Small Colleges	88.5	95.1	81.9	13.2
All Colleges	95.7	106.4	85.1	21.3

It will be noted from the first column of the table that *while large and medium colleges held to the 1947-48 "expected" levels, small-college attendance was off more than 11% from the base period.*

The greater loss among small colleges probably results from a number of factors: keener competition with larger colleges and other forms of sports activities, relatively less attractive games, and the greater importance of declining student ticket sales as a percent of their total attendance.

Table 5 also shows, however, that *the small colleges suffered less from television in 1951 than the larger ones did.* The "TV differential" of 13 points among the small-college group was only about half as big as the "TV differential" for large and medium sized colleges.

Here again, the greater importance of student ticket sales among the small colleges perhaps accounts for the less adverse TV effect. One would expect that the small college game attracts fewer "marginal attenders" who are likely to succumb to TV competition than the larger schools do.

TV EFFECTS BY GAME ATTRACTIVENESS

It comes as no surprise that "more attractive" games involving traditional rivals or teams of high performance, or played on special "days", draw very much larger crowds than "less attractive" games which involve colorless rivals, teams with poor won-lost records or a one-sided competitive situation. As shown in Table 6, *for all sizes of colleges, the attractiveness of the game very strongly affects attendance.*

But it will be noted that even when only more attractive or less attractive games are compared, those colleges which do not have television competition consistently draw larger crowds than those which compete with TV. *For more attractive games and less attractive ones, among all sizes of colleges, the presence of TV competition exerts an unfavorable effect.*

TABLE 6
GAME ATTRACTIVENESS AND TV EFFECTS, BY SIZE OF COLLEGE

	Percent of "Expected" Attendance	
	More Attractive Games	Less Attractive Games
LARGE COLLEGES:		
TV competition	110.5	64.6
No TV competition	134.9	86.4
All large colleges	122.7	75.5
MEDIUM COLLEGES:		
TV competition	106.4	65.0
No TV competition	147.2	79.5
All medium colleges	126.8	72.3
SMALL COLLEGES:		
TV competition	100.5	63.3
No TV competition	115.9	74.2
All small colleges	108.2	68.7
ALL COLLEGES:		
TV competition	105.8	64.2
No TV competition	132.7	80.0
All colleges	119.2	72.1

II

EFFECTS OF TV BLACKOUTS

Attendance at small colleges in television areas was higher on scheduled "blackout" days and Friday nights, when no football games were televised, than it was when these small colleges faced football competition on TV.

The "blackout differential", amounting to 11 percentage points, could have occurred by chance in only seven cases out of 100. During TV competition, ticket sales were only 78.9% of "expected" at small colleges, as compared to 89.9% of the "expected" volume when no televised football was available.

A similar "blackout differential" did not occur consistently among large and medium sized colleges, and for very understandable reasons. In the first place, because of "TV overlap", *it was not possible to achieve a complete blackout situation in many important areas.*

In the Boston and Pittsburgh areas, in which we studied fan behavior intensively, 18% and 15%, respectively, of the television owners said they could pick up programs from adjacent TV stations outside the area. On our national survey, 7% of the TV-owner fans reported actually watching NCAA telecasts over nearby non-local stations on blackout days, and approximately the same percentage was found to be watching the NCAA telecasts in Boston and Pittsburgh when those two cities were blacked out.

Furthermore, our national survey of a representative cross-section of the public indicates that *football fans were generally not well informed about the NCAA plan.* In few cases were they aware of impending blackout days in sufficient time to make plans to attend a local game.

From our special studies of Boston and Pittsburgh fans, we know that almost three-fourths of all decisions to attend a game are made considerably in advance of the game. In almost 95% of the attendances, arrangements are made to go to a game in the company of other people. Consequently, it seems probable that most fans bought their tickets before they learned about the television schedule for that particular Saturday.

It is most significant that a definite "blackout effect" did occur among the small colleges, and that it is the small colleges, as shown in Table 7, which are most dependent upon gate sales. If it is true that fans in general did not usually realize a blackout was upon them until the last minute, it would be among the small schools, where day-of-the-game sales account for over half of total attendance, that we would expect any last-minute blackout effects to be most pronounced.

TABLE 7
TYPES OF TICKETS SOLD, BY SIZE OF COLLEGE

	Large Colleges	Medium Colleges	Small Colleges	All Colleges
Season tickets	34%	19%	18%	31%
Other advance sales	53	49	30	50
Sales at gate	13	32	52	19
	100%	100%	100%	100%

To test this hypothesis that the lack of public awareness of the 1951 TV schedule accounted for the absence of a large and clear-cut "blackout effect", an analysis was made of Friday night and non-Saturday afternoon attendance levels in TV areas, when fans definitely knew there would be no football games available on television.

Comparison of these non-Saturday afternoon attendance levels with blackout attendance levels in TV areas provides perhaps a purer test of fully informed fan behavior, and a better measure of what happens when no football is available on television.

As we see in Table 8, no significant difference occurs between non-Saturday afternoon and blackout attendances among large colleges; but among both medium and small colleges the non-Saturday afternoon attendances are significantly higher. The inference is that if the absence of football on TV had been as widely known on blackout Saturdays as it was on the non-Saturday afternoon playing dates, attendance at the medium and small-college games would have been considerably higher.

TABLE 8
NON-SATURDAY vs. BLACKOUT ATTENDANCE IN TV AREAS

	Percent of "Expected" Attendance	
	Non-Saturday Afternoon	Saturday Blackouts
Large colleges	86.4	91.2
Medium colleges	93.9	70.4
Small colleges	93.3	69.1
All colleges	91.2	76.9

The point is definitely proved, for small colleges in TV areas, in a comparison of their attendance on non-Saturday afternoons—when fans could have had no doubt that a televised game would not be available—with their attendance under TV competition on Saturday afternoon dates.

Attendance on the non-Saturday dates was so much higher that in less than one case out of a hundred could such a result have occurred by chance.

A number of colleges reported dramatic examples of "blackout effects" in the few cases in which the public was well informed about the event. The Maryland-N.C. State game, played in the Washington television area on November 17, will serve as an example.

The area had been scheduled, ever since September, for a blackout on the preceding Saturday, November 10. But such was the lack of public awareness that it was not until a few days before the impending blackout that any objections were raised by fans. After considerable local publicity, the public was widely informed that the blackout day would be shifted from November 10 to November 17—when the Maryland-N.C. State had originally been scheduled for a local telecast.

A special stadium survey conducted among the audience attending this game provides strong support for the argument that blackouts help attendance. Throughout the season, gate sales at the University of Maryland averaged about 23% of the total paid admissions, but for this game—which was originally scheduled for telecasting and which, at the last minute, was played in a blackout—gate sales accounted for almost half of the total.

Furthermore, about half of the advance sales occurred less than a week before the game was played, after the public announcement of the blackout. It is clear that about three-fourths of all the admissions to this game were not purchased until after the public was informed of the switch in the blackout.

THE EFFECTS OF REGIONAL VS. INTER-REGIONAL TELECASTS

A study of TV-area attendance during the telecasts of regional games vs. telecasts of games from outside the region fails to reveal any large or constant differences.

Large and small colleges show only minor fluctuations in attendance between these two types of TV competition. Medium sized colleges report a somewhat larger attendance when the televised game is a regional one than when it comes from a distant region, but only 29 such games were available for study in this group and the difference barely reaches the level of statistical significance.

One can only speculate about the reasons for this inconclusive finding. It may be that whether the televised contest is an "eastern game" or a "western game" actually does not exert any significant effect on attendance; or, as in the case of "blackout effects", it may be that general lack of awareness of the television schedule prevented this factor from making itself felt.

A further possible explanation lies in the fact that in 1951 the distant games available on television almost always involved nationally prominent or highly rated teams which had considerable appeal outside their own region. Though fans generally take a greater interest in teams within their own region and the availability of such games on television would be presumed to offer stronger competition to actual attendance, it is possible that Notre Dame is as popular in the East as Eastern teams are, and that Army and Navy are as popular in the West as Western teams are.

III

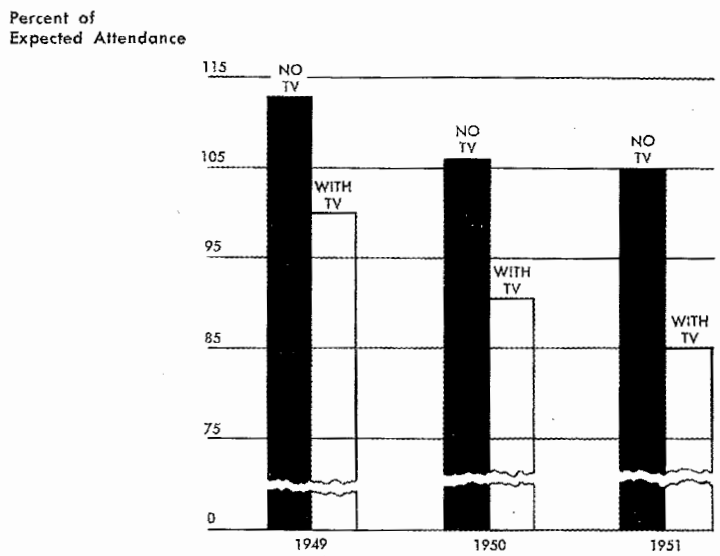
HIGH SCHOOL ATTENDANCE TRENDS

*Large and medium size high schools have been affected by television competition in much the same way that small colleges are affected.** Football attendance at high schools located outside of television areas has been consistently better, ever since 1949, than attendance at schools exposed to TV competition.

Furthermore, the gap has been steadily widening each year: the 12-point difference observed in 1949 attendance rose to 17 points in 1950, and reached a level of 20.5 last season. Whereas high schools outside of TV areas reported attendance 6% better than in the 1947-48 base years, those schools which faced TV competition found attendance down 14.5% from their base year averages. Table 9 depicts the trends in the two groups.

TABLE 9

THE HIGH SCHOOL "TV DIFFERENTIAL", 1949-51



*Not enough smaller high schools responded to our questionnaire to permit a separate analysis of this group.

The apparent lack of success of the NCAA experimental program in slowing up the rate of decline in TV areas during 1951 season is simply explained by the fact that less than one-third of the high school games in these areas were played on Saturday afternoon.

The great majority took place on Friday nights or at other times when there was less college competition. Consequently, the high schools in television areas generally faced the same sort of competitive TV situation which they faced in 1950, and the restricted Saturday afternoon football telecasts could not greatly affect their attendance trends.

When high schools in TV areas were free from televised college football competition, either because they played on other than Saturday afternoon dates or because their area was "blacked out", their attendance was significantly higher than it was when a college football game was being simultaneously telecast.

Average attendance in TV areas when no direct competition prevailed was 89.7% of "expected"; when faced with competitive telecasts, it was only 76%. A difference of this magnitude, considering the number of cases involved, could have occurred by chance in fewer than five times in 100.

Table 10 shows that, just as in the case of colleges, relative "game attractiveness" was a very important factor in attendance, but that with both more attractive games and less attractive games, high schools which were not exposed to TV competition reported higher attendance than those which were.

TABLE 10
HIGH SCHOOL TV EFFECTS BY GAME ATTRACTIVENESS

	Percent of Expected Attendance		
	Non-TV Areas	TV Areas	All Areas
More attractive games	124.6	98.5	111.2
Less attractive games	83.0	69.4	76.0

Detailed analyses of trends in high school football attendance by region, size and other factors were not possible because of the small sample size and the fact that complete returns were received from only about half of the schools circulated. However, every NCAA region is represented in the 124 high schools on which our tabulations are based, and we believe that the sample is broadly representative of the experience of all except the smallest schools.

IV

PROFILES
THE FAN AND THE TV OWNER

The foregoing attendance analyses compared the over-all behavior of groups of football fans inside and outside of television areas, and under varying game and television situations.

As a result of the two national surveys conducted before and after the 1951 season, the personal interviews with cross-sections of fans in Boston and Pittsburgh, telephone surveys in six other cities, and stadium questionnaires received from more than 25,000 spectators at 36 different games, we have collected much evidence on what might be called the composition of the college football market.

It is the purpose of this section of the report to describe the characteristics of football attenders and non-attenders, TV owners and non-owners, and to compare their interests and behavior during the last few seasons.

First, football fans are primarily men rather than women. Men express greater interest in the game and they attend more frequently.

In the national survey, 62% of all persons expressing an interest in college football were men. The stadium questionnaires reveal that 78% of all fans attending the games were men, and in Boston and Pittsburgh, where the samples comprised a randomly selected cross-section of individuals who had attended one or more games during the last four years, about three-fourths of both samples were men, with the men also reporting a higher level of interest than women did. Similar findings are recorded in the six other areas in which fans were interviewed.

As shown in Table 11, which is taken from the national survey, approximately two-thirds of all women in the United States express no interest at all in college football and have never attended a game.

TABLE 11
INTEREST AND ATTENDANCE, BY SEX

(National survey of adult population, September 1951)

	Men	Women
Great interest in college football	29%	9%
Some interest in college football	30	26
No interest in college football	41	65
	100%	100%
Attended college football game in 1950	20%	8%
Attended prior to 1950	35	26
Never attended college football game	45	66
	100%	100%

Football fans are primarily younger people. Persons under 45 express greater interest in the game and they attend more frequently. Two-thirds of all adult persons with at least some interest in college football are under 45 years of age; only one-sixth are 55 or older.

The pattern of attendance is similar. The combined stadium surveys reveal that 58% of the attendance is under 40 years old; in Boston 72% of our sample of "attenders" was under 40, and in Pittsburgh the figure was 66%. In both Boston and Pittsburgh, too, the attenders under 40 expressed greater interest in football.

Table 12 shows interest and attendance data from the national survey, for selected age groups.

TABLE 12
INTEREST AND ATTENDANCE BY AGE

(National survey of adult population, September 1951)

	Interest in College Football			Last College Game Attended		
	Great	Some	None	1950	Prior to 1950	Never
AGE:						
21-24	20%	38	42=100%	21%	25	54=100%
25-34	23%	32	45	20%	35	45
35-44	24%	32	44	17%	32	51
45-54	17%	28	55	12%	32	56
55-64	13%	22	65	5%	31	64
65 and older	10%	13	77	4%	17	79

Evidence gathered from the stadium surveys indicates, too, that *the attendance patterns of older fans are more stable from year to year,* while those of younger fans tend to change as they become older.

Thus, when asked whether the level of their attendance in 1950-51 was greater, less or the same as in 1947-48, fans over 40, at nine of the thirteen stadiums studied, more often reported no change in their attendance. Younger fans, on the other hand, were more likely to report gains or losses from the earlier period, presumably as the result of entering or leaving college, moving to different areas, or acquiring greater family responsibilities.

The higher attendance levels of young people, however, appear to be a function of their greater interest in college football, rather than of age itself. As might be expected, *the degree of interest the person takes in the game strongly affects his attendance.*

On the national survey, no less than 84% of the greatly interested group had attended a college game at some time in their lives, while only 18% of the uninterested had ever attended. In Boston and Pittsburgh, where all our respondents had attended at least one game in the last four years, there were still wide differences in attendance levels, depending on interest. The greatly interested male fans in Boston, for example, attended 3.06 games per season and those in Pittsburgh 2.12; for those with little or no interest, on the other hand, the figures were 1.17 and .82, respectively.

Table 13, based on the Boston and Pittsburgh samples, shows that when the level of interest is controlled, the factor of age itself does not affect attendance. The small differences are not statistically significant and are in opposite directions in the two cities. Older fans who are greatly interested attend as many games as younger fans who are greatly interested. It is just that interest drops off in the older age groups.

TABLE 13
ATTENDANCE BY AGE, WITH INTEREST CONTROLLED

	Average Number of Games Attended Annually, 1947-50	
	Boston	Pittsburgh
Male fans under 40 years of age	2.06	1.43
Male fans 40 years of age or over	1.97	1.51

College football, as might be expected, has a stronger appeal to the small part of the national population which has attended or is attending college.

Table 14 shows interest and attendance among the national cross-section, by educational level. It will be noted that 90% of the college group have, at one time or another, attended a college game, while only 21% of those with only a grammar school education ever attended.

TABLE 14
INTEREST AND ATTENDANCE, BY EDUCATION
(National survey of adult population, September 1951)

	Educational Level		
	College	High School	Grammar School
Great interest in college football	42%	20%	9%
Some interest in college football	36	36	17
No interest in college football	22	44	74
	100%	100%	100%
Attended college football game in 1950	40%	14%	4%
Attended prior to 1950	50	36	17
Never attended college football game	10	50	79
	100%	100%	100%

Further evidence of the effect of education on attendance comes from the post-season national survey in late November, 1951. In this study, 31% of the college-educated respondents reported that they had attended a game during the most recent season, in contrast to only 9% of the high school group and only 3% of the grammar school group.

In both Boston and Pittsburgh, we found that almost 60% of our randomly selected sample of "attenders" had gone to college; in Boston only 1% of these fans were in the grammar school group, in Pittsburgh only 8% did not have at least a high school education.

Since occupation and education are highly correlated, we are not surprised to find that *professional people have the highest interest and attendance levels of any occupational group.* Industrial, service and farm workers report the lowest interest and attendance.

TABLE 15
INTEREST AND ATTENDANCE BY OCCUPATION
(National survey of adult population, September 1951)

	Interest in College Football				Last College Game Attended			
	Great	Some	None		1950	Prior to 1950	Never	
Professional, semi-prof.	34%	35	31	=100%	31%	40	29	=100%
Clerical, sales workers	28%	31	41		26%	34	40	
Proprietors, managers	26%	29	45		20%	40	40	
Operatives, kindred workers	16%	25	59		11%	25	64	
Craftsmen, foremen	15%	37	48		9%	35	56	
Service workers	14%	27	59		7%	28	65	
Non-farm laborers	14%	17	69		1%	17	82	
Farm owner, manager, worker	13%	23	64		8%	24	68	

Table 16 shows the characteristics of the "college football market" by size of place. As indicated by the figures for the farm group in the occupational breakdown, *there are signficantly fewer fans in the rural areas, though interest and attendance are just about as high in the smaller urban places as they are in the largest cities.*

TABLE 16
INTEREST AND ATTENDANCE, BY SIZE OF PLACE
(National survey of adult population, September 1951)

	Interest in College Football				Last College Game Attended			
	Great	Some	None		1950	Prior to 1950	Never	
Large metropolitan areas	22%	29	49	=100%	13%	34	53	=100%
Small metropolitan areas	20%	32	48		17%	33	50	
Towns 2,500-50,000	20%	27	53		15%	29	56	
Rural non-farm	15%	24	61		12%	25	63	
Farm	16%	23	61		13%	24	63	

Finally, it is clear that college football fans are generally found among the upper and middle economic levels in their community.

In Boston and Pittsburgh, only 3-4% of the "attenders" were classified by our interviewers in the lowest economic level, a group which by definition includes the one-third of the families who have the lowest standard of living in any area. In Pittsburgh 50% and in Boston 39% of the "attenders" were found in the upper economic level, which accounts for only one-sixth of the population.

As Table 17 demonstrates, over 70% of the lower economic level, nationally, take no interest at all in college football, and 77% of this group have never attended a game.

TABLE 17

INTEREST AND ATTENDANCE, BY ECONOMIC LEVEL

(National survey of adult population, September 1951)

Economic Level	Percent of Pop.	Interest in College Football			Last College Game Attended		
		Great	Some	None	1950	Prior to 1950	Never
Upper	(16%)	29%	34	37=100%	25%	43	32=100%
Middle	(52%)	20%	32	48	15%	33	52
Lower	(32%)	12%	17	71	6%	17	77

THE TELEVISION OWNER

Though television ownership is growing more universal in TV areas each month, the characteristics of set-owners still differed during the 1951 season from those of non-owners. And *the characteristics of TV owners closely resemble those of college football fans,* in that *they are found more heavily in the upper and middle income groups.* Nationwide, only 9% of the TV owners are found in the lowest economic level, compared with 34% of the non-owners.

TABLE 18

TV OWNERSHIP BY ECONOMIC LEVEL

(National survey of adult population, September 1951)

	Non-Owners	TV Owners
Upper economic level	28%	13%
Middle income level	63	53
Lower economic level	9	34
	100%	100%

TV ownership is also highly correlated with interest in college football. Almost half of the adults in the country who take a great interest in the game own a television set. Among those who take no interest at all in college football, fewer than one-fourth are owners.

TABLE 19

TV OWNERSHIP BY INTEREST IN COLLEGE FOOTBALL

(National survey of adult population, September 1951)

	Percent of TV Owners in Each Group
Great interest in college football	47%
Some interest in college football	39
No interest in college football	24

Again, like football interest and attendance, *TV ownership is related to educational level. The level of ownership is greater for the college and high school groups than for the grammar school group.*

TABLE 20

TV OWNERSHIP BY EDUCATION

(National surveys, September and November 1951)

EDUCATIONAL LEVEL:	Percent of TV Owners* Pre-Season	Post-Season
College	38%	41%
High school	37	44
Grammar school	24	26
Total population	32%	36%

*An independent test of the representativeness of our national cross-section is afforded by NBC data on TV set sales. Their national estimates of TV ownership were within 1% of the above sample estimates at the time of each survey.

The foregoing data on the characteristics of football fans and of TV owners help explain the findings developed in the following section of the report, on the effect of TV ownership on the individual's attendance behavior.

V

EFFECTS OF TV OWNERSHIP

In attempting to ascertain the effects of television through a comparison of TV-owner and non-owner behavior, one must bear in mind not only the differing characteristics of the two groups—in terms of such factors as education, economic level and interest in football—which we have just noted.

A further important consideration is the fact that the influence of TV is not restricted to only those individuals who own television sets. *In areas where television exists, the overwhelming majority even of non-owners report watching TV programs at least occasionally.*

In Table 21 below, it is interesting that in Boston and Pittsburgh, where our sample comprises persons who had attended a college football game during the last four seasons—in contrast to the national survey, which included non-attenders as well—the proportion of non-owners who report at least occasional viewing is markedly higher.

TABLE 21
PER CENT OF NON-OWNERS WHO WATCH TV

	Percent of Non-Owner Group		
	All Adults in TV Areas	Football Attenders in Boston	Pittsburgh
Quite often	15%	18%	22%
Occasionally	59	67	70
Never	26	15	8
	100%	100%	100%

In Pittsburgh particularly, telephone callbacks during the course of the 1951 season revealed that such games as Pitt-Duke and Notre Dame-Michigan State found more than one-fourth of the non-owner fans watching the game in public places or on a friend's TV set. As shown in Table 22, *over one-third of the Boston non-owners in our sample, and over half of the Pittsburgh non-owners managed to watch at least one of the NCAA games during 1951.*

TABLE 22
PER CENT OF "ATTENDERS" VIEWING ONE OR MORE GAMES ON TV

	Boston			Pittsburgh		
	TV Owners	Non-Owners	Total	TV Owners	Non-Owners	Total
1950	76%	39%	66%	82%	65%	75%
1951	69%	34%	58%	79%	57%	73%

The fact that the level of viewing was slightly less in 1951, in spite of the increased sales of TV sets, probably reflects in part the fewer local games which were telecast, as well as the decreased opportunities for the viewer under the NCAA experimental program with its two blacked-out Saturdays.

Though some of these fans watched only one game on TV, much of the viewing is multiple. During the 1950 season, of the fans who watched any games at all on television, approximately 40% in both Boston and Pittsburgh watched four or more.

The influence of television, even on non-owners, is further supported by the results of our stadium surveys, where of all the non-owners, 41% claimed to have watched at least one game on TV during 1951. Even this large figure is probably understated since we could not include the TV-viewing non-owners who did not turn up at the stadiums, and since some of the stadium surveys were conducted while the season was still fairly young, with the big games coming up.

The magnitude of these figures, reflecting the relative ease with which a non-owner can gain access to a TV set and watch a televised football game, points up the difficulty in establishing significant differences in attendance trends among

owners and non-owners—in spite of the obvious adverse effects of television which are demonstrated consistently in the college attendance data.

The magnitude of non-owner TV-viewing takes on further importance when we consider the relatively few games attended by the average fan each year. Though there is a hard core of season ticket buyers, students and other faithful attenders, the average person who follows college football attends infrequently. The average 1951 attendance of our past attenders in Boston and Pittsburgh, for example, was less than one game per fan, and even in pre-television years in cities which had strong teams, the average fan would attend no more than two or three games a season.

If non-owners can partially satisfy their football interest by watching a few games on television during the season, even a reduction of one game in their annual attendance on this account would make it extremely difficult, from a survey point of view, to establish any significant differences from the behavior of TV owners.

It might be noted that the difficulty of obtaining reliable reports of pre-ownership behavior after a period of time has elapsed, and the large number of interviews that are required if the data are to be properly analyzed, are further limitations in the personal interview approach to the demonstration of statistically significant differences.

THE BOSTON-PITTSBURGH DATA

Our best opportunity of making controlled comparisons, however, lies in the Boston-Pittsburgh data. Here we have representative cross-sections of the football audience and a wealth of material, recorded during the detailed pre-season personal interviews, on most of the relevant variables.

In both cities, using an aided-recall method of questioning, we attempted to get a complete history of each fan's attendance during the years 1947-50, a measure of his interest in football, and in the case of TV owners the date of their purchase of a set.

Table 23 shows the average number of college games attended per year for male TV owners and non-owners in Boston and Pittsburgh, with age and interest in football controlled.* No significant difference is found in Boston, but *in Pittsburgh the TV owners do report a definitely lower attendance, in spite of the factors mentioned earlier which tend to obscure such comparisons.*

TABLE 23

EFFECT OF TV OWNERSHIP IN BOSTON AND PITTSBURGH WHEN AGE AND INTEREST ARE CONTROLLED

MALE ATTENDERS WHO ARE:	Average Annual Attendance, 1947-50	
	Boston*	Pittsburgh*
**TV owners	1.98	1.32
Non-owners	2.03	1.62

*The Boston difference could be a random sampling variation and has no statistical significance. The Pittsburgh difference is significant at the 5% level.

**TV owners were classified according to the time they bought their set. A fan who became a TV owner in the Fall of 1950 was classified as a non-owner in 1947-49 and as an owner in 1950.

Table 24 on the next page reveals the interaction of TV ownership and interest in college football on attendance behavior. In both Boston and Pittsburgh, no significant differences occur among the greatly interested group. Fans with a great deal of interest in the game appear to attend just about as often, whether or not they own a TV set.

But in the lower two interest groups in Pittsburgh, and in the lowest interest group in Boston, the non-owner "attenders" report a significantly higher attendance. It appears, then, that *it is among the marginally interested football audience that TV ownership has its greatest depressing effect on attendance.*

As we implied earlier, however, in remarking on the low attendance of the average football fan, *these marginally interested groups represent a substantial part of the audience at most stadiums.*

*Detailed analysis of TV effects on football fans is restricted to male attenders, because fewer than ten cases are found in many classifications when the women are grouped according to age, interest and television ownership.

TABLE 24

AVERAGE ANNUAL ATTENDANCE IN BOSTON AND PITTSBURGH, 1947-50, BY INTEREST AND TV OWNERSHIP

	Boston Attenders Whose Interest Is			Pittsburgh Attenders Whose Interest Is		
	Very Great	Quite a Bit	or None Little	Very Great	Quite a Bit	Little or None
TV owners	3.09	1.87	1.02	2.04	1.33	.58
Non-owners	3.02	1.75	1.32	2.22	1.60	1.05
Difference	.07	.12	.30*	.18	.27*	.47*

*Differences marked with (*) are significant at the 5% level of confidence. Unmarked differences could be due to sampling fluctuations.

On all our stadium surveys combined, 43% of the total audience expressed only "some" or "little or no" interest in college football. On our pre-season national survey, 36% of those who had attended a game during 1950 said they did not take a great interest in the game.

Analysis of the interaction of TV ownership and age, with interest in football held constant, indicates that *the attendance of younger fans, under 40, is more seriously affected.* This is consistent with an earlier finding that the attendance patterns of older fans tend to be more stable, less subject to other considerations.

No significant differences were found in either city among TV owners and non-owners in the "40 and over" group. But in Pittsburgh the younger TV owners attend significantly less frequently, and in Boston the difference is just short of statistical demonstration.

TABLE 25

AVERAGE ANNUAL ATTENDANCE IN BOSTON AND PITTSBURGH, 1947-50, BY TV OWNERSHIP AND AGE

	Boston		Pittsburgh	
	Aged		Aged	
	Under 40	40-up	Under 40	40-up
TV owners	1.98	2.01	1.21	1.42
Non-owners	2.14	1.93	1.66	1.59
Difference	.16	.08	.45*	.17

*Difference is statistically significant (5% level).

The foregoing analyses are based on total average attendance during the four seasons, 1947 to 1950. In 1951 college football attendance in both Boston and Pittsburgh was considerably below the average for the preceding years, so that the attendance differences between TV owners and non-owners were necessarily very small and below the level of statistical significance.

For the same reason, our *analysis of attendance variations among TV owners, according to the length of time they had owned their set, failed to turn up any marked or consistent differences in the two cities.* Thorough study of the Boston-Pittsburgh fans' behavior during the earlier years 1947-50, and of the results of all our stadium surveys, also failed to show any conclusive differences between older, as compared with more recent, TV owners.

All of the differences observed in Table 26 below could be due to random sampling variations.

TABLE 26

AVERAGE NUMBER OF 1951 GAMES ATTENDED, BOSTON AND PITTSBURGH

	Boston	Pittsburgh
TV owners	.80	.71
Non-owners	.82	.79
TV owners, less than 2 years	.76	.72
TV owners, 2 years or more	.84	.67

NATIONAL SURVEY RESULTS

In our post-season national survey, all persons who expressed some interest in college football were asked to list the games they had attended during 1951, and in television areas they were shown a card and asked to check those games which they happened to watch on TV.

Again, the number of attendances was so small, on the average, that the differences which were found do not approach the level of statistical confidence. The direction of these differences, however, is interesting to observe, for they tend to match the pattern found in our analysis of the college attendance data.

During the nine-week football season from September 29 to November 24, 1951, in areas where there was no television competition, an average of 5.3% of all fans attended a game in any given week. In television areas, by contrast, only 3.3% of the fans attended in the average week.

On blackout days in the television areas, 5.5% of the fans attended a game, but when a game was available on TV, only 2.5% appeared at the stadium. Had our national sample been larger, such differences could have been accepted with complete confidence, but as it is, they must be viewed as suggestive rather than conclusive.

The same problem of too few cases because of the small average attendance confounds us in comparing the attendance of TV owners and non-owners, on the basis of the post-season national survey. The differences again are interesting in their direction, but they could be due to chance sampling variations.

When the TV areas were blacked out, an average of 4.7% of the TV-owner fans came to games. When games were available on television, only 2.3% of the TV-owner fans actually attended. Among non-owners, the comparable figures were 3.7% during blackouts and 2.9% when televised football was available.

Table 27 summarizes the typical Saturday afternoon activity of football fans during the 1951 season. The national survey results are based on all persons in TV areas expressing a great deal or some interest in college football; the Boston and Pittsburgh totals represent our sample of past "attenders".

TABLE 27
1951 SATURDAY AFTERNOON ACTIVITY OF FOOTBALL FANS

	National Survey	Boston	Pittsburgh
Attended college game	4%	7%	8%
Watched college game on TV	16	16	30
Listened to college game on radio	80	17	20
Did something else	80	60	42
	100%	100%	100%

It is to be noted that the great majority of fans neither attend *nor* watch a college game on TV on the average Saturday, although in Pittsburgh TV and radio combined account for half of the fan population. Unfortunately, no figures on radio listenings are available from the national survey.

STADIUM SURVEY RESULTS

The stadium surveys also presented many technical problems which made very difficult any analysis of the effects of TV ownership on attendance. Aside from the difficulty of getting a representative sample of returns and accurate statements of past attendance from these self-administered questionnaires, what differences we did find between TV owners and non-owners proved small and not statistically significant.

The proportion of TV owners in attendance at the stadiums was generally about equal to the proportion of TV owners in the area, and was about the same during blackouts as it was when a game was being televised. Since these surveys were conducted primarily at large colleges, where gate sales are not significant, this finding confirms the attendance analyses reported in Section II on "blackout effects".

At a number of colleges, however, more non-owners than owners reported a declining attendance during 1950-51 as compared with 1947-48. Such a result is in a direction opposite from the expected, in view of what we know about TV effects, but a more refined analysis of the two groups of stadium fans helps explain the tendency.

TV owners *attending* the games report greater interest in football, are generally older and are less often college alumni than the non-owners which attend. Since all of these characteristics would operate to reduce attendance losses among the TV owners, and their opposites (lower interest, younger age, alumni status) would tend to increase the rate of loss among non-owners, the observed differences are not likely to be caused by television ownership.

VI

FACTORS UNDERLYING ATTENDANCE DECISIONS

From the personal interviews conducted with cross-sections of football "attenders" in Boston and Pittsburgh, we have amassed a considerable body of information on the factors underlying attendance decisions and on the nature of interest in football.

Both the relatively small number of cases (511 in Boston and 331 in Pittsburgh) and the priority of the college attendance data analysis deterred us from completing an exhaustive mining of these materials, but even the over-all findings shed useful light on the reasons which impel fans to act as they do.

It should of course be emphasized that what is true of the Boston and Pittsburgh football audience is not necessarily true in smaller cities or in other parts of the country; but it is probable that in many areas of concern the Boston and Pittsburgh fan adequately represents his brothers elsewhere.

TIME OF TICKET PURCHASE

In connection with our study of "blackout effects" during 1951, we noticed that almost three-fourths of the decisions to attend a game are made considerably in advance and that 95% of the fans go to a game in the company of other people.

Mixed couples (husband-wife, boy friend-date), either alone or in parties, account for roughly one-third of the attendances in both Boston and Pittsburgh, while family groups (father-son, parents-children) account for another 20%. The remainder of approximately 40% in both areas is made up of pairs or groups of the same sex, generally men.

In both cities, the most frequently mentioned reason for buying tickets in advance was the assurance of a good seat location, while the reason next most often given was fear of a sell-out. These two reasons account for 73% of the decisions to buy in advance in Boston and for 54% of such decisions in Pittsburgh.

Other reasons offered for advance purchases were the receipt of advance ticket applications from alumni groups, fraternities or other college sources; the routine purchase of a season ticket, and the desire to get adjacent seats for a large party.

The much smaller group who bought their tickets at the gate most often explained that they decided to go only at the last minute or that they could not be sure in advance that they would be able to attend. Fifty-six percent of the Boston group and 63% of the Pittsburgh fans gave these reasons.

Twenty-five percent of the day-of-game purchasers in Boston and 12% in Pittsburgh remarked that good seats were almost always available, few games sold out and there was no reason to buy in advance. Only 8% in Boston and 13% in Pittsburgh mentioned fear of bad weather as a deterrent to advance purchase.

TRAVEL ATTENDANCE

In Boston and Pittsburgh college football attendance among the fan population is overwhelmingly local. Ninety-two percent of the attendances of the Boston area fans are at local stadiums; only 8% are out of town. In Pittsburgh, the comparable figures are 87% and 13%.

This very high concentration on local games is probably a function of the size of these two metropolitan areas, the local teams available to them and the distance to other football centers. In smaller communities with no local teams, travel would be mandatory for the fan, and reports from college athletic directors, particularly in the South, Midwest and Southwest, indicate that attendance from adjacent and distant areas often forms an important part of the total.

Information gathered at the stadium surveys in these regions supports the latter conclusion. About one-third of the attendance at Maryland U. games came from outside the local TV area, while over half the fans attending Cornell, Minnesota and Michigan U. games lived outside the local TV areas.

It should be noted, of course, that the proportion of non-local attenders found in any stadium will generally far exceed the proportion of football fans of any large city who travel to the games. Thus, at any given game, visitors will be found from among the home-town supporters of the opposing team, from alumni coming from scattered areas and from the fans in surrounding areas who have no alternative games. But in any given large city, the great majority of fans will confine their attendance to local games.

INTEREST IN FOOTBALL

We have already noted in our "profile of the fan" in Section IV that football attendance is very highly correlated with interest in the game, and the Boston-Pittsburgh findings confirm the point. About three-fourths of our randomly selected sample of past "attenders" say they take a considerable or great interest in college football; only about one-fourth were "accidental attenders" who have little concern with the sport.

Furthermore, the football fan generally lives, works and associates with people who, like him-

self, take an interest in the game. In both cities the majority of fans say that other members of their household are also interested in college football and three-fourths of them tell us that "quite a number" of their friends and associates are interested. Over one-third in both areas say that "practically all" of their friends take an interest in the game.

The social aspects of football interest are also indicated in other parts of these interviews: in Boston, for example, 25% of those who report a loss of interest in the game explain that their friends are no longer interested; in both cities, about one-fourth of those who were uncertain at the beginning of the 1951 season whether they would attend any games explained their indecision in terms of other people: "If I'm invited," "If I can get someone to go with me."

When asked how they first became interested in college football, only one "attender" in 100 mentioned television viewing as the reason. Most fans played football as a kid (38%), followed their high school team (16%) or became interested while in college (15% in Pittsburgh, 8% in Boston). An additional 15% explain that they became interested through relatives (usually father or brother), and the remainder just happened to be taken to a game at some time or other and thus began to follow the sport.

Reasons for loss of interest, among those reporting a decline, generally refer to advancing age and changing circumstances: they left college, got married, acquired family responsibilities, lost touch with their old friends, became engrossed in their business or profession. Fourteen percent of this group in Boston and 25% in Pittsburgh, however, list the disappointing performance of their favorite team as the reason for their loss of interest in the game.

INTEREST IN OTHER SPORTS

The interest of college football fans often extends also to high school and professional football. More than two-thirds of the Boston and Pittsburgh college fans have attended a high school game during the last four seasons, and in Pittsburgh 65% have bought tickets to watch the "pro" team. Even in Boston, where there has been no professional league team for the past several seasons, 29% of our fans attended at least one "pro" game in the years 1947-50.

Active interest in non-college football is much more limited, however, with more than half the fans expressing little interest in the following high school games, and 80% in Boston and 43% in Pittsburgh stating that they now have little interest in the professional teams.

But beyond football, the great majority of college football fans are interested in other sports as well. Fan activity will vary, of course, according to the season of the year and the type of community he lives in, but the weekly telephone checks with our Boston and Pittsburgh respondents leave no doubt as to their sports interest.

In Pittsburgh, on no single Saturday afternoon, were fewer than 57% of the fans watching, listening to or attending a sports event; in Boston the average figure approximated 40%.

On the World Series Saturday in Pittsburgh, 51% of the college football fans were either watching this event on TV or listening to it on the radio; 26% were watching the Illinois-Wisconsin game on TV and 13% were listening to college football on the radio; 2% attended a college football game out of town (there were no local college or high school games that Saturday).

Eighteen percent were working, and of the 82% who were not, only 13% were not watching, listening to, or attending a sports event. Since the percentages on most weeks add to more than 100, it is apparent that many of these fans switch their radio and TV sets from game to game, or perhaps listen to one game while they are on their way home from another.

Table 28 further documents this generalized sports interest. It will be seen that more than three-fourths of the college football fans in both Boston and Pittsburgh bought tickets to at least one other type of sports event *during the last year.*

TABLE 28
OTHER SPORTS ACTIVITIES OF COLLEGE FOOTBALL FANS

	Percent Who Bought a Ticket During 1950-51	
	Boston	Pittsburgh
College football only	19%	23%
Other sports as well	81	77
Baseball	64%	65%
Hockey	32	21
Basketball	23	23
Boxing	10	13
Other	16	17

WHY FANS GO TO GAMES

To get at the reasons for specific game attendance, all fans in the Boston and Pittsburgh samples were asked why they attended the last game they saw. About three out of ten explained that they had been invited to go, that friends had tickets, or that a whole group was going—another indication of the "social interest" attached to college football.

Table 29 lists the reasons offered. It is perhaps noteworthy that approximately 10% of the decisions were influenced by a particular player in the game—sometimes a friend or relative, sometimes a local or visiting star.

TABLE 29
REASONS FOR GOING TO LAST GAME ATTENDED

	Boston	Pittsburgh
Invited to go, friend had tickets, with a party	30%	30%
Go as often as can, try to see all team's games	24	23
Traditional game, always try to make that one	23	8
Had the time, only game in town, felt like going	14	10
Knew one of players, interested in particular player	9	11
Big team, favorite team was in town	4	13
Other reasons	22	19
Some people gave more than one reason	126%	114%

Additional evidence on the nature of fans' attendance decisions comes from the pre-season question put to our Boston and Pittsburgh samples: "Do you plan to attend any college football games during this 1951 season?" Fifty-five percent of the Boston group and 60% in Pittsburgh expressed a positive intention, while about 20% in both cities were uncertain, and the remaining 20% did not plan to attend any games.

On the basis of the weekly telephone checks with these same people throughout the season, we find that only about half of those who planned to go actually did attend a game in 1951; the other half did not carry out their plans. Partly offsetting this loss was the finding that approximately 20% of the uncertain or negative group actually did report attendance at one or more games during the season.

Those who planned to attend reported a much higher level of attendance in previous years than those who did not plan to attend or who were uncertain; but among the intenders, those who actually bought tickets and those who failed to do so had about the same average attendance in the past. These findings were also analyzed in terms of television ownership, but both TV owners and non-owners proved to be equally consistent or inconsistent in the relationship of their actual behavior to their pre-season intentions.

Clues as to the reasons that so many intentions failed to evolve into ticket purchases may be found in the replies of our respondents to such questions as "Why do you plan to attend?", "Why don't you plan to attend?" and "Why have you been attending fewer games in recent years?"

Reasons for planning to attend the games they mentioned almost always referred to special interest in certain colleges or teams. Almost half of the Boston fans, for example, were either alumni or had friends or relatives who were alumni or students, or knew one or more of the players personally. An additional 24% had no connection with the university but explained that they always followed that team, and 21% expressed particular interest in the outcome of the game they planned to attend; 13% merely said they "always" went to those games and would do so again this year.

Many respondents gave two or more reasons for their intention, so that these figures cannot be totaled as if they were each volunteered by a different person. But it is clear that almost all of the reasons given are in terms of a very special interest in a particular college or game, and that very few represent merely a generalized intention to watch some college football.

This fact is underscored by an analysis of the past attendance history of the Boston and Pittsburgh fans. Excluding the minority in each sample which had attended only one game in the four years 1947-50, we find that almost half of the Boston fans and more than half of the Pittsburgh fans restricted their entire attendance to the games of only one college. Approximately four-fifths of the fans in both cities reported two-thirds or more of their attendance concentrated in the games of only one college.

This specialized interest in particular teams and games, and the difficulty of traveling to other cities or "shopping around" for a good game, help explain the very large effects we noticed earlier of team performance and game attractiveness on college football attendance. If the favorite team has a bad year or plays an unattractive schedule, the fan tends to reduce his

attendance rather than to attend elsewhere, and it is this factor which certainly accounts in a large part for the severe attendance declines in Boston and Pittsburgh in recent years.

Among those fans who said they did not plan to attend a college game in 1951 (23% of all past attenders in Boston and 21% in Pittsburgh), the factor of disappointing teams or unattractive schedule was not often volunteered as a specific reason, although it may be reflected in such other reasons as "Busy with other things", "Lost interest lately", etc. Table 30 presents the reasons given for not planning to attend during 1951.

TABLE 30
REASONS FOR NOT PLANNING TO ATTEND DURING 1951 SEASON

	Boston	Pittsburgh
Working at time, busy on job	32%	20%
No time, can't plan ahead, busy with other things	21	20
Lost interest lately, no longer interested	16	20
Costs too much, can't afford it	18	16
Poor local team, no interest in local teams	14	17
Prefer television, will watch TV instead	10	10
Prefer high school games, attend them instead	6	3
Prefer professional games, attend them instead	—	5
Other reasons	13	19
Some people gave more than one reason	130%	130%

It will be noted that 10% of both groups (the figure is 15% among television owners) spontaneously mentioned television effect. The full TV effect is probably much greater than this finding would indicate, since television can partially satisfy the marginal interest of persons who are busy with other things or who have a declining interest in the game.

The interaction of financial considerations with television is also possible. One can speculate that a fan in a TV area who finds college football attendance a luxury and who can watch a game on television is less likely to buy a ticket than one who has no access to TV and can only satisfy interest by appearing at the stadium.

The reasons given by those fans who were uncertain about their 1951 attendance support two observations we have made earlier: the "social aspect" of college football attendance and the attractiveness of the games. "If I'm invited, if I can get company" and "Depends on the teams, how the season shapes up" were the two reasons volunteered more often than any other. The third most frequent reason was "Depends on my work schedule, if I can get a free Saturday."

Finally, we have the reasons offered by the infrequent attenders for their failure to attend as many as two games a year during 1949 and 1950. These answers parallel those presented in Table 30: they are working at the time the games are played, they find the expense too great, they are busy with family responsibilities, they complain about the poor local teams, or they say they have "outgrown" the sport and lost their former interest.

TELEVISION VIEWING BEHAVIOR

Football fans, like other TV owners (and perhaps more so) spend a great deal of time watching their sets. Sixty-eight percent of the Boston fans and 60% of the Pittsburgh group reported television ownership, and as a measure of their normal viewing habits outside of the football season, they were asked in the pre-season interview to tell us at what hours they were watching TV programs during the weekend of September 14-16, 1951.

It will be noted from Table 31 that all but 13% of the Boston group and all but 7% in Pittsburgh spent at least some time watching TV during the Friday night-to-Sunday period. Saturday afternoon viewing was relatively low on this pre-season weekend, and the peak of viewing appears to have occurred Saturday night and Sunday.

TABLE 31

PRE-SEASON WEEKEND VIEWING BY TELEVISION OWNERS

NUMBER OF HOURS:	Friday Night		Saturday Afternoon		Total Weekend	
	Bos.	Pgh.	Bos.	Pgh.	Bos.	Pgh.
None	57%	45%	75%	56%	13%	7%
2 hours or less	20	16	10	19	10	8
Over 2 to 4 hours	19	27	14	22	14	12
Over 4 to 6 hours	4	12	1	3	14	13
Over 6 to 8 hours	—	—	—	—	13	12
Over 8 to 10 hours	—	—	—	—	10	12
Over 10 hours	—	—	—	—	26	36
	100%	100%	100%	100%	100%	100%

It will be remembered that although 55-60% of the Boston-Pittsburgh fans expressed a pre-season intention to attend a college game during 1951, only about half of these intentions materialized. Comparable data on television-viewing intentions reveal a much greater stability.

Sixty-two percent of the Boston fans and 74% of those in Pittsburgh told us in September that they expected to watch at least one game on television during 1951, and as we noted in Table 22, the proportions actually watching one or more games were 58% and 73%.

It is particularly striking, however, that whereas for all fans, and for TV owners as a group, actual TV-viewing of college football games did not quite meet pre-season expectations, the *reported TV-viewing among non-owners equalled or even surpassed their intentions.*

In Boston 34% of the non-owning fans told us in September that they expected to watch at least one game on television, and at the end of the season, exactly 34% of the group had done so. In Pittsburgh no fewer than 52% of the non-owners expressed an intention to watch one or more games, and when the season was over, 57% of them had actually done so.

A further sidelight on television habits is the fact that, like actual attendance, the viewing of football games on TV is almost always done in company with other people. We have no data for 1951, but during the 1950 season, only 18% of the Boston viewers and 8% of those in Pittsburgh said they were by themselves when they watched the games on television. In many cases the viewing groups formed small parties.

Finally, we may note that our college football fans like to watch other sports on TV, just as we have already noted that they frequently buy tickets to other sports events. Only about one in eight, in both Boston and Pittsburgh, restricts his sports-viewing to football. Over 60% follow baseball on TV; and in Boston 50% and in Pittsburgh 32% mention boxing.

Table 32 below shows the proportion of ticket-buyers to each of various types of sports events from September 1950 to September 1951, and the proportion who say they "enjoy watching" the same sports on television. Bearing in mind that these are samples of college football attenders, the relationship between "Purchasers" and "Viewers", especially in the cases of boxing and hockey, is interesting.

TABLE 32

PROPORTION OF TICKET-PURCHASERS IN PAST YEAR, AS COMPARED WITH PROPORTION WHO "ENJOY WATCHING" VARIOUS SPORTS ON TELEVISION

Sample of All College Football Attenders in Boston and Pittsburgh

	Boston		Pittsburgh	
	Purchasers	Viewers	Purchasers	Viewers
College football	63%	66%	53%	75%
Baseball	64	62	65	61
Basketball	23	15	23	42
Hockey	32	14	14	9
Boxing	10	50	13	32

VII

PUBLIC ATTITUDES TOWARD THE NCAA PLAN

The NCAA's 1951 experimental television plan endeavored to provide TV areas with a variety of test situations in which differences in actual attendance could be observed. The four major situations were (a) a complete blackout of the area, (b) the telecasting of a local game, (c) the telecasting of a non-local game from the same geographical region, and (d) the telecasting of a game from a distant region.

An implicit assumption underlying the whole research design was that fan decisions to attend or not to attend particular games would be made with some knowledge of the TV situation and schedule in mind. In order to test this assumption, a cross-section of fans (all people who said they took some interest in college football) were questioned in our post-season national survey regarding their knowledge of, and attitudes toward, "the NCAA college football television plan this season."

The results of the survey revealed widespread ignorance and misunderstanding. No less than two-thirds of all fans in television areas were completely unaware of the program and told interviewers they had never heard of it. Even among TV owners only 40% had heard or read anything about the plan.

It may be, of course, that some of those who answered "No" had some knowledge that the telecasting of college football had been restricted, but did not connect this circumstance with "the NCAA college football television plan." Yet one would expect that at the end of the season people in TV areas who took some interest in football would report at least some familiarity with the plan.

Even among those who did claim at least an awareness of the plan, the majority were very poorly informed about it. One-third of those who said they had heard or read something turned out to have no knowledge at all. When asked what the plan was or how it worked, they answered, "I don't know. I just saw something about it in the paper and didn't pay any attention."

Almost half of those who claimed awareness revealed misconceptions of the plan. Twenty-two percent of them thought its only purpose was to protect local games (somewhat in the manner of boxing or professional football blackouts); 15% thought the NCAA had tried to enforce a total ban on telecasting, and 7% had miscellaneous ideas of an erroneous nature.

Actually, fewer than one-fourth of those who claimed some knowledge of the plan, and only about 7% of the fan population in TV areas may be said to have been properly informed. TV owners were slightly better informed than non-owners, but only 12% of them had correct knowledge.

Perhaps largely as a consequence of the misconceptions of the plan, the majority of those who held opinions about it were unfavorable. The main reason for opposing the plan was the view that TV owners have a right to see the games on their screens and that they were being arbitrarily deprived of them.

About one-third of the critics said: "The games are in the public interest. People bought their sets in expectation of watching them. It isn't fair not to show them." This point was made more frequently by TV-owners than by non-owners.

Non-owners placed more emphasis on the fact that the plan deprived shut-ins and others who would not be able to attend from the satisfaction of seeing the game. About one-fourth of the critics claimed that television doesn't hurt attendance at all and that consequently there was no need for any restrictions, while about one-sixth complained that the plan was a monopolistic device adopted for commercial purposes.

Yet there seems to have been no widespread feeling of deprivation on the part of TV-owner fans. When asked: "Were there any particular games you wanted to watch on TV this year, which were not shown?", 60% of the TV owners answered "No."

It is interesting that the 40% who did mention a game they felt deprived of named, in the majority of cases, games that they presumably could have attended. Only 28% of these fans mentioned games played in other parts of the

country outside their geographical region; 27% mentioned only local games, 13% mentioned both local and regional games, and 32% mentioned only regional games.

It is clear that the absence of widespread and accurate information about the 1951 telecasting schedule obscured many of our findings regarding the effects of blackouts and of the telecasting of distant-vs.-regional games.

Football fans in most cases seem to have gone about making their decisions in the usual way, on the assumption that if they did not attend, there would be some game available on television. It is noteworthy that the newspaper and public complaints about the NCAA plan which arose in Washington, Detroit and Louisville did not arise when the schedule was first announced, but only during the week immediately preceding the game, when most attendance decisions had already been made.

While most fans were unaware of the specific games which would be telecast under the NCAA schedule, they undoubtedly did know that very few of the local games would be shown on TV this year. It was this drastic reduction in the number of local telecasts which was primarily responsible for the success of the 1951 Experimental Plan in boosting attendance in TV areas and narrowing the "TV differential."

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THE EFFECTS OF TELEVISION ON COLLEGE FOOTBALL ATTENDANCE

Appendices

Prepared for the

National Collegiate Athletic Association

by the

National Opinion Research Center
University of Chicago

April 22, 1952

APPENDIX A

College Football Attendance

I. INTRODUCTION.

In our first report to the NCAA Television Committee, in which previous research in this area was evaluated, it was recognized that "In order to assess the effects of television on college football attendance, a prime necessity is complete, accurate and comparable data on actual attendance."

Only in a systematic "nose count" of actual fan attendance is it possible to measure overall trends which are free from the defects and personal biases involved in fan interview and mail surveys. It was decided, therefore, at the very outset of this study to place primary reliance upon game attendance reports for securing statistical measures of television effects and to use fan interview techniques principally to gather information on personal characteristics and reasons for attendance behavior patterns.

While analysis of attendance figures undoubtedly offers the best device for measuring significant TV differences, there are some limitations in this method which should be recognized. In the first place, some of the smaller colleges and even a few of the larger ones maintain incomplete records of total ticket sales. Furthermore, a number of colleges which did not maintain detailed records for all years had to approximate the volume of free admissions and other attendance breakdowns. Recognizing this problem, however, every effort was made to minimize reporting errors by intensive review of all attendance data. Every game report was scrutinized and all marked changes in attendance levels were questioned by NORC staff and verified by the colleges before the report was tabulated. In addition, at the end of the season a summary of all game attendance totals was sent to each college for final review and verification.

The second obvious deficiency in a variance analysis of attendance reports is the inability to measure or control differences in personal characteristics of attending fans -- the ownership of a TV set, the length of such ownership and the availability of TV to non-owners, the age, sex, economic and other differences, etc. -- as well as the reasons behind different attendance decisions. These factors, of course, are treated in our fan interview surveys.

A final limitation involves the universal problem of securing a sufficient number of games played under similar conditions to permit statistical comparisons. While there are probably any number of different game variables which ideally should be controlled, the fact that only about 1200 NCAA college games were scheduled for the entire 1951 season placed an absolute limit on the possible number of sub-classifications. Nevertheless, as the attached college attendance questionnaire indicates on Page23, it was possible to collect information on most of the important attendance conditions.

It was possible, for example, to classify attendance according to the following factors:

1. Paid and free admissions.
2. Types of tickets sold -- gate, season and other advance sales.
3. Size of college.
4. Location of college -- regional differences as well as availability of TV competition.
5. Extent of TV ownership in the area.
6. Types of TV competition available in accordance with the NCAA experimental plan.
7. Differences in local interest and attendance at college games.
8. Relative attractiveness of games.
9. Favorable and unfavorable weather.
10. Extent of radio broadcasting of games.
11. Trends in student enrollment.
12. Special "commercial" bowl games as compared to regular college competition.

II. GENERAL PROCEDURES.

a. Pre-season Questionnaire.

During the first week of September 1951, a pre-season questionnaire was sent to each of the 269 football-playing NCAA member colleges, introducing the 1951 attendance reporting program, and requesting the following information:

1. An up-to-date schedule of 1951 home games.
2. A check-list of games to be broadcast or telecast.
3. A description of any known special factors influencing attendance at each game, including special promotional arrangements such as pre-game plugs on radio and TV, post-game films, homecoming, etc.
4. A statement of normal stadium capacity.
5. A listing of the nearby cities or towns usually considered part of the college "football market".
6. A statement concerning the relative importance of student, alumni and general public ticket sales.
7. A pre-season forecast of attendance at each of the 1951 home games.

Returns which were received from 227 colleges provided valuable information for determining the analysis classifications described in Section III of this appendix.

b. Game Attendance Reports.

Every Friday preceding a scheduled home game, a separate attendance questionnaire was sent to each home team. This questionnaire, No. 311-F, was in the form of a special self-addressed and stamped business reply envelope which required very little handling. The ease with which the report could be completed and mailed greatly reduced "non-response".

After two weeks, if the game report was not returned, a special follow-up request was sent with each additional new home game questionnaire, until a reply was received. If, in the course of staff review for consistency and completeness, a game report was considered questionable in any respect, a special "correction memo" was sent to the college to verify the results. At the end of the season, prior to tabulation, a memorandum was sent to all colleges summarizing the data which had been submitted on a week-to-week basis. Colleges were requested to complete missing items and to check the reported figures. These painstaking efforts were responsible for a number of important changes in reported information.

And finally, a telegraphic request was sent to all major colleges and most minor ones which still had missing or incomplete schedules. Due to this intensive follow-up, almost 90% of the 1,204 scheduled games were properly reported and were used in our attendance analysis. An analysis of the 10% "non-response" revealed no particular bias by type of area or TV competition. Table 1 shows a comparison of scheduled and completed game reports for colleges of all sizes, with and without TV competition.

TABLE 1

Scheduled and Completed Game Reports, 1951

	Games Scheduled	Complete Game Reports	Incomplete or Missing Game Reports
Large Colleges. . .	365	328	37
With TV	250	226	24
No TV	115	102	13
Medium Colleges . .	307	265	42
With TV	164	144	20
No TV	143	121	22
Small Colleges. . .	532	456	76
With TV	295	259	36
No TV	237	197	40
Total With TV . . .	709	629	80
Total With No TV. .	495	420	75
Total All Colleges.	1204	1049	155

In terms of college participation, Table 2 indicates the number of cooperating colleges submitting complete reports.

TABLE 2

NCAA Football-Playing Colleges	Extent of College Participation in 1951 Attendance Analysis: Total	Colleges With TV	Colleges With No TV
Total.	269	158	111
Number participating	239	142	97
Number not participating	30	16	14

III. CLASSIFICATION OF GAME VARIABLES.

1. Paid and Free Admissions.

Since the major objective of this study was to determine the impact of TV on attendance decisions, it was felt that free admissions should be excluded -- as failing to provide a bona fide test of equal alternatives.

Consequently, all colleges were requested to report only paid admissions in 1951, and to indicate the number of free admissions previously reported in the base years of 1947-1948, so that comparable trends could be computed. Limiting attendance data to actual ticket sales also provided more accurate information, since some records are generally kept of paid admissions for Federal tax purposes.

2. Types of Tickets Sold.

For all 1951 home games, a separate breakdown was requested for season tickets and other advance ticket sales and for gate sales on the day of the game. This information was useful in indicating both the relative number of "regular" fans (season tickets), and the time that most of the attendance decisions were made. The gate sales figures, as described later in the appendix, were used to adjust for losses in attendance during unfavorable weather conditions.

3. Size.

The range in football game attendance varies from almost 100,000 to only a few hundred per game. Obviously these two types of games are composed of entirely different classes of fans and must be separately analyzed. The question of how many different size classifications and where to fix the cut-off limits, however, is a more difficult one to answer. Ideally, it would be desirable to have a large number of size groupings to maintain small homogeneous class intervals, but considering the problems of securing enough games in each of the smallest sub-groups, it was decided empirically to divide all colleges into only three groups. From the frequency distribution of the pre-television 1947-1948 average college game attendance, it was found that the use of the following class intervals provided a fairly even distribution of colleges.

TABLE 3

Size	Average Base Attendance Per Game	Number of NCAA Football-Playing Colleges -- By Size of Pre-Television Average Attendance: TV Areas	No TV Areas	Total
Large	15,000 or more	42	27	69
Medium	5,000 - 14,999	43	33	76
Small	Under 5,000	73	51	124
	Total	158	111	269

4. Location of College.

In order to permit regional comparisons and to analyze attendance trends of colleges located in areas with and without TV competition, it was necessary to define the primary "football markets" for each college. In the first place, all colleges were grouped into the eight NCAA regional districts.

Generally, colleges compete with other colleges located within the same geographical area. In a few instances, however, a college plays primarily teams located in an adjoining NCAA district. For example, while Navy is located in Maryland, which is part of the southern NCAA District #3, many of its rivals are in the eastern District #2. Since our findings indicate that fans of a particular team generally also follow the performance of rival teams which play in the same league, and since one of the experimental questions was the relative competitive effect of telecasting nearby regional teams vs. distant interregional games, it was decided to classify each college in terms of the NCAA District of its most usual rivals.

In deciding whether or not a college was subject to TV competition, it was also necessary to decide upon the location of most of the colleges' football fans, and whether these fans could readily receive TV programs in their homes. In most instances, where a college is located within a TV reception area, as defined by the NBC in their "Market Data" book, it was assumed that the bulk of the fans also lived within the TV area and that its attendance was subject to TV competition. In a number of instances, however, while the college campus is just outside the range of TV, the bulk of the fans expected to attend games do reside within an area of good TV reception. Where the athletic directors confirmed this fact on the preseason questionnaire, the college was classified as within a TV area. Where there was a doubt as to the proper grouping, a special letter was sent to the college inquiring whether "a significant number of fans who generally attend (the local college) games come from nearby communities which receive TV programs." If the answer was "Yes", the college was classified as subject to TV competition. A complete listing of cooperating NCAA football playing colleges by NCAA district and TV area is presented in Table 4.

TABLE 4

LISTING OF NCAA FOOTBALL PLAYING COLLEGES

NCAA DISTRICTS 1 & 2

Boston TV Area

Boston College
Boston University
Dartmouth College
Harvard University
Holy Cross College
New Hampshire Univ.
Northeastern Univ.
Tufts College
Worcester Poly. Inst.

Providence TV Area

Brown University
Rhode Island State

New Haven TV Area

Yale University
American Int'l. Col.
Amherst College
U.S. Coast Guard Acad.
Connecticut University
Massachusetts University
Springfield College
Trinity College

New York TV Area

Wesleyan University
Army
Columbia University
Fordham University
New York University
Rutgers University
Hofstra College
Kings Point
Upsala College
Wagner College

Schnectady TV Area

Williams College
Rensselaer Poly. Inst.
Union College

Utica TV Area

Colgate University
Hamilton College

Syracuse TV Area

Syracuse University

Binghamton TV Area

Cornell University
Cortland State Teachers
Ithaca College

Rochester TV Area

Hobart
Rochester University

Buffalo TV Area

Buffalo University
St. Bonaventure Univ.

Erie TV Area

Allegheny College

Pittsburgh TV Area

Pittsburgh University
West Virginia Univ.
Slippery Rock
Waynesburg College
Westminster College

Johnstown TV Area

St. Francis College
Pennsylvania State Tchrs.

Lancaster TV Area

Franklin & Marshall
Millersville State Tchrs.

Philadelphia TV Area

Pennsylvania University
Princeton University
Temple University
Villanova College
Haverford College
Lafayette College
Lehigh University

Philadelphia Area (cont'd)

Moravian College
Muhlenberg College
Pennsylvania Military
Swarthmore College
West Chester State Tchrs.

Wilmington TV Area

Delaware University

Huntington TV Area

Marshall College

Baltimore TV Area

U.S. Naval Academy
Gettysburg College

Outside of TV Areas

Bates College
Bowdoin College
Colby College
Maine University
Middlebury College
Norwich University
Vermont University
Alfred University
Bucknell University
Clarkson College
Lock Haven Teachers Col.
St. Lawrence University
Shippensburg.

NCAA DISTRICT 3

Washington TV Area

George Washington Univ.
Maryland University
Howard University

Baltimore TV Area

Western Maryland Col.

LISTING OF NCAA FOOTBALL PLAYING COLLEGES (Continued)

NCAA DISTRICT 3 (cont'd)

Richmond TV Area

Richmond University
Virginia University

Norfolk TV Area

William and Mary
Hampton Institute

Greensboro TV Area

Duke University
North Carolina Univ.
North Carolina State

Charlotte TV Area

Davidson College

Atlanta TV Area

Georgia Inst. of Tech.
Georgia University

Birmingham TV Area

Alabama University

Jacksonville TV Area

Florida University

Memphis TV Area

Mississippi University

Nashville TV Area

Vanderbilt University

Louisville TV Area

Kentucky University
Louisville University
Kentucky State College

Outside of TV Areas

Auburn Clemson Agri. Col.
Florida State University
Furman University
Louisiana State University
Mississippi College
Mississippi State College
Sewanee
South Carolina Univ.
Southwestern Louisiana Inst.
Tennessee University
Tuskegee Institute
Virginia Mil. Institute
Virginia Poly. Institute
Wake Forest College
Washington & Lee Univ.
Western Kentucky State Tchrs.
Miami University
Tulane University
Xavier University

NCAA DISTRICT 4

Cincinnati TV Area

Cincinnati University
Miami University

Dayton TV Area

Central State College
Wilmington College

Bloomington TV Area

Indiana University

Indianapolis TV Area

Butler University
De Pauw University
Wabash College

Columbus TV Area

Ohio State University
Denison University
Kenyon College
Ohio Wesleyan Univ.

Cleveland TV Area

Akron University
Ashland College
Baldwin Wallace Col.
Case Institute
John Carroll University
Kent State University
Mount Union College
Oberlin College
Western Reserve University
College of Wooster

Toledo TV Area

Bowling Green State Univ.
Toledo University

Detroit TV Area

Michigan University
Michigan State Normal
Wayne University

Lansing TV Area

Michigan State College

Kalamazoo TV Area

Albion College
Kalamazoo College
Western Michigan College

Chicago TV Area

Northwestern University
Notre Dame University
Lake Forest College
Valparaiso University
Wheaton College

Milwaukee TV Area

Marquette University
Wisconsin University
Carroll College

Dav.-Rock Island TV Area

Iowa State University
Monmouth College

Minnesota-St. Paul TV Area

Minnesota University
Carleton College
Gustavus Adolphus College
College of St. Thomas

Outside of TV Areas

Beloit College
Illinois State Normal

LISTING OF NCAA FOOTBALL PLAYING COLLEGES (Continued)

Outside of TV Areas (cont'd)

Illinois University
Lawrence College
Michigan College of M & T
James Millikin University
Central Michigan College
Ohio University
Southern Illinois Univ.
Superior State Tchrs. Col.
Western Illinois State Col.
Youngstown College
Purdue University

NCAA DISTRICT 5

Detroit TV Area

Detroit University

Dav.-Rock Island TV Area

St. Ambrose College

Ames TV Area

Drake University
Iowa State College
Grinnell College

Omaha TV Area

Nebraska University
Omaha University

Kansas City TV Area

Kansas University
William Jewell College

St. Louis TV Area

Washington University

Outside of TV Areas

Okla. A & M College
Houston University
Bradley University
Coe College
Colorado University
Cornell College

Outside of TV Areas (cont'd)

Idaho State College
Kansas State College
Lincoln University
Missouri University
Missouri Valley College
North Dakota University
Wartburg College
Nebraska State Teachers
Wichita University
Central State College
Oklahoma University
Tulsa University
Iowa State Tchrs. Col.

NCAA District 6

Outside of TV Areas

Abilene Christian College
Arizona State (Flagstaff)
Arizona University
Arkansas University
Baylor University
Hardin-Simmons University
McMurry College
Midwestern University
New Mexico A & M College
Philander Smith College
Sam Houston State Tchrs.
Sul Ross State Tchrs.
Texas A & M College
Texas Tech. College
Texas University
Texas Western College
West Texas State Col.
Arizona State (Tempe)
Rice Institute
Southern Methodist Univ.
Texas Christian Univ.
North Texas State Col.
Trinity University

NCAA DISTRICT 7

Salt Lake City TV Area

Brigham Young University
Utah University

Outside of TV Areas

Colorado A & M Col.
Colorado College
Colo. Sch. of Mines
Colo. State Col. of Ed.
Colorado Western
Denver University
Montana State Col.
Utah State Agricul.
Wyoming University
New Mexico Univ.

NCAA District 8

San Francisco TV Area

California Univ.
College of Pacific
San Francisco Univ.
San Jose State Col.
Santa Clara Univ.
Stanford Univ.

Los Angeles TV Area

Loyola University
S.Calif. University
U. of Cal.,Los Ang.
Occidental College
George Pepperdine Col.

San Diego TV Area

San Diego State Col.

Outside of TV Areas

California Univ.
Calif. State Poly.
Fresno State Col.
Hawaii University
Idaho University
Montana State Col.
Oregon State Col.
Oregon University
Santa Barbara Col.
State Col. of Wash.
Whitworth College
Washington Univ.
College of Puget Sound

5. Extent of TV Ownership -- "TV Saturation".

In our 1950 report it was found that there was a progressively more serious TV-differential as "TV set-saturation" increased in the area. With Nashville the only television area reporting less than 20% of its families owning a set, it was impossible to test the effects of "light" saturation. It was possible, however, to group colleges into areas of moderate or medium saturation and to compare them with colleges in areas of heavy saturation. The area saturation data are regularly reported by NBC and are based principally on area sales of TV sets. Of the 52 TV areas carrying network football games, 38 were "heavily saturated", with 40% or more families owning a TV set, while only 14 were "moderately saturated" --- with less than 40% of all families possessing a set.

6. Types of TV Competition.

The design of the NCAA experimental plan of telecasting during the 1951 football season endeavored to provide each community with a variety of test situations in which differences in actual attendance could be observed. The four major situations were (a) a complete TV blackout of the area, (b) the telecasting of a game from a distant region, (c) the telecasting of a non-local game from the same region, and (d) the telecasting of a local game.

Ideally, from a research standpoint, the actual scheduling of the telecasts and blackouts would have been done in a purely random fashion, so that the laws of probability would insure unbiased results and sufficient test situations within each category; or it would have been done in careful selective fashion, with the appropriate situation and game schedule in each area thoroughly weighed. This was the substance of the experimental design recommended by NORC.

Actually, neither of these ideal methods could be rigidly used by the sponsor in deciding the TV schedule in each area. The limitations of the inter-connected network and the impossibility of picking up games from certain areas and of getting them into others necessitated many compromises; the fact that game schedules were fixed and could not be changed dictated that in a few areas on some weekends no local games would be played; the need to set the schedule at the earliest possible date, following agreement on the principles involved, precluded any detailed study of each individual local situation.

The schedule of blackouts and of the games to be televised in each community was, nevertheless, worked out as nearly as possible in accordance with the ideal design, subject to the necessary compromises noted above. Each area was blacked out on two of the nine Saturdays, and there were approximately the same number of areas blacked out on each Saturday; each area was to be provided with approximately the same number of distant games and regional games, to avoid a concentration of bad-weather effects in any experimental category.

Each game played in a TV area was coded as subject to one of the three types of TV competition -- the telecasting of a local, regional, or inter-regional game -- or as subject to "blackout" -- not competing with any football telecast.

A local telecast is defined as one involving at least one team which is located within the TV area. Since the 1951 "limited TV program" scheduled very few local telecasts, and then generally only the most attractive ones, it was not possible to secure a measure of the effect of local telecasts comparable to the 1950 experience .

Regional telecasts are defined as including at least one team from the same NCAA district as the college home team being classified. For purposes of TV classification, however, NCAA districts 1 and 2 were combined, since many traditional rivals were located in both districts, and it could be assumed that fans in either district had a high interest in the performance of rival teams in the other district. Local telecasts were also combined with other regional telecasts, since they are in fact a special type of regional competition.

Inter-regional or non-regional telecasts are those involving teams which are not located in the same NCAA district as the home game being classified.

Finally, a "blackout" is defined as a game played within a TV area without TV competition. It includes a Saturday afternoon game played during a scheduled "blackout" -- or any game which was played prior to September 29 (the day of the first NCAA telecast), or on a Friday night or other non-Saturday afternoon date when there was no competing football telecast. As was mentioned in the text of the report, a complete 100% "blackout" was technically impossible in many areas where fans could tune in an adjacent station which was not "blacked out". This difficulty was unavoidable in many areas because of the desire not to black out an entire region, (which would have been necessary in some parts of the East and Midwest, where a sequence of adjacent stations are involved), and to have approximately the same number of blackouts each week in order to minimize the risk of unfavorable weather unduly influencing any one week's telecast schedule.

7. Level of Local Interest and Attendance at College Games.

In combining games played under similar conditions into single averages, the problem arises of weighting games with different attendance levels. Of course, the three-fold size classification offers some help, but attendance differences are still considerable. The Michigan - Ohio State game, for example, with 94,000 paid admissions in 1951, would have the weight of six or seven average large college games. Furthermore, if some areas traditionally have more ardent fans who usually attend many games, the chance grouping of these higher-attendance colleges in TV areas or Non-TV areas might bias our analytical comparisons.

To minimize these size differential effects and to permit comparisons among large, medium and small colleges as well, it was decided to use indices of attendance rather than natural numbers. The index of attendance at any 1951 home game is expressed as a percentage of the "expected" average game attendance of that college in the pre-television years 1947-48. Thus, if college A averaged 10,000 paid admissions per game in the base years of 1947-48, a 1951 game which drew 9,000 fans would have an index of 90; a game which drew 12,000 would be scored as 120. In this way, each college, regardless of size and fan differences, is given an equal weight, and each 1951 game attendance is compared with the colleges' characteristic base attendance level.

8. Relative Attractiveness of Games.

Game attractiveness is the composite description of the many factors responsible for variations in fan interest in different games. There are numerous considerations underlying the general reaction of a fan to a particular game. However, in view of our overall objective of reducing the number of independent variables to as few as possible in order to have sufficient numbers of games in each group, it was felt that it would be necessary to treat all of the game attractiveness factors as one combined variable; and it was further decided to group all games into only two categories of attractiveness.

Basically, the characterization of a game as "more attractive" or "less attractive" depends upon the subjective appraisal of the college athletic director. A number of procedural safeguards, however, were employed to minimize the potential element of personal bias. The 1951 pre-season questionnaire asked for absolute "guesstimates" of attendance at all 1951 scheduled home games. It also asked for explanations of differences in game estimates in terms of any special factors which might affect attendance. While the estimates and explanations were not too useful as a measure of actual attendance levels, they were extremely valuable in eliciting the pre-season estimate of relative attractiveness of different games and a description of each game in terms of its tradition, expected strength of rivals, special promotions, etc. . .

During the season, as the win-loss records changed, the athletic director was asked to describe the relative attractiveness of his next home game -- usually at least one week in advance of the actual contest. Furthermore, he was asked to explain his overall judgment in terms of the presence or absence of the following objective factors:

1. Traditional rivalry.
2. Both teams have good records.
3. One team only has good record.
4. Teams evenly matched (although record may be poor).
5. Special promotions (home-coming, etc.).
6. Other special factors -- excluding TV effects -- such as alumni day, World Series, or other competing events.

The accuracy of most of these statements was checked by NORC with the seasons' record and with the pre-season questionnaire. Where there was a question of the accuracy of a game attractiveness designation, special checks were made with the college to insure consistency of available information or to secure a valid explanation for apparent differences in reporting. Furthermore, since the final "attractiveness" determination was generally made at least a week in advance of the game, there was less likelihood that the actual favorable or unfavorable game experience would influence the rating. In any event, the determination of the athletic director was final. If after our inquiry he insisted on his rating, even if we still had some question, we did not change his classification. Such differences, however, were usually resolved by mutual agreement, with only a handful of differences actually remaining.

9. Weather Effects.

Since our definition of "attendance" throughout this project is paid admissions, or ticket sales, the effects of weather are felt almost entirely in gate sales. Season ticket sales and other advance purchases are almost totally unaffected by considerations of weather, and once the fan buys a ticket, he is included in our totals even if bad weather keeps him from attending the stadium on the day of the game.

Gate sales, however, are sensitive to changes in weather and are usually lower during poor weather. In order to avoid any bias due to a chance cluster of bad-weather games in any single sub-group, therefore, each athletic director was asked to specify for each home game whether the weather was favorable or unfavorable for gate sales.

In outlining the variance analysis design, it was possible either to treat weather as an independent variable, or to eliminate the unfavorable effects of poor weather in advance of our calculations through the use of a special correction factor. Since unfavorable weather could exercise a significant effect on ticket sales only in the case of small colleges, where gate sales are really important, it was more expedient to develop special correction factors for bad-weather games. This approach had the further advantage of simplifying the variance calculations and of increasing the number of cases in each sub-class by reducing the number of independent variables to be controlled.

The first consideration in developing a correction factor was to determine what other variables, if any, besides weather, affected gate sales. Analysis of our gate-sale data established no significant differences depending on the availability or absence of TV competition, nor on the type of TV competition where television existed. Gate sales did vary greatly, however, according to the attractiveness of the game, and from one college to another.

Since for any particular college, the only two significant factors affecting gate sales were weather and game attractiveness, the correction factor for weather was quite easily developed. When a game was played under bad weather conditions, its gate sales were simply corrected to the average level of gate sales at that college, for good-weather games of equal attractiveness. For example, if the college's gate sales for more attractive games played in good weather averaged 4,000, the gate sales for a more attractive game played in bad weather would simply be adjusted up to that amount, thus correcting for the bad weather.

In some cases, however, it was not possible to follow this procedure because the college played no good-weather games of equal attractiveness with the bad-weather games. In such cases, either of two alternative procedures could have been employed.

First, we could have increased the bad-weather gate sales by the average ratio of good-weather gate sales to bad-weather gate sales, based on a matched sample of all colleges with both good and bad weather games, of equal attractiveness. On the average, for all such colleges, good-weather gate sales exceeded the bad-weather figures by two-thirds, so that the correction ration would be 1.67.

This method has the virtue of simplicity, but it suffers from the great variability we observed in bad-weather gate sales. Averages deduced from extremely variable figures cannot be applied with as much confidence as when the variability is less. In the case of good-weather gate sales, the variability was much less for any given college.

For this reason, we used the correction factor of 1.67 based on the above procedure only in those few instances in which the college played no good-weather games at all.

Where good-weather games were also played, but they were not of the same attractiveness as the bad-weather games, we employed a second procedure. As noted, the good-weather gate sale figures were much less variable than the bad-weather, and we established that in general, for all colleges with both more and less attractive good-weather games, the attractiveness differential of gate sales was 25%. By applying a ratio of 1.25, therefore, the effects of attractiveness could be eliminated, and the bad-weather gate sales could be adjusted to this newly derived average good-weather figure.

To summarize, then: Bad-weather gate sales were adjusted to equal good-weather gate sales, thus controlling the effects of weather on ticket sales. The good-weather gate sales figure used for the adjustment was either the college's own average for such games or, where this could not be computed, an estimate was based on the average experience of all colleges under the two types of weather conditions.

The final test of the efficiency of the above weather correction factors is the observed absence of any significant bias in the "adjusted" average attendance figures for colleges in TV areas and those in other areas.

Table 5 shows that for large colleges the weather correction increased total ticket sales in TV areas by slightly more than 1% above the adjustment in areas with no TV. In medium size colleges, the weather correction bias is about $\frac{1}{2}$ of 1% of total attendance; in small colleges there is no difference due to the weather correction. One must conclude, therefore, that no significant bias was introduced by our method of weather correction.

TABLE 5

1951 FOOTBALL TICKET SALES
BEFORE AND AFTER ADJUSTMENT FOR BAD WEATHER

Size of College	Actual Tickets Sold	Weather Adjustment	
		Number Added	% Increase
Large - All colleges	9,344,735	202,067	2.2
With TV competition	6,314,484	163,550	2.6
With no TV	3,030,251	38,517	1.3
Medium - All colleges	1,921,692	84,374	4.4
With TV competition	827,832	38,822	4.7
With no TV	1,093,860	45,552	4.2
Small - All colleges	763,318	67,250	8.8
With TV competition	397,081	34,991	8.8
With no TV	366,237	32,259	8.8
All Colleges	12,029,745	355,691	3.0
With TV competition	7,539,397	239,363	3.2
With no TV	4,490,348	116,328	2.7

10. Extent of Radio Broadcasting.

On each game report, the college indicated whether or not a game was to be broadcast by radio. It was found that practically all games in TV areas and in other areas were scheduled for radio broadcasts; consequently it was decided to disregard this variable since most games would be subject to the same type of radio competition. Any differences in football attendance, therefore, could not be attributed to radio.

11. Trends in Student Enrollment.

From the U.S. Office of Education, the following information was secured on overall trends in college enrollment, 1947-1951:

TABLE 6

TRENDS IN U. S. COLLEGE ENROLLMENT
1947 - 1951

Year	Total Enrollment	Percent of Change from 1947 -- 1948	Male Enrollment	Percent of Change from 1947 -- 1948
1947	2,338,000	--	1,659,000	--
1948	2,408,000	--	1,712,000	--
1950	2,297,000	-3.2	1,569,000	-6.9
1951	2,116,000	-10.8	1,399,000	-17.0

Since the total enrollment figures include many "all women" and technical colleges not playing football, the trend in male enrollment more nearly approximates the trend in NCAA football-playing colleges. To be certain that enrollment in colleges in TV areas was not declining at a more rapid rate and thus contributing to the "TV differential", a separate comparison was made of enrollment trends in NCAA colleges. Table 7 indicates that, if anything, a more rapid decline is occuring in non-TV colleges. Consequently, to a slight extent the "TV differential" is probably understated rather than overstated.

TABLE 7

ENROLLMENT TRENDS IN NCAA FOOTBALL PLAYING COLLEGES
1947 - 1951

Year	TV Areas (80 Colleges)	% Decline from '47-'48	Non-TV Areas (49 Colleges)	% Decline from '47-'48	Total (129 Colleges)	% Decline from '47-48
1947-1948	433,957	---	230,671	---	664,628	---
1949	433,161	-0.2	228,233	-1.1	661,394	-0.5
1950	400,455	-7.3	208,493	-9.6	608,948	-9.4
1951	351,065	-19.1	178,286	-22.7	529,351	-20.4

12. Special "Commercial" Bowl Games.

Since there are very few commercially sponsored non-league games, it was decided to exclude them entirely from the main attendance analysis. In a sense, many regular league games also involve special promotional efforts, such as alumni day, high school day, etc. . . Ideally we should isolate these attendances, but again due to the small number of cases, this was not feasible. For regular games, the special promotion becomes just one of the factors which is considered in making a game "more attractive".

IV. VARIANCE ANALYSIS.

After all the considerations discussed in the previous section, it was decided to sub-stratify all game attendance data into the following 108 basic cells - 12 for no-TV colleges and 96 for TV colleges.

TABLE 8

CLASSIFICATION OF GAME VARIABLES

All Colleges	No. Sub-Classes		Sub Class Names
Size	3		"Large" - "Medium" - "Small"
Weather	2	times	"Favorable" - "Unfavorable"
Game Attractiveness	2	times	"More" & "Less" attractive
Total sub-classes - no TV	12		
TV Colleges Only			
		times	
TV Saturation	2		"Heavy" - "Moderate"
TV Competition	4	times	"Blackout" -"Local"-"Regional" -- "Non Regional"
Total sub-classes TV	96		
Total sub-classes all colleges	108		

As explained in the previous section, it was further possible to eliminate the two weather classes, and to combine "Local" and "Regional" telecasts into one group. Thus the final tabulation was based on six groups for No-TV and 36 classes for TV colleges -- a total of 42 basic classification cells.

1. Analysis of Size, Game Attractiveness and Overall TV Effects.

The following table indicates how the completed 1049 home game reports which were submitted to NORC in 1951 were distributed according to the 42 basic cells.

TABLE 9

NUMBER OF 1951 GAMES INCLUDED IN ATTENDANCE ANALYSIS BY SELECTED GAME VARIABLES

No TV Colleges	Large	Medium	Small	Total
More attractive games.	55	70	100	225
Less attractive games.	47	51	97	195
TV Colleges- More Attractive Games				
Blackout - High Saturation	40	35	58	133
Moderate Saturation . .	12	12	6	30
Regional - High Saturation	34	16	42	92
Moderate Saturation . .	4	3	1	8
Non-Regional - High Saturation . .	30	10	39	79
Moderate Saturation . .	12	3	--	15
TV Colleges - Less Attractive Games				
Blackout - High Saturation	36	28	49	113
Moderate Saturation . .	12	10	9	31
Regional - High Saturation	13	10	33	56
Moderate Saturation . .	4	--	--	4
Non-Regional - High Saturation . .	22	14	22	58
Moderate Saturation . .	7	3	--	10
Total Games	328	265	456	1049

As can be seen from the above table, there are too few moderate saturation games in the smallest cells to compute separate TV variable effects. As will be described later, however, by collapsing the TV competition variables, we can get an overall measure of TV saturation.

The following table summarizes the variance of college football attendance by size, attractiveness and the availability of TV in an area.

TABLE 10

VARIANCE ANALYSIS OF 1951 COLLEGE FOOTBALL ATTENDANCE BY SIZE BY ATTRACTIVENESS BY AVAILABILITY OF TV

Main Effects	Degrees of Freedom	Mean Squares	"F" Ratio 1)
Game attractiveness	1	512,604	** 190.7
TV - No TV vailability	1	104,868	** 39.0
Size of college	2	14,224	* 5.3
Interactions			
Attractiveness vs. TV-No TV	1	553,212	** 205.8
Attractiveness vs. size	2	272,538	** 101.4
Size vs. TV - No TV	2	14,380	* 5.4
Unexplained Variance	1039	2,688	—
Total	1048	—	—

1) An "F" ratio with one asterisk (*) is significant at the 5% level ($F_{.05} = 3.9$).

An "F" ratio with two asterisks (**) is significant at the 1% or better level ($F_{.01} = 6.7$).

2. Blackout - Effect.

A simplified 2X2 proportional analysis was used for each size of college group to determine the effects of different types of TV competition. Table 11 summarizes these results for the "Blackout" effect.

In terms of differences in "Blackout" average attendance ratios, Table 12 also confirms the general lack of blackout effects.

TABLE 12

ATTENDANCE DURING TV COMPETITION AND BLACKOUTS
1951

	Percent of "Expected" Attendance			Possible Difference Due to Chance (P=.05)
	"Blackouts" 1)	TV Competition	Actual Difference	
Size of College				
Large.	88.2	94.4	6.2	11.8
Medium	85.9	90.5	5.4	18.6
Small.	89.9	78.9	11.0	12.0

1) All games played in TV areas without TV competition are classified as "blackouts" in this table.

TABLE 11

ANALYSIS OF VARIANCE OF 1951 COLLEGE FOOTBALL ATTENDANCE
BLACKOUT - EFFECT

	Degrees of Freedom	Mean Square	"F" Ratio 1)
Large Colleges			
Game attractiveness.	1	111,080	** 55.8
"B.O." vs TV competition	1	2,155	1.1
Interaction.	1	1,329	.7
Unexplained variance	222	1,992	--
Medium Colleges			
Game attractiveness.	1	61,121	** 19.5
"B.O." vs TV competition	1	731	.2
Interaction.	1	2,238	.7
Unexplained variance	140	3,129	--
Small Colleges			
Game attractiveness.	1	92,646	** 37.9
"B.O." vs. TV competition. . . .	1	7,828	* 3.2
Interaction.	1	1,680	.7
Unexplained variance	255	2,443	--

1) An "F" ratio with one asterisk (*) is significant at the 7% level ($F.05 = 3.9$).

An "F" ratio with two asterisks (**) is significant at the 1% level or better ($F.01 = 6.8$).

3. Regional or Non-Regional Telecasts.

For the reasons mentioned in the text of the report, no significant differences are noted in competitive effects of regional and non-regional telecasts among large and small colleges. While medium colleges do barely meet the 5% test of significance, only a small number of games were available for comparison, i.e., 29 regional and 30 non-regional games. With so few cases it is more than likely that the observed difference in attendance is due to the chance variations in TV-area saturation and in the relative attractiveness of the telecast games which were not controlled. Table 13 indicates the variance analysis, and Table 14 shows the differences in average regional and non-regional ratios.

TABLE 13

ANALYSIS OF VARIANCE OF 1951 COLLEGE FOOTBALL ATTENDANCE REGIONAL VS. NON REGIONAL TELECASTS

	Degrees of Freedom	Mean Square	"F" Ratio
Large Colleges [1]			
Game attractiveness	1	49,946	** 22.6
Regional vs. non-regional	1	2,148	1.0
Interaction	1	41	--
Unexplained variance	122	2,209	--
Medium Colleges [2]			
Game attractiveness	1	28,669	** 10.5
Regional vs. non-regional	1	12,132	* 4.5
Interaction	1	449	.2
Unexplained variance	55	2,723	--
Small Colleges [1]			
Game attractiveness	1	62,218	** 28.1
Regional vs. non-regional	1	1,951	.9
Interaction	1	202	.1
Unexplained variance	133	2,211	--

1) An "F" ratio with one asterisk (*) is significant at the 5% level ($F_{.05} = 3.9$).

An "F" ratio with two asterisks (**) is significant at the 1% level ($F_{.01} = 6.8$).

2) An "F" ratio with one asterisk (*) is significant at the 5% level ($F_{.05} = 4.0$).

An "F" ratio with two asterisks (**) is significant at the 1% level ($F_{.01} = 7.1$).

TABLE 14

ATTENDANCE DURING REGIONAL AND NON-REGIONAL TELECASTS 1951

	Percent of "Expected" Attendance			
Size of College	Regional	Non-Regional	Actual Difference	Possible Difference Due to Chance (P- .05)
Large	91.8	100.2	8.4	16.7
Medium	105.3	76.7	28.6	27.8
Small	83.9	76.3	7.6	16.0

4. TV-Saturation Effects.

In the main attendance analysis it was not possible to utilize the TV saturation variable. In most cells, there were fewer than 10 games available for comparison. By combining all types of TV competition, however, it is possible to get an overall measure of the effect of TV saturation. As indicated in Tables 15 and 16, there is a significantly greater TV effect in highly saturated areas for large and medium colleges. In the case of small colleges, no effect was measurable due to the small number of cases, i.e., there were only 16 games reported in moderately saturated areas.

TABLE 15

ANALYSIS OF VARIANCE OF 1951 COLLEGE FOOTBALL ATTENDANCE
TV-AREA SATURATION

	Degrees of Freedom	Mean Square	"F" Ratio 1)
Large Colleges			
Game attractiveness.	1	120,100	** 66.0
High vs. moderate saturation . . .	1	32,515	** 17.9
Interaction.	1	930	.5
Unexplained variance	222	1,817	--
Medium Colleges			
Game attractiveness.	1	56,504	** 21.5
High vs. moderate saturation . . .	1	78,050	** 29.7
Interaction.	1	14	--
Unexplained variance	140	2,625	--
Small Colleges			
Game attractiveness.	1	87,599	** 35.1
High vs. moderate saturation . . .	1	489	.2
Interaction.	1	345	.1
Unexplained variance	255	2,497	--

1) An "F" ratio with one asterisk (*) is significant at the 5% level ($F.05 = 3.9$).

An "F" ratio with two asterisks (**) is significant at the 1% level ($F.01 = 6.8$).

TABLE 16

1951 ATTENDANCE IN AREAS OF MODERATE AND HIGH TV SATURATION

SIZE Size of College	Percent of "Expected" Attendance High Saturation	 Moderate Saturation	 Actual Difference	 Possible Chance Diff. (P - .05)
Large	85.0	113.7	28.7	10.7
Medium	75.5	132.2	56.7	17.2
Small	84.6	78.9	5.7	12.7

5. Blacked Out Saturdays vs. Non-Saturdays.

Many colleges during the past season played games on Friday nights and other non-Saturday afternoon dates when there was also no direct TV competition. The following tables compare attendance on Saturday afternoon blackout dates with attendance on non-Saturday afternoon periods.

TABLE 17

ANALYSIS OF VARIANCE OF 1951 COLLEGE FOOTBALL ATTENDANCE BLACKED-OUT SATURDAYS vs. NON-SATURDAYS WITHOUT TV

	Degrees of Freedom	Mean Square	"F" Ratio 1)
Main Effects			
Game attractiveness	1	86,292	** 49.8
Saturday B.O. vs. Non-Saturday	1	9,900	* 5.7
Size	2	1,112	.6
Interactions			
Game attractiveness x Saturday-Non-Saturday	1	108,496	** 62.6
Game attractiveness x Size	2	52,245	** 30.1
Saturday-Non-Saturday x Size	2	5,216	3.0
Unexplained Variance	241	1,733	--

1) An "F" ratio with one asterisk (*) is significant at the 5% level ($F_{.05} = 3.9$).

An "F" ratio with two asterisks (**) is significant at the 1% level ($F_{.01} = 6.8$).

TABLE 18

ATTENDANCE DURING SATURDAY AFTERNOON "BLACKOUTS" AND NON-SATURDAY AFTERNOON DATES 1951

Size of College	Percent of "Expected" Attendance			
	Non-Saturday	Saturdays Blackouts	Actual Difference	Possible Chance Diff. (P-.05)
Large	86.4	91.2	4.8	10.6
Medium	93.9	70.4	23.5	10.6
Small	93.3	69.1	24.2	10.6
All Colleges	91.2	76.9	14.3	10.6

Table 19 indicates the estimated number of paid admissions at regular college football games during the 1951 season.

TABLE 19

ESTIMATED 1951 ATTENDANCE AT NCAA COLLEGES

Size of College	Availability of TV	No Games	Estimated Attendance
Large	With TV	250	7,165,970
	Without TV	115	3,459,886
	All large	365	10,625,856
Medium	With TV	164	987,014
	Without TV	143	1,346,586
	All medium	307	2,333,600
Small	With TV	295	492,120
	Without TV	237	478,588
	All small	532	970,708
All with TV		709	8,645,104
All without TV		495	5,285,060
All colleges		1,204	13,930,164

SURVEY 311-F

NCAA FOOTBALL ATTENDANCE STUDY

Conducted by

National Opinion Research Center, University of Chicago

ATTENDANCE REPORT FOR _____ (Home Team) _____ (Visiting Team) GAME

1. DATE AND STARTING TIME OF GAME: _____

2. SCORE OF GAME: Home Team _____ Visiting Team _____

3. WAS GAME AT YOUR HOME STADIUM OR IN A NEUTRAL STADIUM? ☐ Home ☐ Neutral

   A. IF HOME STADIUM, GIVE NUMBER OF TEMPORARY SEATS ADDED, IF ANY _____

   B. IF NEUTRAL STADIUM, GIVE NAME AND SEATING CAPACITY _____

4. TOTAL NUMBER OF TICKETS SOLD FOR GAME _____

   Total At-gate Sale _____

   Total Advance Sale _____

   Season tickets _____

   Other pre-game _____

   Approximate No. of Tickets Sold At:

   Top Price _____

   General Admission Price _____

5. WAS THIS GAME TELECAST LOCALLY? Yes ☐ No ☐

6. WAS THIS GAME BROADCAST LOCALLY? Yes ☐ No ☐

7. WERE ANY OTHER GAMES TELECAST LOCALLY? Yes ☐ No ☐

   A. IF YES: Which other game was telecast? _____

8. Was WEATHER FAVORABLE OR UNFAVORABLE for ticket sales at gate? ☐ Favorable ☐ Unfavorable

   A. If unfavorable, indicate why. (Rain, snow, extreme cold or wind, etc.)

9. In relation to the other games on your 1951 home schedule, how would you rank the ATTRACTIVENESS OF THESE GAMES? (Not considering TV competition or weather.)

	_____		_____	
More attractive	☐		☐	
Less attractive	☐		☐	
Check why more or less attractive:	Yes	No	Yes	No
Traditional rivals	☐	☐	☐	☐
Both teams have good records	☐	☐	☐	☐
One team has good record	☐	☐	☐	☐
Teams evenly matched	☐	☐	☐	☐
Special promotion (Homecoming, spot plugs, etc.)	☐	☐	☐	☐
Other factors (excluding TV broadcasts) Specify	☐	☐	☐	☐

10. Use other side if necessary for comments on attendance.

APPENDIX B

High School Attendance Analysis

I. INTRODUCTION.

In many localities of the U.S., high school football games provide the only major sports attraction during the fall season. In other areas where there are also college games available, they actively compete with colleges for the attendance of fans. It was decided, therefore, as part of the 1951 research program, to supplement the college attendance analysis with a study of recent trends in paid admissions at high school football games.

Since very little systematic information has ever been collected on high school sports attendance, it was necessary to rely very heavily on the expert knowledge of Mr. H. V. Porter, executive secretary of the National Federation of State High School Athletic Associations. Without his complete and active participation, this portion of the study would have been impossible.

As in the case of colleges, game attendance reports are used to establish the statistical trends, while the college stadium surveys and fan interview studies provide some information on the relationship of interest in high school and college sports. These special studies, of course, also provide information on fan characteristics and attendance decisions for those college fans who also attend high school games.

To the extent that it was feasible, the high school attendance analysis was made exactly comparable to the college attendance phase. Consequently, frequent cross-references will be made in this appendix section to the college study, and only differences in the two studies will be described here.

II. GENERAL PROCEDURES.

1. Selection of a sample of football playing high schools.

According to the U.S. Office of Education, there are about 24,000 public high schools and over 3,000 private high schools in the U.S. Obviously, it was necessary to confine our study to a representative sample of these schools. It is interesting to note that three-fourths of all schools report enrollments of less than 300, and only 6,000 public high schools in the country have enrollments of 300 or more. Due to limitations of time and budget, it was decided to concentrate on these larger schools.

Without a complete listing of high schools, it was impossible to select a regular probability sample. Furthermore, a simple random selection would

not necessarily provide the most efficient sample design. It must be remembered that this was entirely a voluntary report and that many schools either did not play inter-scholastic football, did not charge admissions, or did not keep records of their ticket sales. A purely random selection would have resulted in a very large non-response and in few complete reports.

After extensive discussion with high school officials, Mr. Porter assisted us in selecting a purposive sample broadly representative of the larger public and private schools, in urban and rural areas with and without TV competition. Questionnaires were actually sent to 255 high schools which were members of 29 different football leagues in 19 different states.

2. Attendance Questionnaires.

On October 23, 1951, a series of questionnaires were sent to all high schools in the sample, requesting information on all home games played in the years 1947-1950. As the attached Form #311 G1 indicates, the following questions were asked:

a) Student enrollment and stadium capacity for each year.

b) A listing of all home games, by date, time played, number of tickets sold, attractiveness of game, and any special factors affecting attendance.

c) Team standing in league at end of season.

d) Team's season won-loss record.

On December 4, 1951, the attached 1951 attendance questionnaire, Form #311 G_2 was sent to each cooperating high school. In addition to the items requested for back years, this schedule asked for a breakdown of gate, season, and other advance ticket sales, a statement for each home game whether weather was favorable or unfavorable for gate sales, and whether the game was televised or broadcast. As in the case of colleges, several follow-up letters and telegrams were sent to each school included in the sample in an effort to get a maximum response. Special correction memoranda were sent to schools with incomplete or questionable replies, and finally, a number of telephone calls were made to insure a representative panel of schools.

Due to these intensive efforts, complete reports were received from 124 schools for 637 home games in 1951. In general, as Table 1 indicates, the number of sample schools in each NCAA district are roughly proportional to the **total** number of public high schools in that district. The only significant exception is in the Southeast, which was under-represented in our replies.

TABLE 1

REPRESENTATIVENESS OF HIGH SCHOOLS INCLUDED IN ATTENDANCE ANALYSIS

NCAA District		Percent of All Schools*	Schools Included in Sample	
			Number	Percent
1 and 2	(East)	30%	42	34%
3	(Southeast)	21	7	6
4	(Midwest)	21	29	23
5	(West Central)	8	15	12
6	(Southwest)	7	10	8
7	(Mountain)	3	3	2
8	(Pacific)	10	18	15
		100%	124	100%

* Based on all public high schools with enrollment of 300 or more in 1946 as listed in the Biennial Survey of Education by the U.S. Office of Education, Chapter V.

In terms of relative size of school, as Table 2 shows, our sample is somewhat more heavily weighted with larger schools. The size distribution of the sample schools in relation to the availability of TV, however, is not unequal, so that any overall bias in this respect could not affect our major conclusions.

TABLE 2

SIZE OF HIGH SCHOOL INCLUDED IN SAMPLE

1951 Enrollment	Percent of All Schools*	Percent of Sample
Less than 1,000	75	53
1,000-2,499	22	45
2,500 and up	3	2

* Based on all public high schools with enrollment of 300 or more in 1946 as listed in the Biennial Survey of Education by the U.S. Office of Education, Chapter V.

All schools failing to provide complete attendance reports were asked to explain why. Of the 131 schools failing to complete their game reports, only 17 were completely non-cooperative and did not answer any of our inquiries. Most of the other schools explained that they did not have adequate records or staff to compile the answers. In the case of those schools submitting incomplete reports but not specifying any particular reasons for doing so, it may be presumed that lack of clerical assistance generally prevented complete cooperation. Table 3 summarizes the reasons for incomplete cooperation.

TABLE 3

RESPONSE OF HIGH SCHOOLS INCLUDED IN SAMPLE

	Number	Percent
Submitted complete reports.	124	49
No records or staff to compile answers. .	56	22
No reasons given, but incomplete reports.	44	17
Discontinued football	14	6
Non-response.	17	6
Total	255	100%

III. GAME VARIABLES.

All high school game variables are defined in the same way as the comparable college variables. A complete description of these attendance factors is included in Appendix A, Part III. Likewise, as in the case of colleges, all attendance data are in terms of paid admissions and the effects of weather are eliminated prior to statistical tabulations.

In the case of high schools, however, the number of game variables included in the variance analysis was considerably reduced due to the small number of schools and games for which complete data were available. It was necessary to collapse TV saturation and type of TV competition. Four subgroups were used for schools without TV competition, and only six groups for TV schools. Table 4 indicates the distribution of the 637 games among these 10 classifications.

TABLE 4

DISTRIBUTION OF 1951 HIGH SCHOOL GAMES BY GAME VARIABLES

			TOTAL
No TV Areas			
More attractive --	Saturday afternoon. . .	9	
	Non-Sat. afternoon. . .	149	
Less attractive --	Saturday afternoon. . .	13	
	Non-Sat. afternoon. . .	138	
			309
TV Areas			
More attractive --	Saturday blackout . . .	18	
	Non-Sat. blackout . . .	130	
	Saturday telecasts. . .	46	
Less attractive --	Saturday blackout . . .	16	
	Non-Sat. blackout . . .	88	
	Sat. Telecast	30	
			328
Total All Areas			637

Table 5 presents the regional distribution of the sample high schools with and without TV competition.

TABLE 5

REGIONAL DISTRIBUTION OF HIGH SCHOOLS INCLUDED IN THE STUDY

NCAA District	TV Areas	No TV Areas	Total
1 - New England.	4	4	8
2 - Middle Atlantic. . .	32	2	34
3 - Southeast.	7	--	7
4 - Midwest.	19	10	29
5 - West Central	5	10	15
6 - Southwest.	--	10	10
7 - Mountain	--	3	3
8 - Pacific.	1	17	18
Total. . .	68	56	124

IV. VARIANCE ANALYSIS.

Simple 2 X 2 proportional analysis were used to measure the high school TV effects. Table 6 presents the major variance analysis findings.

TABLE 6

ANALYSIS OF VARIANCE OF 1951 HIGH SCHOOL FOOTBALL ATTENDANCE

Variables:	Degrees of Freedom	Mean Square	"F" Ratio
Availability of TV			
Game attractiveness.	1	194,729	** 82.4
TV vs. No TV	1	66,912	** 28.3
Interaction.	1	4,149	1.8
Unexplained variance	633	2,362	—
Blackout Effects			
Game attractiveness.	1	67,427	** 30.8
Blackout vs. TV.	1	11,012	* 5.0
Interaction.	1	181	.1
Unexplained variance	324	2,191	—
Day of Game			
Game attractiveness.	1	54,292	** 21.5
Saturday blackout vs. Non-Saturday	1	3,631	1.4
Interaction.	1	1,873	.7
Unexplained variance	248	2,530	—

* An "F" ratio with one (*) asterisk is significant at the 5% level ($F_{.05} = 3.9$).

** An "F" ratio with two (**) asterisks is significant at the 1% level ($F_{.01} = 6.7$).

In terms of differences in attendance averages, Table 7 summarizes the actual averages and their fiducial limits.

TABLE 7

ANALYSIS OF 1951 HIGH SCHOOL FOOTBALL ATTENDANCE

(Attendance expressed as percent of "expected" attendance, based on 1947-48 average for each school)

Availability of TV

	More Attractive	Less Attractive	Total
No TV	124.6	83.0	104.3
TV	98.5	69.4	86.6
Difference 1)	26.1	13.6	17.7

1) A difference greater than 7.6 is significant (P = .05).

Effects of Blackouts [1)]

Blackout	102.0	72.0	89.7
TV competition	86.8	60.4	76.0
Difference 2)	15.2	11.6	13.7

1) Games played on non-Saturday dates without TV are also considered "blackouts."

2) Difference greater than 10.5 is significant (P = .05).

Saturday vs. Non-Saturday Blackouts

Non-Saturday	104.2	72.2	91.0 [2)]
Saturday blackouts	86.4	70.6	79.9
Difference 1)	17.8	1.6	11.1

1) A difference greater than 13.4 is significant (P = .05).

2) Only 16 less attractive and 18 more attractive games available for comparison.

Table 8 indicates the trend in high school attendance compared to the pre-television base.

TABLE 8

HIGH SCHOOL ATTENDANCE TRENDS COMPARED TO PRE-TELEVISION BASE YEARS 1947-1948

	Percent of "Expected" Attendance			
Year	Total	TV	No TV	TV Differential
1949.	107.7	100.7	112.4	11.7
1950.	99.2	90.9	107.9	17.0
1951.	95.2	85.5	106.0	20.5

Table 9 indicates the trend in student enrollment for high schools with TV competition and those without it. As can be seen, schools in TV areas report a slight drop in enrollment, while schools outside of TV areas report very little change. While these opposite trends contribute to the TV differential, they are only a minor cause. I.E., in 1951, the TV differential was 20.5 percent, while the enrollment differential is only two percent.

TABLE 9

STUDENT ENROLLMENT IN SAMPLE HIGH SCHOOLS

	Percent Change from 1947-1948		
Year	Total	TV Areas	No TV Areas
1949.	-2.2	-4.3	1.5
1950.	-1.3	-3.0	1.6
1951.	- .7	-1.5	.5

APPENDIX C

In both of the earlier NORC reports on the effects of television on college football attendance, it was pointed out that personal interviews with an adequate sample of football fans would be needed to explain the "how" and the "why" of the adverse TV effects discovered in the attendance analysis.

The statistical study of attendance reports for the 1950 and earlier seasons revealed that, over-all, the colleges exposed to TV competition had poorer attendance trends. But such data could not explain the impact of TV on the individual set-owner, the factors underlying decisions to attend or not to attend particular games or the differential effects of television on different types of fans.

In planning the 1951 research, therefore, it was early agreed that a substantial part of the total budget would be apportioned to personal interview studies, in which a cross-section of fans would be questioned about their past attendance behavior, their interest in football and their TV-viewing habits.

The carrying out of such a survey on a national scale was discarded for a number of reasons: the number of interviews in any one city would be insufficient to permit generalizations about that area, and the nature of football attendance was subject to such large local variations that national averages would have little practical usefulness. In any national survey, too, many of the interviews would be unproductive for such reasons as an absence of attendance opportunities in the area.

It was thus decided to restrict the interviewing to the fans of one or more specific areas. Originally, we had hoped to conduct such surveys in four types of areas all located within range of television: one, a large metropolitan area containing a number of colleges; two, a smaller metropolitan area containing only one major college; three, a large city with no major local college, where most of the attendance involves travel to other cities; and four, a small city or town containing a major college and drawing much of its attendance from other areas.

Cost considerations ultimately persuaded us to restrict the intensive personal interviewing to only two areas, and the two selected were Boston and Pittsburgh. Boston was chosen as representative of many large metropolitan areas, containing a number of major and minor colleges, where TV "saturation" was heavy and attendance trends had been particularly poor. Pittsburgh was thought to be representative of similar areas where only one major college accounted for the great majority of total attendance.

It was realized, of course, that these two areas — or, for that matter, any two areas — could not be regarded as "typical" of all situations, and that purely local factors could easily influence many of the findings. This fact must always be borne in mind in evaluating the Boston-Pittsburgh results. It is our own feeling that most of the major findings we report from these two surveys <u>can</u> be applied equally to other areas, but each reader must judge for himself the degree to which the Boston-Pittsburgh data fit his own community.

The Sample

Once Boston and Pittsburgh had been decided upon, the next question was: Who qualifies as a "fan"? To what group should we restrict our interviewing?

Since our major concern was the effect of TV on attendance, we decided not to include those people who take an interest in college football, but who never attend a game. Though television might affect the interest of such "fans", it could not affect their attendance except possibly in the distant future.

On the other hand, since it was assumed that a large part of college football attendance was contributed by persons with only a marginal interest in the game, we did not want to restrict our interviewing solely to those fans who were regular attenders. One of our hypotheses, later demonstrated in the data, was that TV effects operate most strongly on those with less interest in the game. In this regard, we did not want to exclude any person who used to attend but who may have recently substituted watching a game on TV for actual attendance. Our definition of "fan", for purposes of the Boston-Pittsburgh study, was anyone who had attended a college football game during the four years 1947-50. This four-year period coincided with our attendance data, and included the two earlier years, when no TV effects were observed, and the two later years, when they became quite marked in these two areas. It was realized that this definition would give us a number of "accidental attenders" who took little or no interest in the game, but since such individuals make up a portion of the attendance at every game, it was necessary to include them in the sample.

It was further decided to include in our survey not only the central cities of Boston and Pittsburgh, but the adjacent suburban communities making up the metropolitan area. In such large metropolitan districts, the line between city limits and suburbs is usually artificial, and the whole area may be regarded as a relatively homogeneous TV reception area.

In order to find a random sample of such past attenders in the two areas, upwards of 4,000 telephone calls were made in Boston and 2,500 in Pittsburgh. It had previously been ascertained from the national survey that a high correlation exists between telephone ownership and college football attendance; only 7% of non-telephone-owners had attended a game in 1950 and 73% had never attended. The omission of persons not listed in the phone book, therefore, could not have seriously distorted the results, while their inclusion would have meant a costly and time-consuming process of selection.

The phone numbers to be called were taken in systematic fashion from the pages of metropolitan area telephone directories arranged alphabetically by streets. A sampling unit of 20 or 25 consecutive names was called along one street on every "n'th" page of the directory starting with every "k'th" position on the sample page. The street-address directories and the clustering of names along particular streets were decided on, in order to reduce the time and costs involved in interviewing a purely random sample of individuals scattered over the entire metropolitan area. In any event every number had an equal probability of selection.

Actually, the clusters of calls did produce only single past attenders in many areas. In other areas, however - often suburban districts inhabited chiefly by college graduates - the clusters of calls would produce as many as six or eight fans who met our definition. On the average, approximately one call in six turned up someone in the household who had attended a college game during 1947-50, and we completed the telephoning with about 650 names of attenders in Boston and about 400 in Pittsburgh.

The procedure on the telephone screening was to say: "Hello. We're making a survey of college football attendance. Has anyone in your household ever attended a college football game?" If the answer was "No", the name was crossed off the list and the next number called.

If the answer was "Yes", the person was asked: "About how long ago was the last time anyone attended?" If the date was 1946 or earlier, the interview was discontinued and the next number called.

If the date was 1947 or later, the person was asked: "And which member of your family went to that game?" If more than one person in the household had attended, we normally interviewed only the one who took the initiative in going; ie., if husband and wife went together, we interviewed only the husband. If two people in the household had attended different games on their own initiative (e.g., two brothers, father and son, etc.), we interviewed both.

Names of individuals who appeared to qualify for the personal interview were then transcribed, and their addresses and phone numbers given to interviewers.

Despite the efforts in the preliminary telephone interview to make clear that we were referring only to college football attendance during the years 1947-50, it was inevitable that some of the calls produced false information. A wife, answering for her husband, would tell us he had attended a college game, but when our interviewer called, we would find that actually it had been a professional game; or, on second thought, the fan would remember that it wasn't in 1948 but in 1945 that he had attended his last game.

When all such names were discarded, and when we abandoned efforts to interview those who refused to be interviewed or who could never be found at home, we had less than 600 interviews with qualified attenders in Boston and under 400 in Pittsburgh. Refusals were generally low, because of the high interest of most respondents in the subject matter of the interview, and at least three calls were made on each person who refused in an effort to persuade him to contribute his answers.

The Interviewing

In both cities, the interviewers were hired and trained by full-time NORC staff members -- Paul Sheatsley in Pittsburgh and Dave Ryan in Boston. Once hired and trained, the staff was supervised by local personnel -- Drusilla Reuschell in Pittsburgh and Letitia Phillips in Boston.

The interviewing began on September 20, 1951, and while every effort was made to complete it by Saturday, September 29, the first day of the local football season, only 64% of the interviews had been collected in Boston by that time, and 73% in Pittsburgh. The interviewing was thus continued into the following week, with the questioning in these later interviews made retroactive to pre-season intentions and behavior.

The interview itself covered the following topics:

Last game attended, reasons for attending, number in party, date of ticket purchase, method of travel.

Attendance history during the years 1947-50, with reasons from infrequent attenders for their failure to attend more often. In obtaining the attendance history, interviewers had with them a list of all local games played during the years in question and encouraged the respondent to utilize any available means of correct recall.

Usual Saturday afternoon activities during the Fall season.

Attendance intentions during 1951 and reasons therefor.

Interest in college football: manner in which it arose, reasons for any decline in interest, particular teams followed most closely, with reasons; degree of interest among friends, associates and other members of the household.

Interest and attendance at high school and professional games.

Radio listening to college football: frequency, and interest in particular games vs. generalized interest.

TV ownership and length of same, channels available with degree of clarity of reception of each, hours spent watching TV during past weekend.

For non-TV-owners: expectations of purchase and reasons for same, degree and type of TV-viewing elsewhere.

TV-viewing of college games during 1950 (interviewers again had a list of all those games telecast locally), and expectations of viewing during 1951.

Knowledge of the NCAA plan for restricted telecasting.

Attendance at other sports during the past year, and interest in other sports on television.

Background data on each fan, including: length of residence in area, family composition, automobile ownership, occupation, education, with particular reference to college attachment, age, sex, economic level, race, and place of residence within the area.

This detailed personal interview took 30-35 minutes to complete, on the average. Interviewers' biggest difficulties were the fact that callbacks were often necessary when the respondent failed to keep an appointment and, since so many of the fans were men, that most of the interviewing had to be done during the evenings or weekends. On the other hand, almost all fans were highly interested in the questionnaire and, according to the interviewers, gave serious thought to their answers.

The Callbacks

The same interviewers who conducted the personal interviews made weekly telephone calls to their respondents throughout the 1951 football season. These calls began on Monday, October 1, and continued through the week following the football games played on November 24.

The form of questioning on these calls was always identical, and covered the following matters:

> Saturday afternoon activity, with particular reference to (a) attendance at sports events, movies or other entertainment, (b) radio listening, and (c) TV-viewing.
>
> Friday night, Saturday night and Sunday activity, again with particular reference to sports attendance, radio listening and TV-viewing.

In general, each respondent was called nine times during the season and asked to account for his activity on each of the football weekends; but occasionally, when the respondent could not be reached during a given week, two or more weekends would be covered in the same call.

Some loss from the panel during the nine weeks was not unexpected, of course, as respondents died, moved away, or refused to cooperate any longer. At the conclusion of the season, complete data on each of the nine weekends had been obtained from 511 respondents in Boston and from 331 respondents in Pittsburgh.

The Analysis

Most of the significant findings have already been presented in the body of the text or as text tables. In addition, there are literally hundreds of cross-tabulations which were prepared during the course of the analysis. Since the mere listing of each of these tables would require a considerable amount of space and would be of interest to only a few persons, it was decided to present only a few of the more important additional tables here, and to indicate the further detail which is available in N.O.R.C. files. Unless otherwise specified, all tests of significance are Chi-square tests of homogeneity.

1. Fan Characteristics and TV Ownership

Sex

Table 1 describes TV ownership by sex. In the case of Boston, the proportion of male owners is much greater than male non-owners; but in Pittsburgh the differences are not significant.

TABLE 1

TV OWNERSHIP BY SEX

	Boston [1]			Pittsburgh [2]		
	All Fans	Own TV	Not Own TV	All Fans	Own TV	Not Own TV
Male. . .	75%	80%	67%	76%	73%	77%
Female. .	25	20	33	24	27	23
Total	100%	100%	100%	100%	100%	100%

1) In less than 1 case out of 100 could this difference be due to chance.

2) In about 60 cases out of 100 differences as great as those observed could be due to chance.

Age

TV ownership among attenders does not vary greatly by age.

TABLE 2

TV OWNERSHIP BY AGE

Age	Boston			Pittsburgh [1]		
	All Fans	TV	No TV	All Fans	TV	No TV
Under 17. . .	3	3	2	4	5	5
18 - 22 . . .	13	13	14	9	8	11
23 - 29 . . .	23	20	26	24	20	29
30 - 39 . . .	32	34	28	29	33	21
40 - 49 . . .	13	15	11	21	21	20
50 & older. .	16	15	19	13	13	14
Total	100%	100%	100%	100%	100%	100%

1) Observed differences could have occurred by chance in 40 cases out of 100.

Economic Level

TV owners are consistently among the upper income groups.

TABLE 3

TV OWNERSHIP BY ECONOMIC LEVEL

Economic Level	Boston [1] All Fans	Boston TV	Boston No TV	Pittsburgh All Fans	Pittsburgh TV	Pittsburgh No TV
Upper	39	39	40	50	52	47
Middle	57	59	51	47	46	47
Lower	4	2	9	3	2	6
Total	100%	100%	100%	100%	100%	100%

1) In less than 1 case out of 100 could the observed difference be due to chance.

Education

An analysis indicates that more non owners went to college.

TABLE 4

TV OWNERSHIP BY COLLEGE EDUCATION

	Boston [1] Total	Boston TV	Boston No TV	Pittsburgh [2] Total	Pittsburgh TV	Pittsburgh No TV
Went to college	59	54	71	58	52	67
Not go to college	41	46	29	42	48	33
Total	100%	100%	100%	100%	100%	100%

1) The observed difference could have occurred by chance in only 7 cases out of 100.

2) The observed difference could have occurred by chance in less than 1 case out of 100.

Occupation

More professional people who attend football games do not own TV sets. This, of course, is correlated with the above finding that more of them went to college.

TABLE 5

TV OWNERSHIP BY OCCUPATION

Occupation	Boston 1)			Pittsburgh 2)		
	Total	TV	No TV	Total	TV	No TV
Professional	22	18	29	22	19	27
Clerical, sales	19	21	13	23	25	21
Proprietors, mgrs., etc.	13	13	13	10	12	5
Other	46	48	45	45	44	47
Total	100%	100%	100%	100%	100%	100%

1) Differences are significant at the 1% level

2) Differences are significant at the 20% level.

2. Overall Attendance Trends by TV Ownership

The following tables indicate the overall annual attendance trends from 1947 - 1951. While there are no significant differences by TV ownership, the data are presented as indicative of the pattern of game attendance. In a subsequent section, when age, sex and interest in college football are controlled, some TV ownership variations are observed.

TABLE 6

PERCENTAGE DISTRIBUTION OF BOSTON FANS BY NUMBER OF GAMES ATTENDED

1947 - 1948 1)

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	24	23	28	22
1	21	23	20	20
2	18	20	15	19
3-4	15	13	16	16
5-up	22	21	21	23
Total	100%	100%	100%	100%

1) Observed differences could have occurred by chance in 85 cases out of 100.

1949 2)

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	29	29	32	27
1	20	17	19	25
2	15	11	16	18
3-4	9	10	8	9
5-up	27	33	25	21
Total	100%	100%	100%	100%

2) Observed differences could have occurred by chance in 20 cases out of 100.

1950 3)

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	36	34	40	34
1	25	28	23	24
2	13	14	14	12
3-4	18	18	16	19
5-up	8	6	7	11
Total	100%	100%	100%	100%

3) Observed differences could have occurred by chance in 70 cases out of 100.

1951 4)

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	61	61	61	61
1	21	22	22	18
2	8	8	7	11
3-4	7	5	9	7
5-up	3	4	1	3
Total	100%	100%	100%	100%

4) Observed differences could have occurred by chance in 80 cases out of 100.

TABLE 7

PERCENTAGE DISTRIBUTION OF PITTSBURGH FANS BY NUMBER OF GAMES ATTENDED

1947 - 1948 [1]

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	22	24	16	29
1	26	26	24	33
2	16	13	20	16
3-4	15	13	18	8
5-up	21	24	21	14
Total	100%	100%	100%	100%

1) Observed differences could have occurred by chance in 10 cases out of 100.

1949 [2]

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	33	33	31	37
1	32	28	35	35
2	15	16	16	10
3-4	10	9	11	12
5-up	10	14	8	6
Total	100%	100%	100%	100%

2) Observed differences could have occurred by chance in 50 cases out of 100.

1950 [3]

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	47	47	50	39
1	28	27	26	35
2	10	11	8	10
3-4	10	8	10	12
5-up	5	7	5	4
Total	100%	100%	100%	100%

3) Observed differences could have occurred by chance in 80 cases out of 100.

1951 4)

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	58	58	58	58
1	24	23	25	25
2	9	9	8	10
3-4	7	8	6	7
5-up	2	2	3	--
Total	100%	100%	100%	100%

4) Observed differences could have occurred by chance in 99 cases out of 100.

In parts IV and V of the text of the report, it was observed that sex, age and interest in football are highly correlated with TV ownership and attendance; younger men generally have greater interest and attendance at football games. Since our Boston and Pittsburgh owners and non-owners differed in these characteristics, it was felt that our failure to discover any significant variations in attendance may have been due to lack of control of these personal factors. The following separate tabulations of attendance were therefore prepared for each year, holding these factors constant.

SERIES I

TV owners and non-owners.	3 groups
	times
Interest in college football.	3 groups
Total groups	9 groups

SERIES II

Total owner - interest groups - Series I	9 groups
	times
Sex	2 groups
Total groups	18 groups

SERIES III

Total owner - interest - sex groups - Series II .	18 groups
	times
Age (Under 40, 40 and up)	2 groups
Total groups	36 groups

While the average effect of these factors on attendance was confirmed, when they were controlled and homogeneous groups were compared, no significant TV ownership differences were observed.

As described in the text, this failure was in part due to the following three factors: small number of cases in each sub group; low average attendance and consequent small difference by ownership groups, and the ease with which non-owners could and did see TV games. These separate tabulations and measures of significance are on file at NORC.

3. Average Annual Attendance Trends - Sex, Age, Interest Controlled.

In an effort to secure a sufficient number of cases to permit valid comparisons, attendance data for the four years 1947 - 1950 were combined into a single attendance average. Since there were relatively few female attenders in the overall sample, and very few cases in the smallest sub-class, only attendance data for males could be used in the variance analysis. Tables 23 - 25 in the text summarize these findings.

4. Saturday Afternoon Activity During 1951 Football Season.

The following tables indicate the average weekly Saturday afternoon activity of our sample of attenders during the 1951 season. While TV owners and non-owners are presented separately for each interest group in all instances, apparent ownership differences could be due to chance.

TABLE 8

PERCENT DISTRIBUTION SATURDAY AFTERNOON ACTIVITY BY BOSTON OWNERS AND NON-OWNERS

Sept. 29 - Nov. 24, 1951

Attenders with Very great interest	TV owners	Non-owners
Attended a college game	11	11
Listened to game on radio	15	26
Watched game on TV.	21	8
Did something else.	53	55
Total	100%	100%
Attenders with Some interest		
Attended a college game	6	6
Listened to game on radio	13	28
Watched game on TV.	22	5
Did something else.	59	61
Total	100%	100%

TABLE 8 (Continued)

Attenders with Little or no interest	TV owners	Non-owners
Attended a college game	4	5
Listened to game on radio	11	20
Watched game on TV.	16	2
Did something else.	69	73
Total	100%	100%
All attenders		
Attended a college game	7	7
Listened to game on radio	13	25
Watched game on TV.	20	5
Did something else.	60	63
Total	100%	100%

TABLE 9

PERCENT DISTRIBUTION SATURDAY AFTERNOON ACTIVITY BY PITTSBURGH OWNERS AND NON-OWNERS

Sept. 29 - Nov. 24, 1951

Attenders with Very great interest	TV owners	Non-owners
Attended a college game	10	10
Listened to game on radio	21	29
Watched game on TV.	40	23
Did something else.	29	38
Total	100%	100%
Attenders with Some interest		
Attended a college game	6	13
Listened to game on radio	17	31
Watched game on TV.	39	11
Did something else.	38	45
Total	100%	100%
Attenders with Little or no interest		
Attended a college game	4	3
Listened to game on radio	10	17
Watched game on TV.	31	19
Did something else.	55	61
Total	100%	100%

TABLE 9 (continued)

All attenders	TV owners	Non-owners
Attended a college game	7	9
Listened to game on radio	17	26
Watched game on TV.	38	18
Did something else.	38	47
Total	100%	100%

5. High School Attendance

Table 10 indicates the average number of high school games attended by our sample of college attenders during the four years 1947 - 1950.

TABLE 10

PERCENT DISTRIBUTION OF COLLEGE FANS BY AVERAGE NUMBER OF HIGH SCHOOL GAMES ATTENDED EACH YEAR 1947-1950

Boston

Games Attended	Non-owners	TV owners	Total
0	42	32	35
Less than 1	17	11	13
1 - 1.9	17	20	19
2 - 2.9	6	7	7
3 - 3.9	2	10	7
4 - 4.9	4	5	5
5 - up	12	15	14
Total	100%	100%	100%

Pittsburgh

Games Attended	Non-owners	TV owners	Total
0	32	30	31
Less than 1	12	13	12
1 - 1.9	12	9	10
2 - 2.9	13	9	10
3 - 3.9	9	7	8
4 - 4.9	10	6	8
5 - up	12	26	21
Total	100%	100%	100%

6. Professional Game Attendance

Table 11 indicates the professional game attendance of our panel of college fans.

TABLE 11

PERCENT DISTRIBUTION OF COLLEGE FANS BY AVERAGE NUMBER OF PROFESSIONAL GAMES ATTENDED EACH YEAR 1947 - 1950

Boston

Games Attended	No TV	TV	Total
0	79	67	71
Less than 1	16	19	18
1 - 1.9	4	9	8
2 - 2.9	1	3	2
3 - 3.9	-	1	1
4 - 4.9	-	1	-
5 - up	-	-	-
Total	100%	100%	100%

Pittsburgh

Games Attended	No TV	TV	Total
0	41	32	35
Less than 1	28	20	23
1 - 1.9	13	15	14
2 - 2.9	8	10	9
3 - 3.9	4	6	6
4 - 4.9	2	7	5
5 - up	4	10	8
Total	100%	100%	100%

7. Other Data

Complete answers to all questions included on the listing on page 4 which have not been given in the text or appendix, are available in the files of N.O.R.C. All basic answers were cross-tabulated by TV ownership class.

APPENDIX D

As noted in Appendix C , it was deemed wiser to invest our interviewing budget in a small number of surveys of football fans in specially chosen areas than in a large-scale national cross-section. Nevertheless, it was apparent that national survey data would contribute to our understanding of the problem at many points in the analysis.

Such basic information as the proportion of football fans to the population and their distribution by sex, age, economic level, geographical region, etc., could be gathered only through a national survey. In addition, national survey data would be a useful benchmark against which to evaluate the results of the Boston-Pittsburgh and stadium studies.

Fortunately, a relatively inexpensive means of collecting the necessary data from a national cross-section was available in the regular monthly surveys which NORC conducts for other purposes on other matters of public interest. It was possible, therefore, on an early September national survey to add four questions dealing with television and college football, and on a late November survey to add six more.

These regular NORC national surveys are conducted by means of personal interviews with a representative corss-section of the adult population. The pre-season survey was based on 1,292 such interviews and the post-season survey on 1,281 different interviews.

This size of sample, as we have observed in the main body of our report, is not large enough to permit detailed analysis of particular groups which represent only a small fraction of the population. But it is large enough to provide stable national estimates and to permit simple breakdowns of the data by two, three or four population groups.

The interviewing was conducted by NORC's permanent national staff, all of whom have been hired and trained personally by our supervisors. A modified "quota-type" sampling procedure was employed, in which interviewers in the large urban areas are assigned to randomly selected blocksites from which they fill their quotas according to age and sex, and in other areas are assigned quotas of respondents in each of four rental or home-value brackets.

On the pre-season survey, the questions included telephone and television ownership; in the case of TV owners, the channels they could satisfactorily receive in their area; interest in college football, and attendance at college football games, both "ever" and during the preceding season of 1950. From the routine "factual data" at the end of the interview, we ascertained each respondent's occupation, amount of education, age, sex, economic level and place of residence.

These findings were used to define the groups who were interested in, and/or attended, college football games; to ascertain, for the purposes of our Boston-Pittsburgh research, that very few football fans lacked telephone service, and to obtain some indication of the amount of "overlap" in the major TV areas.

The post-season survey obtained the following information: date of attendance at last college football game, reasons for not attending more frequently, 1951 attendance experience, interest in college football, TV ownership and length of same, amount of viewing normally done by non-owners, exposure to football telecasts during the 1951 season, knowledge of the NCAA experimental plan and attitudes toward it, and the extent of feelings of deprivation that particular games had not been telecast. Again, the routine "factual data" on each respondent was used in the analysis of the results.

Data from this post-season survey were coded in terms of each fan's actual behavior (attendance, TV-viewing or neither) on each Saturday of the football season, with special reference in TV areas to the television schedule on each particular date.

The major findings have already been presented in the text of the report. Additional information on length of TV ownership, and geographic location etc., is available in NORC files.

APPENDIX E

SPECIAL STUDIES WITH COOPERATING COLLEGES

I. Introduction

This phase of the research program was developed to supplement the detailed information obtained from the intensive Boston and Pittsburgh interviews and from the national cross-section polls. As noted in Appendix C, cost considerations limited the full-scale area studies to only Boston and Pittsburgh. In view of the wide diversity in types of fans located in various towns and regions, however, it was hoped that a number of additional less detailed studies could be obtained by college research personnel working in cooperation with NORC.

Three types of cooperative surveys were planned:

1) Stadium surveys, consisting of one-page self-administered questionnaires of fans actually attending a game.

2) Area checks on week-end activity, using a short telephone interview with a representative cross-section of all local fans similar to the weekly call-backs in Boston and Pittsburgh.

3) Alumni and Student surveys, consisting of self-administered questionnaires to get additional information about these special groups of fans.

In general, the plan was for NORC to furnish technical assistance in planning each project and for members of the graduate school or teaching staff to be responsible for collecting and tabulating the data. In the case of four schools, however, NORC personnel, in cooperation with the college athletic directors, assumed full responsibility for the research, and in most other cases, due to considerations of time and cost, NORC also did the basic tabulations.

II. Selection of Colleges

A number of factors were considered in the selection of colleges where cooperative projects would be undertaken. In the first place, it was desirable to have representation from as many geographic regions as possible. Secondly, for each cooperating college, studies were needed of games played during different types of TV competition and during blackouts. And to the extent possible, colleges should be selected from areas with such attendance variables as: high and moderate TV saturation, high school and professional football competition, large primary football markets involving considerable travel distance for attending fans, etc.

In early September, all athletic directors were asked to specify on the pre-season questionnaire the names of local research personnel who might be willing to participate in the research program. In early October, a letter outlining the three types of studies was mailed to 120 NCAA colleges. After consideration of the criteria listed above, cooperative agreements were concluded with 24 of these schools. We wish to thank in particular the following college personnel who helped direct this research:*

*) In the case of four schools - Holy Cross, Maryland, Northwestern and Pittsburgh Univ. - the surveys were conducted by NORC personnel with the cooperation of the athletic directors; in the case of UCLA, the surveys were conducted by Dr. Neil Warren and Mr. Maxim Goode of the University of Southern California.

Allegheny College.	Miss Cynthia Britten, senior student.
U.S. Military Academy. . .	Major Joseph F.H. Cutrona, Assistant Public Information Officer.
Columbia University. . . .	Mr. Thomas Blair, graduate student.
Cornell University	Mr. Gordon Streib, Department of Sociology and Anthropology.
Franklin and Marshall. . .	Mr. Jerry Neprash, Deaprtment of Sociology.
Harvard University	Mr. Edgar Lowell, graduate student.
Kentucky University. . . .	Dr. E.G. Sulzer, Department of Radio Arts.
Michigan University. . . .	Mr. John S. Aird, graduate student.
Minnesota University . . .	Mr. Ralph D. Casey, School of Journalism.
Nebraska University. . . .	Mr. George S. Round, Director of Public Relations.
New Hampshire Univ. . . .	Prof. Joseph E. Shafer, Department of Economics and Business Administration.
Northeastern College . . .	Prof. Edward Willett, Economics.
Notre Dame Univ.	Dr. Daniel C. O'Grady, Department of Psychology and Philosophy.
Oklahoma University. . . .	Dr. Marshall E. Milligan, Department of Business Statistics.
Pennsylvania Univ.	Prof. Donald F. Blankertz, Department of Marketing - Wharton School.
Pennsylvania State Col. .	Dean Carl P. Schott, Physical Education and Athletics.
Southern California Univ..	Dr. Neil Warren, Mr. Maxim Goode, Dept. of Psychology.
Wayne University	Mr. Paul Pentecost, Division of Community Relations.
Yale University.	Miss Mildred L. Hackett, Secretary for Student Employment.

The principal analysis design of the stadium surveys and telephone area checks was to study differences in the behavior of TV owner and non-owner fans under different TV conditions. For this reason several colleges which completed surveys of only single games were not utilized in the final tabulations.

Unless otherwise specified, the Chi Square (X^2) test of homogeneity was used to establish significant differences between analytical groups. This technique demonstrates whether any observed difference between two groups (such as owners and non-owners) might be due to chance sampling fluctuations or whether observed differences reflect actual differences in the populations from which the samples are drawn. An observed difference is generally considered statistically significant when, by the X^2 test, we find that the difference could have occurred by chance in only five cases out of 100.

III. Stadium Surveys

Data on the characteristics of approximately 25,000 football attenders were secured at 35 games of 13 colleges,* under a variety of television conditions. Table 1 lists these schools and games, as well as the TV variables, the weather and the attractiveness ratings of each of the games.

TABLE 1

STADIUM SURVEYS

School	Games	Percent of*** Questionnaires Returned	TV ** Situation	Game Attractiveness	Weather
Army	Dartmouth	40%	N.R.	More	Favorable
	Columbia	36	B.O.	Less	Favorable
	Citadel	32	N.R.	Less	Favorable
Columbia	Dartmouth	25%	N.R.	Less	Favorable
	Navy	15	L	More	Favorable
	Brown	30	B.O.	Less	Unfavorable
Cornell	Columbia	7%	N.R.	More	Unfavorable
	Michigan	15	N.R.	More	Favorable
Franklin & Marshall	Swarthmore	52%	B.O.	More	Favorable
	Wash.&Jeff.	44	L	Less	Favorable
	Gettysburgh	19	B.O.	More	Favorable
Harvard	Dartmouth	35%	L	More	Favorable
	Princeton	27	N.R.	More	Favorable
	Brown	18	S	Less	Favorable
Maryland	Missouri	15%	N.R.	Less	Unfavorable
	N.Carolina St.	34	B.O.	More	Unfavorable
	West Virginia	29	B.O.	Less	Unfavorable
Michigan	Minnesota	62%	B.O.	More	Unfavorable
	Northwestern	43	N.R.	Less	Unfavorable
	Ohio State	49	S	More	Favorable
Minnesota	Indiana	40%	N.R.	Less	Favorable
	Wisconsin	6	B.O.	More	Unfavorable
New Hampshire	Maine	70%	N.R.	More	Favorable
	Vermont	63	L	Less	Favorable
	Tufts	48	N.R.	Less	Favorable

* This does not include one game of Kentucky University and one game of Penn State College and it likewise excludes two Oklahoma Univ. games where technical difficulties prevented use of the data.

** N.R.=non-regional, L=local, S=sectional or regional, B.O.=blackout.

*** Percentage based on number of questionnaires distributed.

TABLE 1 (Continued)

School	Game	Percent of Questionnaires Returned	TV Situation	Game Attractiveness	Weather
Northwestern	Wisconsin	39%	L	More	Favorable
	Purdue	46	B.O.	Less	Favorable
Pittsburgh	Ohio State	n.a. *	N.R.	More	Favorable
	West Virginia	n.a.	B.O.	Less	Unfavorable
S.California	Notre Dame	13%	L	Less	Unfavorable
	T.C.U.	49	B.O.	Less	Favorable
	U.C.L.A.	25	N.R.	More	Favorable
	Stanford	44	B.O.	More	Favorable
U.C.L.A.	Washington	21%	B.O.	Less	Favorable
	California	6	S.	More	Favorable

1. Stadium Survey Procedures

In general, questionnaires similar to form #311E-1 were distributed to a 10% random sample of each stadium audience. In most cases ushers handed them to every tenth person entering each stadium section. At several games, however, local Boy Scouts or students handled the distribution and collection of questionnaires.

This design was varied somewhat where the total audience exceeded 40,000 and where sufficient time and research personnel permitted the use of a more controlled sampling plan. For example, at some of the larger games every "n"th row in every "k"th section was sampled. In other similar situations, randomized rows in every section were used. In every sampling plan, however, every attender had an equal probability of selection.

The average questionnaire return was just under 40%. To encourage returns and to minimize possible bias in response, announcements were made over the public address systems during the quarter-and/or half-time explaining that a survey of audience characteristics was being conducted by the college and urging full cooperation. In order to curcumvent the problem of late arrivers and early leavers as a possible source of bias, questionnaires were generally collected at half time.**

As described later, comparisons were made of time-ot-ticket-purchase reported by the sample of respondents and the actual control totals of

* Information is not available on the number of questionnaires distributed at these games

** At Northwestern, it was not feasible to collect the questionnaires at the game, so a pre-folded, stamped, self-addressed envelope form was distributed with instructions to drop it in a mail box after answering the questions.

game ticket sales. Such checks revealed that in most surveys the respondents were fairly representative of the stadium sudience.

2. Analysis Design

The questionnaires from each game were tabulated separately. Student questionnaires were separated from non-student: "student" in this case referring only to those respondents who indicated that they were attending either one of the two schools playing in the game. This report deals exclusively with the data from non-student questionnaires.*

The non-student questionnaires were first sorted on the basis of the respondent's past attendance trend--his reply that his attendance at college football games in 1950 and '51 was "greater", "about the same", or "less" than it was in the 1947 and '48 football seasons. Each of these attendance groupings was then subdivided according to TV ownership and length of ownership. Within this basic grouping of attendance and TV ownership, hand tabulations were prepared on degree of interest in college football, time of ticket purchase, number of games attended in 1950, whether a football game had been watched on TV in 1951, school affiliation, age, and sex.

The second part of the stadium tabulations involved replies to questions on other college football games attended and televiewed in 1951. Each reported attendance or televiewing was tallied according to the TV situation (blackout, local, regional and non-regional telecasts) prevailing on the date of the activity in the respondent's TV area.

Before tallying, the questionnaires were sorted according to TV ownership and length of ownership subdivided by type of ticket purchased (season, non-season advance, day of game). This further sub classification of fans by type of ticket purchase was necessary if the influence of the different types of TV competition were to be tested. It is reasonable to assume that fans with season tickets would attend as many home games as possible, without regard to the variations in the TV situation. If there is a behavior variation by type of TV competition, it would be manifested by the non-season ticket purchasers and to combine them with the season ticket group would only obscure the analysis.

3. Stadium Survey Results

Prior to an analysis of the statistical data obtained from the stadium surveys, it is important to have some understanding of the possible biases reflected in the samples of respondents. Only one partial test of representativeness could be made, since for the most part

* The decision to utilize only the non-student findings was based on two considerations. First, opportunities for attendance are generally greater among students than among non students. Second, students' opportunities for televiewing could not be accurately determined. Some students who replied that they owned a television set may in fact have been referring to a TV set in their parents' homes and thus not have had a set available during football season.

there are no objective data from other sources describing the general characteristics of the stadium audience against which the characteristics observed in our samples could be compared.

As indicated previously, a comparison was made of the types of tickets bought by the sample with school records of actual ticket sales. In 12 of the 35 games a disproportionate number of season-ticket holders were found in the samples. There is no way of determining how this bias affected the personal characteristics found in our samples of stadium audiences.

Two techniques were employed to minimize the possible effects of this bias. Rather than present separate results for each game, data from all of the games of each school were combined into composite school results. Thus the relative importance of any over weighting found in one game would be lessened in the larger size of the merged samples. Further, in the analysis of the 1951 attendances of TV owners and non-owners as described in the analysis designs, only the data from non-season ticket holders were included.

Another possible source of bias, not related to the representativeness of the sample, might be mentioned here. This is the extent to which respondents were aware of the true purpose of the study (as one of determining the effects of TV on college football attendance). This purpose was not made explicit in the questionnaires not in the stadium announcements; however, it is possible that via general publicity or by inference from the survey situation and materials, a portion of the fans were aware of the nature of the study. It is possible, also, that this "awareness" bias may have affected TV owners differently from non-owners, in that owners may have attempted to understate any loss in attendance. By minimizing the effect of TV, they may have thought they would increase the number of available football telecasts.

One further general precaution which should be considered in interpreting the results of stadium surveys is the fact that the data are limited necessarily to only those football fans who actually attended games during 1951. Consequently, results cannot be generalized to the entire universe of college football fans, including those who have an interest in the game but did not attend a game this year. The telephone surveys which are described in the following section, however, were designed to represent all fans - attending or doing something else on selected Saturday afternoons.

a. General Audience Characteristics:

Some of the overall audience characteristics are presented in Table 2.

TABLE 2

CHARACTERISTICS OF 25,000 FANS WHO ATTENDED 35 GAMES OF 13 COLLEGES IN 1951

Age		Sex	
17 and under. . .	5%	Men	78%
18 - 22 years . .	8	Women	22
23 - 29 years . .	19		
30 - 39 years . .	26	Interest in football	
40 - 49 years . .	22		
50 and over . . .	20	Very great. . . .	60%
		Quite a bit . . .	35
		Little or none. .	5

Types of Football Games Attended in 1950

College games only	28%
College and other.	57
No college games	15

Table 3 indicates the composition of each college's audience by TV owner and non-owner group. As can be seen, practically all colleges are faced with heavy TV saturation.

TABLE 3

COMPOSITION OF STADIUM AUDIENCE BY TV OWNERSHIP

College	Percent TV Owners
Army	68%
Columbia	63
Cornell.	47
Franklin and Marshall.	63
Harvard.	50
Maryland	67
Michigan	64
Minnesota.	64
New Hampshire.	38
Northwestern	69
Pittsburgh	56
U.C.L.A.	70
U.S.C.	60

Table 4 describes some of the other audience characteristics on the basis of the composite game data. To conserve space, the full distribution on each item has not been presented but can be calculated easily as the difference between the figures given and 100%.

TABLE 4

PERCENTAGE DISTRIBUTION OF AUDIENCE CHARACTERISTICS BY COLLEGE

School	Interest		Age	Sex	School Affiliation		Type of 1950 Games Attended	
	Very Great	Little Or None	Under 40	Male	Alumni	Non-response *	College Only	College and other
Army	49%	9%	65%	71%	22%	20%	39%	42%
Columbia	49	8	63	75	34	11	40	44
Cornell	56	5	48	77	46	11	48	41
Franklin & Marshall	51	8	47	77	29	10	26	61
Harvard	50	8	48	88	42	6	41	45
Maryland	65	4	77	85	24	16	21	61
Michigan	57	5	61	73	22	25	19	62
Minnesota	71	2	49	80	37	23	32	58
New Hampshire	40	18	48	79	43	10	34	47
Northwestern	56	7	44	84	40	1	32	60
Pittsburgh	50	8	50	75	31	5	14	71
U.C.L.A.	68	3	58	79	24	14	20	69
U.S.C.	68	3	61	79	28	16	24	64

c. Effects of TV Ownership

Two types of tests were made of the possible effects of TV ownership. The first considered owner and non-owner attendance differences during the 1951 season without regard to any variations in the TV situation, and also during TV competition and "blackouts". The second compared recent 1950 and 1951 attendance trends with the pre television years 1947 and 1948.

1) 1951 Trends in Attendance

In general owners and non-owners attended about the same number of games in 1951. As fully discussed in the text of the report, there were many reasons for this inconclusive finding. The assumption that owners and non-owners were two distinct groups was to some extent negated by the ready accessibility of TV to non-owners. In addition, 1951 average attendance was low for both owners and non-owners so that

* On this question, there was an unusually high rate of non-response. To prevent any upward bias in the alumni percentage, the figures have been calculated on a total base which includes the fans who failed to answer this question; the percent of non-response is also listed.

differences in attendance were bound to be small and short of statistical significance. Finally, technical tabulation problems prevented the simultaneous control of personal differences among fans, which is expecially important when group differences are small.

A comparison of the proportion of TV owners in the stadium audience with the proportion of TV owners in the area revealed that the percent of owner-attenders was about equal to the overall proportion in the area.

Another comparison was made of average weekly attendances of owners and non-owners during the 1951 season. In this analysis, as mentioned earlier, only respondents who did not purchase season tickets were included. Each reported attendance at a 1951 college game was coded according to the type of TV situation prevailing in the local TV area at the time of the attendance. A comparison of the weekly average attendance of owners and non-owners, regardless of TV situation, indicated that there were no significant differences in any of the 13 colleges.

In evaluating the effects of the different types of TV situations, the games of each college were divided into two groups - those with TV competition and those without TV ("blackout").

Two measures were used to determine the possible "blackout" effects on owners and non-owners:

1) The relative proportions of TV owners at "blackout" games compared with TV competition games. If a "blackout" significantly helps attendance, a relatively greater number of TV owners would be expected to attend during "blackouts" than when a football game was available.
2) A comparison of the number of "losers" at "blackout" and "competition" games. If TV ownership was contributing to the number of "losers" - fans with less attendance in recent years compared to pre-television years - a relatively greater number of "losers" would be expected to attend during blackouts than during TV competition.

These analyses involved ten schools for which data were available from both "blackout" and "competition" games. With regard to our first hypothesis, in only four out of the ten schools was there a significant difference in the proportions of owners and non-owners attending games. In only one case did more owners attend during a "blackout", while in three cases relatively more non-owners attended. Similarly, in testing our second hypothesis (proportion of "losers" among ow ers at "blackout" and "competition" games), only two schools showed a statistical difference while eight did not, and the differences were again inconsistent -- in one case more "losers" at the blackout game; in the other, fewer "losers" at such games.

From what we now know about game attendance and from our Boston and Pittsburgh findings, these inconclusive "blackout" results were to be expected. In the first place, most fans were poorly informed about blackout dates; secondly, most of the ten colleges were large ones with relatively unimportant gate sales. Consequently, with no overall

"blackout" effects observed in our attendance data among the universe of large colleges, it was to be expected that a sample of large college audiences would confirm this result.

2) Recent Attendance Trends Compared to Pre-Television Years

A special check was made of the historical attendance trends of owners and non-owners who reported that their attendance in 1950 and 1951 was less than during the pre-television years 1947 and 1948. Such fans are called "losers", and if there are more "losers" among TV owners, an inference might be drawn about the harmful effects of TV. Actual results, however, do not confirm the above hypothesis.

In eight of the thirteen schools significant differences were observed. But in seven schools, there was a higher proportion of "losers" among the non-owners; in only one, the TV owners showed a higher number of "losers". In four of the five schools where no significant difference was found, the direction was also toward a greater number of "losers" among the non-owners.

Upon closer analysis, however, the apparent discrepancy can be explained. It should again be recalled that in these overall comparisons there may be some bias in the sample of respondents due to the over representation of season ticket purchasers. Secondly, there is the possibility of a differential memory bias. TV owners who saw many games on TV during the past few seasons may now be unable to recall which games they attended and which they saw on TV. It may be that they are unconsciously inflating their attendance in the more recent years. In addition, there is some possibility that TV owners who were aware of the purpose of the study may have tended to understate their recent losses. In a number of instances comments which were voluntarily written on questionnaires attempted to explain away the possible influence of TV on their attendance. It must also be recalled that only actual attenders are studied here. TV owners who no longer attend games would not appear in our stadium surveys. And in addition to these possible biases, there are the problems of controlling personal differences between owners and non-owners.

We know from our Boston and Pittsburgh studies and from the national cross-section polls that level of interest in football, age, sex, school affiliation, economic level, etc., strongly influence attendance. By means of the X^2 test of homogeneity, we determined that there were differences in these characteristics among the owner and non-owner groups in the stadium audiences and that when these characteristics are controlled, the past attendance differences largely disappear.

Interest Differences:

Our analysis indicates that the owner and non-owner groups, as represented by our stadium samples, do differ with respect to interest. Primarily, TV owners attending games have a higher level of interest than non-owners. In eight out of thirteen schools, a difference was found that could be attributed to chance sampling fluctuations in only two chances out of 100; in each of these schools more owners reported

"very great interest" and more non-owners only "quite a bit" or "little" interest. Of the five schools where there were no statistically significant differences, three again showed a higher concentration of "very" interested fans among the TV owners.

When TV owners and non-owners of equal interest are compared, no reliable differences occur among the "little interested", and only 4 of the 13 colleges demonstrated a significant number of "very interested" non-owners still reporting more "losers". Among the fans with moderate interest in 6 of the 13 cases, more non-owners are classified as "losers".

Within the owner and non-owner groups themselves, the relationship between level of interest and attendance trends was similar; in both cases, the "very" interested more frequently reported gains in attendance, and the "quite" and "little" interested reported attendance losses. For the TV owners, this was true in six out of the thirteen schools; for the non-owners, in eight out of the thirteen schools.

Since more non-owners state they have only a "moderate" interest in football, this factor probably is most important in explaining the overall owner vs.-non owner comparison. That even as many as 6, or less than half of the cases of equal moderate interest, still report more non-owner "losers" may be due to other personal differences among owner and non-owner groups which are not controlled.

Age Differences:

Two comparative age groupings, which had revealed the greatest attendance differences on the national poll, were used -- under 40 years old and 40 and over. Our analysis indicates that the owner and non-owner groups tend to differ also with respect to age, although these differences are not as great as those observed for interest in football. In general, TV owners at football games were found to be older than non-owners. In three schools a difference was found that would appear by chance in only one case out of 100; in each of these three schools, there were more younger fans under 40 in the non-owning group and a greater number over 40 among the owners. Of the ten schools where the differences did not quite meet the standard of significance, six also showed more older TV owners.

When comparing owners and non-owners of equal age, a significant difference between proportions "losing" was found much more frequently in the younger group. In seven out of thirteen schools, a difference was observed which could occur by chance in only 5 cases out of 100; in an eighth school the difference could have arisen from chance sampling fluctuations in only 7 cases out of 100. In all of these eight schools more non-owners than owners under 40 years of age were losing in attendance. In contrast, only two out of the thirteen schools reported a significant difference for those over 40; in only one there was a greater proportion of non-owners losing and in the other, more owners were losing. These data indicate that the greatest difference between owners and non-owners is concentrated in the younger group which contains relatively more non-owners.

The owner and non-owner groups separately showed a similar pattern of relationship between age and attendance trend. In every case, the older group more often reported stable attendance whereas the younger group included both more "gainers" and more "losers". For the TV owners, this occured in eight out of thirteen schools; for the non-owners, in ten out of the thirteen schools.

School Affiliation:

To test the importance of school affiliation in determining differences between owners and non-owners, the respondents were separated into two groups, alumni and general public (non-alumni). "Alumni" here refers to those fans who were graduates of either of the two schools playing in the game and does not include people who may have been alumni of some other college.

The high rate of non-response to this question (described in Table 4) disqualified many schools from this part of the analysis. Only three colleges consistently reported fewer than 10% non-response and at three other specific games missing answers were not too important. Recognizing the limitations of having only 6 cases available for analysis, the data do point up a possible difference between owner and non-owner alumni. In four of the six cases, more alumni were found in the non-owner group, and in three of these cases the non-owner alumni reported a greater number of "losers". As for the proportions of general public losing attendance, more non-owners were "losers" in only one case. These findings suggest that the greater differences between owners and non-owners are also found in the alumni group.

In summary, our analysis of interest level, age, and school affiliation provides some insights into the differences between TV owners and non-owners and their relative proportions "losing" in attendance. We have seen that loss in attendance is more frequent in the lower interest groups, in those under 40 years of age, and in alumni. And our data also indicate that each of these characteristics appears more frequently among the non-owners than among TV owners. If we had been able to separate younger alumni with equal interest, of the same sex and economic status, it is more than likely that the owner - non-owner attendance comparisons would have been different. Unfortunately, due to the number of cases and the use of inflexible hand tabulations, we were unable to control all of these variables simultaneously.

IV. Area Telephone Surveys of Saturday Afternoon Activity

1. Introduction

Cities were selected for the telephone surveys on the basis of the same general factors which determined the choice of football games for the stadium studies. Selections were made in various sections of the country where the home schedule of the local teams presented an opportunity for studying fan activity during a "blackout" and during TV competition. In addition, we were especially interested in local TV

competition.*

Telephone surveys were conducted in eight cities, and except for one case, following two or more different weekends. Table 5 lists the Saturday dates and the prevailing TV situation when the surveys in each city were conducted.

TABLE 5

TELEPHONE SURVEYS

City	Date	Type TV competition **
Detroit, Mich.	10/27	Blackout
	11/17	Inter-regional
	11/24	Sectional
New Haven, Conn.	10/20	Local
	10/27	Blackout
	11/3	Inter-regional
	11/24	Blackout
Lancaster, Pa.	11/10	Local
Minneapolis, Minn.	11/10	Inter-regional
	11/24	Blackout
Philadelphia, Pa.	10/20	Sectional
	10/27	Sectional
	11/3	Blackout
Worcester, Mass.	10/27	Local
	11/3	Blackout
	11/10	Inter-regional
	11/17	Sectional
Los Angeles, Calif.	11/10	Blackout
	11/17	Blackout
	11/24	Inter-regional
	12/1	Local
Lincoln, Neb.	11/3	Inter-regional
	11/17	Local

* A special consideration entered into the selection of Worcester. We wanted to see what happened when a local game was telecast in a nearby major city (Boston).

** Sectional and local competition, when combined are considered regional in the college attendance analysis.

2. General Procedure

The proceedures followed in the telephone surveys were identical with those used in Boston and Pittsburgh call backs. In general, each survey consisted of about 2000 initial telephone calls from which a sample of 400-500 football fans in each city was secured.

Each sample was randomly selected in accordance with the following proceedures. Starting from a randomly selected page of the local telephone directory and a randomly selected listing on this page (k), twenty consecutive listings were called. The position of the first number to be called on each successive (nth) sample page was regularly rotated (k - 1, etc.) with the average assignment consisting of 100 initial calls and approximately twenty - thirty call backs on each of the follow-up interviews.

In the initial call, which was used to select the panel of college football fans, each respondent was asked if anyone in the household had ever attended a college football game and if so who that person was and the date of the last attendance. He was then asked if there were a TV set in the home and when it had been purchased. If he did not have a set, he was asked about the frequency of televiewing on someone else's set — either at the home of a friend or in a public place. Similar to the Boston and Pittsburgh studies, any person attending since 1946 was considered a football fan. Each fan was then asked questions relating to his sports attendance, radio listening and televiewing activities over the weekend and especially during the Saturday afternoon of the home team football game.

All the fans in the household who were mentioned by the respondent as having attended since 1946 were interviewed except in cases where two or more related people were reported as having attended the same last game together. Then the interviewer determined who had been the initiator of the activity and only interviewed him. (E.g., in cases of husband and wife, the husband was usually interviewed.) If a person were mentioned as a fan but was not available to be interviewed at that time, the student was instructed to call back at least two more times at different hours.

All interviews were conducted during the week (usually Monday through Friday) following the local football game. In a few surveys, respondents were asked about two weekends in one interview, when there had not been time to make the calls earlier. In this case, the questions concerning the last weekend were asked and then the interviewer inquired about the previous weekend, mentioning it by date. If the respondent could not recall his activity, the interviewer probed with a mention of a local game played that weekend. The same fans were interviewed on the succeeding call backs. During the last call, in addition to his activities, the fan was asked about his age, sex, and past attendance trend — whether his attendance at college football games was "greater", "about the same", or "less" in the 1950 and '51 seasons than in 1947 and '48.

3. Analysis

The procedures used in tabulating the telephone questionnaires were similar to those already described in the stadium surveys. Responses were tabulated separately for each city and for each weekend. The ballots were sorted on the basis of reported past attendance trend and television ownership. Further, they were sorted into "complete" and "incomplete" groups; the "complete" group representing those fans for whom there was a complete set of questionnaires for all call backs. In the final analysis, only the responses of the "complete" group were used, so that any changes in the proportion of fans engaging in one activity or another could not be attributed to a difference in the composition of the sample. Even more important, the "incompletes" were usually missing the last interview, so that we did not have the essential information on past attendance trends.

The results of the telephone surveys were analyzed separately for each city. Our first step was to compare the proportions of TV owners and non-owners reporting "loss" in attendance. Of the six cities for which complete data were available,* in only one was a difference observed which could not have been due to chance sampling fluctuations. In this city, the non-owners more often reported loss than the owners.

The next step was to compare the Saturday afternoon behavior of the two groups according to the types of TV competition. "Behavior" was grouped into three activities: 1) attended a college football game; 2) listened to college football game on the radio or watched it on TV; 3) did something else (worked, another kind of attendance or televiewing, etc.). Owner - non-owner differences were inconsistent among the various cities. In no case did the same sample of attenders in any city report significant differences in more than one type of TV situation. In three cities, while an inter-regional game was televised, a significant difference between owners and non-owners was found. In two of these cities, more of the owners were attending the game; while in one city, more non-owners were attending and more owners were listening to the radio or watching TV. During a sectional telecast, a significant difference emerged in only one city, with more of the non-owners listening to the radio and watching TV. Finally during "blackouts" in only one city was there a significant difference with more non-owners attending.

Because of the inconsistency of these findings for any one city and between cities, the data for all weekends were combined into an average behavior index for owners and non-owners in each city. Using these indices, no statistically significant difference was found in the behavior of owners and non-owners. It is more than likely that the above inconsistencies would not have occurred if we had been able to control for differences in personal characteristics among the owner and non-owner groups. Unfortunately, due to the size of the samples and the lack of flexibility in hand tabulations, such analyses were not possible.

* In one city, the question on attendance trend was not asked; in another city, the findings could not be utilized because of a confusion in sampling procedure.

IV. STUDENT ALUMNI SURVEYS:

1. Introduction

Since students and alumni represent large segments of stadium audiences, we were interested in getting a more detailed picutre of their behavior and characteristics. In selecting the colleges for these surveys, we feel it would be desirable to have representation from both large and small colleges in different geographical areas. Due to limitations of time and cost, however, only a relatively small number of student and alumni surveys were actually undertaken. As a result, we felt that this section of the study should be considered as only exploratory.

In all, four colleges conducted surveys of alumni* and three colleges, surveys of the student body.** Lack of uniformity in the collection and treatment of the student data, in addition to the priorities placed on other phases of this research, have prevented full utilization of the student surveys. This report, therefore, does not include a separate discussion of the student questionnaires. Data, however, are available in NORC files.

2. General Procedures

The alumni questionnaires were mailed at the end of November, at the close of the 1951 football season, to a random sample representing approximately 10% of each alumni listing. College alumni listings were generally used as the source for names and addresses; in one case, the Athletic Department mailing list was used to facilitate the mailing procedure, since about 80% of the list consisted of alumni.

In selecting each random sample, the procedure used was similar to the one employed in the telephone surveys. The entire list was divided into "n" equal sub groups, A sampling unit of twenty consecutive names was then taken from each sub group. The first cluster of twenty names was started from a random point (k), and each successive cluster was started at point equal to k + 1 - - - i.

To encourage alumni replies, a note signed by the Athletic department was printed at the top of the first page of each three page questionnaire asking each respondent to cooperate in filling out and returning the questionnaire. As a further step to facilitate response, a self-addressed stamped business reply envelope was enclosed with each questionnaire.

Alumni were asked questions on a variety of matters pertaining to their football behavior, as indicated in the attached form #311 E-2. There were items concerning the last game they had attended -- type of ticket used and who had accompanied them to the game; there were questions on their activities at the time of each of the 1950 and 1951 home games

* Alumni surveys were conducted at Columbia U., Notre Dame, U. of So. California, and Wayne U.

** Students surveys were undertaken at Allegheny College, Northeastern U., and Oklahoma U.

(whether they attended, televiewed, listened to a game on the radio, or did none of these things); there were items concerning the number and types of football games attended in 1950, on sports attendance in '51 and on sports enjoyed on TV; there was also a question on past attendance trend -- whether attendance in the 1950 and '51 football seasons was "greater", "about the same", or "less" than in 1947 and '48. Items on personal characteristics inquired about age, sex, graduating class, occupation, location of residence and television ownership -- length of ownership and degree of non-owner televiewing.

3. Analysis

The tabulating procedure was similar to that used in the stadium surveys. First the ballots were checked to eliminate those respondents, negligible in number, who had never been to a college football game. Then the questionnaires were sorted according to TV ownership and length of ownership and according to reported past attendance trend; responses to the different questions were hand-tallied within these sorted groups. For the question on activities during the time of the '51 home games, only those respondents were used whose residence was within the local TV center.*

This discussion of the findings deals only with the data from the alumni surveys of Columbia and Wayne Universities.** As a first step in investigating some of the characteristics of the alumni, the proportions of TV owners in the samples were compared with the proportions in the TV areas. In the case of Columbia U., there was no significant difference in TV ownership between the sample and the area as a whole. In the Wayne University study, there was a higher rate of TV ownership among alumni than in the general Detroit area.

The second characteristic which was investigated was age distribution -- under 40 and over 40 years of age. In Columbia, 55% of the alumni were under 40; at Wayne, 68% were under 40 years of age. As for the differences between owners and non-owners, in Wayne we found that more of the TV owners were under 40 years of age, a difference that could have arisen from chance sampling fluctuations in only one case in 100. In the case of Columbia, however, no significant age difference was found between the owners and non-owners.

The alumni data were also analyzed for the proportion of "losers" among owners and non-owners. In the case of Wayne, a higher proportion of owners reported "loss" in attendance (probability 8%). It should be noted that it was at Wayne that there were more owners under 40 years of ate. At Columbia, on the other hand, there was no significant difference between the two groups in the proportions reporting loss in attendance.

* Arrangements had been made to tabulate separately the ballots of any sizeable group of alumni from another TV area, but this did not prove necessary. In one of the schools, questionnaires were mailed only to local alumni.

** One college returned completed questionnaires too late and the small number of cases included in the sample made its representativeness highly questionable. In another case, technical difficulties in the treatment of the data prevented the inclusion of the findings.

In analyzing the proportions of "losers" among owners and non-owners of equal age, neither of the surveys demonstrated a significant difference. Thus our earlier finding in the Wayne survey of more owners losing attendance seems to be accounted for in a large part by the younger age of the owner group. Furthermore, in the Columbia survey, when comparing age and attendance trends within the owner and non-owner groups, a significantly greater number of younger TV owners than older owners were found to be losing attendance. The difference at Wayne was in the same direction but did not quite meet the standard of significance. This also confirms the previous stadium findings of the greater stability in the attendance trends of older fans.

For the non-owners, however, younger and older alumni reported no significant differences in their historical attendance trends. In both cases, however, there was a tendency for younger alumni to report greater loss in attendance; the difference could be due to chance, in 17 cases out of 100 in Wayne, and in 10 cases out of 100 in Columbia.

Of the two alumni surveys, only Columbia afforded an opportunity to compare behavior under local, non regional TV competition and during blackouts. In this survey however, there was no significant difference between owners and non-owners in the proportions of alumni attending the different games.

Both owners and non-owners attended games more frequently under TV competition than under "blackout" conditions. For the TV owners this was a significant difference; the difference for the non-owners was not quite significant. However, the Columbia "blackout" game was generally less attractive and was played under poor weather conditions. Since these factors weren't controlled, the higher attendance during TV competition, has very limited meaning.

To further test whether there was a difference in attendance between the owners and non-owners, regardless of type of TV competition, an average weekly behavior index for the five Saturdays when home games were played was derived for Columbia alumni. This index was identical to the one used in the telephone surveys. It was found that there was no significant difference in the attendance of TV owning and non-owning alumni. This same analysis was made of the data from the Wayne survey and again, there was no significant difference between the attendance of owners and non-owners.

In summary, we did find a difference between owner and non-owner alumni losing in attendance in one survey, but this difference disappeared when age was held constant in the two groups. Younger alumni (under 40) more frequently report loss in attendance than older alumni, regardless of TV ownership. And there was no difference between TV owning and non-owning alumni in our sample with regard to frequency of attendance on selected Saturdays during the 1951 season.

NORC 311-E-1.

NCAA FOOTBALL STADIUM STUDY FOR _____ GAME

We are trying to find out something about football fans, who they are, where they come from, etc., and would greatly appreciate your answering the following questions:

1. How much interest would you say you take in college football?

Very great interest	( )
Quite a bit	( )
Only a little or none	( )

2. Was your ticket to the game bought in advance or on the day of the game?

In advance	( )*
Day of game	( )
Don't know	( )

*A. IF "IN ADVANCE": Is it a season ticket?

Yes ( ) No ( )

3. A. How many college football games did you attend in 1950? _____

B. How many high school games did you attend in 1950? _____

C. How many professional games did you attend in 1950? _____

4. Please list any other college football games you have attended this year (1951)

_____

_____

_____

5. A. Would you say your attendance at college football games during 1950-51 was greater, about the same or less than the 1947-1948 seasons?

Greater	( )
About the same	( )
Less	( )

B. If greater or less, why?

_____

_____

_____

6. A. Do you happen to own a radio or television set?

Radio	( )
Television	( )
Neither	( )

B. If you own a television set, how long have you owned one? _____

C. How clearly do you receive the following channels?

	Channel Number ( )	( )	( )	( )
Very well				
Only fairly well				
Poorly				
Not at all				

D. Have you watched any football games on TV this year?

Yes ( ) No ( )

E. If "YES": Which ones?

_____

_____

F. Did you see any of these televised in a movie theatre?

Yes ( ) No ( )

7. Are you a student or alumnus of the:

	Student	Alumnus
Home school	( )	( )
Visiting school	( )	( )
Neither school	( )	( )

8. For purposes of classification, we would like to know:

A. Your approximate age: _____

B. Your sex: Male ( ) Female ( )

C. Your occupation: _____

D. Location of your residence:

_____ _____
(City) (State)

NORC 311-E-2

Segment Number _____ Address _____ Phone _____
(Street) (City)

QUESTIONNAIRE FOR LOCAL TELEPHONE SURVEYS

Hello. This is ( ). We're doing a survey of leisure time activities, (what people do in their spare time), for (the National Opinion Research Center of the University of Chicago) The first question is:

1. Is there anyone in your household who has ever attended a college football game?

Yes ( )* No ( )

*A. IF "YES": Who are they -- that is, which members of your family have ever gone to a college football game, and about how long ago was the last time (you) (he) (she) attended?

		Year Last Attended		Year Last Attended
LIST EACH ELIGIBLE MEMBER: (Attended Game)	1.		3.	
	2.		4.	

2. Do you happen to have a television set in your home? Yes ( )* No ( )**

*A. IF "YES": A. What was the month and year in which first set was purchased?

_____

B. What channels can you receive on your set? _____

1. ASK ABOUT EACH: Does that channel usually come in very well, only fairly well, or poorly?

	Channel Number			
Very well				
Only fairly well				
Poorly				

** IF "NO": How often do you watch television at the home of your friends or in public places -- quite often, only occasionally, or never?

Quite often ( )
Only occasionally ( )
Never ( )

NOTE: A. IF NO MEMBER OF THE FAMILY HAS ATTENDED A FOOTBALL GAME IN 1947 OR LATER, DISCONTINUE THE INTERVIEW.

B. IF THE PERSON WHO ANSWERS THE PHONE HAS ATTENDED A COLLEGE FOOTBALL GAME IN 1947 OR LATER, ASK HIM THE FOLLOWING QUESTIONS, THEN ASK TO SPEAK TO ANY OTHER ELIGIBLE MEMBERS OF THE HOUSEHOLD. IF HE HAS NOT RECENTLY ATTENDED A GAME, ASK TO SPEAK TO ANY ELIGIBLE MEMBER, EXPLAINING THAT YOU HAVE JUST A FEW QUESTIONS WHICH EACH ELIGIBLE MEMBER COULD ANSWER BETTER FOR HIMSELF. (FOR EXPLANATION OF "ELIGIBLE", SEE NOTE BOTTOM OF PAGE 2.)

Upon contacting each eligible member of a household, use the introduction at the top of this questionnaire and ask the following questions:

Name of *Eligible: _____ Phone Number: _____ Segment Number: _____

1. How did you spend the afternoon last Saturday? (What were you doing from about 2 o'clock till about 5?)

PROBE: Did you listen to the radio or watch television at all on Saturday afternoon?

CHECK APPROPRIATE BOX OR BOXES BELOW AND SPECIFY NATURE OF ATTENDANCE, RADIO LISTENING OR TELEVISION VIEWING:

( ) Attended college football game

Which? _____

( ) Attended high school football

Which? _____

( ) Attended other football game

Which? _____

( ) Attended other sports event

Which? _____

( ) Attended movies

What theatre? _____

( ) Attended other entertainment

Specify: _____

( ) Listened to radio

( ) Football games (Which?) _____

( ) Other sports (Which?) _____

( ) Other programs

( ) Watched television

( ) Football game (Which?) _____

( ) Other sports (Which?) _____

( ) Other programs

( ) DID NONE OF ABOVE -- No attendance, no radio, no TV viewing.

(What did he do?) _____

2. Did you attend any (other) entertainment or sports events last weekend -- Friday night, Saturday night, or Sunday?

( ) Yes (specify) _____
( ) No

3. And did you listen to any (other) sports events on the radio, or watch any on television last weekend -- Friday night, or Saturday night, or Sunday?

( ) Yes, radio (specify) _____
( ) Yes, TV (specify) _____
( ) No, neither

INTERVIEWER'S SIGNATURE: _____

DATE OF FIRST CALL: _____

DATE OF LAST CALL: _____

* An eligible member must have attended a college football game since 1947 to be asked these questions.

*Name of Eligible: _____ Phone Number: _____ Segment Number: _____

1. Now, how did you spemd the afternoon on Saturday a week ago --that would be (month and day). (Probe: that was the day of the _____ football game.) (What were you doing from about 2 o'clock til about 5?)

PROBE: Did you listen to the radio or watch television at all on Saturday afternoon?

CHECK APPROPRIATE BOX OR BOXES BELOW AND SPECIFY NATURE OF ATTENDANCE, RADIO LISTENING OR TELEVISION VIEWING:

( ) Attended college football game
Which? _____

( ) Attended high school football
Which? _____

( ) Attended other football game
Which? _____

( ) Attended other sports event
Which? _____

( ) Attended movies
What theatre? _____

( ) Attended other entertainment
Specify: _____

( ) Listened to radio
( ) Football games (Which?) _____
( ) Other sports (Which?) _____
( ) Other programs

( ) Watched television
( ) Football game (Which?) _____
( ) Other sports (Which?) _____
( ) Other programs

( ) DID NONE OF ABOVE -- No attendance, no radio, no TV viewing

(What did he do?) _____

2. Did you attend any (other) entertainment or sports events that weekend -- Friday night, Saturday night, or Sunday?

( ) Yes (specify) _____
( ) No

3. And did you listen to any (other) sports events on the radio, or watch any on television that weekend -- Friday Night, or Saturday night, or Sunday?

( ) Yes, radio (specify) _____
( ) Yes, TV (specify) _____
( ) No, neither

INTERVIEWER'S SIGNATURE: _____

DATE OF FIRST CALL: _____
DATE OF LAST CALL: _____

* An eligible member must have attended a college football game since 1947 to be asked these questions.

NORC 311-E-3

SURVEY OF ALUMNI

Dear Alumnus:

Columbia University is cooperating with the National Opinion Research Center in a nation-wide study of college football attendance. We are trying to find out something about alumni activities during the football season and we would greatly appreciate your answering the following questions. For your convenience in returning this information, a stamped self-addressed envelope is enclosed. Please fill in the questionnaire and mail it to NORC. Thank you.

Ralph Furey
Director of Athletics
Columbia University

---

1. Have you ever attended a college football game?

   *Yes . . . . . ( )
   No . . . . . ( )

*A. IF "YES": ANSWER THE FOLLOWING QUESTIONS; IF "NO": PLEASE SKIP TO Q. 6.

2. A. Do you remember whether you went alone or with someone to the last game you attended?

   Alone . . . . . ( )
   *With someone . . . ( )
   Don't remember . . ( )

*B. IF "WITH SOMEONE": How many were in the party, and who were they? (Family, fellow students, alumni, another couple, etc.)

_____

_____

C. Was your ticket bought in advance or on the day of the game?

   *In advance . . . . ( )
   Day of game . . . . ( )
   Don't remember . . ( )

D. IF "IN ADVANCE": Was it a season ticket?

   Yes . . . . . ( )
   No . . . . . ( )

3. Please check whether you attended the following Columbia home games in 1950, watched them on TV, or listened to them on the radio, or did none of these things:

Hobart (Sept. 30)
Attended ( ) TV ( ) Radio ( ) None ( )

Penn (Oct. 21)
Attended ( ) TV ( ) Radio ( ) None ( )

Army (Oct. 28)
Attended ( ) TV ( ) Radio ( ) None ( )

Cornell (Nov. 4)
Attended ( ) TV ( ) Radio ( ) None ( )

Navy (Nov. 18)
Attended ( ) TV ( ) Radio ( ) None ( )

4. Did you attend any other football games during 1950?

	*Yes	No
College	( )	( )
High School	( )	( )
Professional	( )	( )

*A. IF "YES": Which ones?

_____

_____

_____

5. Would you say your attendance at college football games during 1950 and 1951 was greater, about the same, or less than in the 1947 and 1948 seasons?

   *Greater . . . . . ( )
   About the same . . . ( )
   *Less . . . . . ( )

*A. IF "GREATER" OR "LESS": Could you tell us why?

_____

_____

_____

6. Now, could you check the general way in which you spent each of the Saturday afternoons on which Columbia played a home game this year:

	Attended Columbia Game	Attended Other Football Game (Which?)	Attended Other Sports Event (Which?)	Watched TV Program (Which?)	Listened to Radio Program (Which?)	Other (Please Specify)
(Oct. 6) Harvard. . . .	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Oct. 13) Yale.	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Nov. 10) Dartmouth. . .	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Nov. 17) Navy	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Nov. 24) Brown.	( )	( )_____	( )_____	( )_____	( )_____	( )_____

7. Have you attended or do you expect to attend any (other) football games in 1951?

*Yes. . . . . ( )
No . . . . . ( )

*List Games:

_____

_____

8. Do you happen to own a radio or television set?

Radio. . . . . ( )
*Television . . . . ( )
Neither. . . . . ( )

*A. IF "TV": How long have you owned one? ____Yrs. ____Mos.

B. IF "NO TV": How often do you watch TV programs at the homes of your friends or in public places?

**Quite often. . . . ( )
**Occasionally . . . ( )
Never. . . . . ( )

**IF YOU OWN A TV SET OR WATCH TV PROGRAMS OCCASIONALLY OR OFTEN: Have you watched any football games on TV during the 1951 season?

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which games?

_____

_____

9. Did you watch any football games on TV during the 1950 season?

Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": How many games and can you tell us which ones?

_____

_____

_____

_____

10. IF YOU HAVE A RADIO: Have you listened to any football games during 1950-1951:

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": How often?

Regularly. . . . ( )
Occasionally . . ( )
Seldom or never. ( )

11. Aside from football, have you attended any other sport events or games during 1951:

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which ones?

_____

_____

_____

12. Aside from football, are there any sports you enjoy watching on TV?

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which ones?

_____

_____

_____

13. Aside from Columbia, did you attend any other colleges or universities?

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which ones?

_____

_____

14. For purposes of classification, we would like to know:

A. Your approximate age: _____
B. Your sex: Male ( ) Female ( )
C. Your Columbia graduating class:

_____

D. Your occupation _____
E. Location of your home residence:

_____

_____
(City) (State)

TABLE 7

PERCENTAGE DISTRIBUTION OF PITTSBURGH FANS BY NUMBER OF GAMES ATTENDED

1947 - 1948 [1]

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	22	24	16	29
1	26	26	24	33
2	16	13	20	16
3-4	15	13	18	8
5-up	21	24	21	14
Total	100%	100%	100%	100%

1) Observed differences could have occurred by chance in 10 cases out of 100.

1949 [2]

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	33	33	31	37
1	32	28	35	35
2	15	16	16	10
3-4	10	9	11	12
5-up	10	14	8	6
Total	100%	100%	100%	100%

2) Observed differences could have occurred by chance in 50 cases out of 100.

1950 [3]

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	47	47	50	39
1	28	27	26	35
2	10	11	8	10
3-4	10	8	10	12
5-up	5	7	5	4
Total	100%	100%	100%	100%

3) Observed differences could have occurred by chance in 80 cases out of 100.

1951 4)

Number of games Attended	All Groups	No TV	TV - less 2 yrs.	TV - 2 yrs.- up
0	58	58	58	58
1	24	23	25	25
2	9	9	8	10
3-4	7	8	6	7
5-up	2	2	3	--
Total	100%	100%	100%	100%

4) Observed differences could have occurred by chance in 99 cases out of 100.

In parts IV and V of the text of the report, it was observed that sex, age and interest in football are highly correlated with TV ownership and attendance; younger men generally have greater interest and attendance at football games. Since our Boston and Pittsburgh owners and non-owners differed in these characteristics, it was felt that our failure to discover any significant variations in attendance may have been due to lack of control of these personal factors. The following separate tabulations of attendance were therefore prepared for each year, holding these factors constant.

SERIES I

TV owners and non-owners.	3 groups
	times
Interest in college football.	3 groups
Total groups	9 groups

SERIES II

Total owner - interest groups - Series I	9 groups
	times
Sex	2 groups
Total groups	18 groups

SERIES III

Total owner - interest - sex groups - Series II .	18 groups
	times
Age (Under 40, 40 and up)	2 groups
Total groups	36 groups

While the average effect of these factors on attendance was confirmed, when they were controlled and homogeneous groups were compared, no significant TV ownership differences were observed.

As described in the text, this failure was in part due to the following three factors: small number of cases in each sub group; low average attendance and consequent small difference by ownership groups, and the ease with which non-owners could and did see TV games. These separate tabulations and measures of significance are on file at NORC.

3. Average Annual Attendance Trends - Sex, Age, Interest Controlled.

In an effort to secure a sufficient number of cases to permit valid comparisons, attendance data for the four years 1947 - 1950 were combined into a single attendance average. Since there were relatively few female attenders in the overall sample, and very few cases in the smallest sub-class, only attendance data for males could be used in the variance analysis. Tables 23 - 25 in the text summarize these findings.

4. Saturday Afternoon Activity During 1951 Football Season.

The following tables indicate the average weekly Saturday afternoon activity of our sample of attenders during the 1951 season. While TV owners and non-owners are presented separately for each interest group in all instances, apparent ownership differences could be due to chance.

TABLE 8

PERCENT DISTRIBUTION SATURDAY AFTERNOON ACTIVITY BY BOSTON OWNERS AND NON-OWNERS

Sept. 29 - Nov. 24, 1951

Attenders with Very great interest	TV owners	Non-owners
Attended a college game	11	11
Listened to game on radio	15	26
Watched game on TV.	21	8
Did something else.	53	55
Total	100%	100%
Attenders with Some interest		
Attended a college game	6	6
Listened to game on radio	13	28
Watched game on TV.	22	5
Did something else.	59	61
Total	100%	100%

TABLE 8 (Continued)

Attenders with Little or no interest	TV owners	Non-owners
Attended a college game	4	5
Listened to game on radio	11	20
Watched game on TV.	16	2
Did something else.	69	73
Total	100%	100%
All attenders		
Attended a college game	7	7
Listened to game on radio	13	25
Watched game on TV.	20	5
Did something else.	60	63
Total	100%	100%

TABLE 9

PERCENT DISTRIBUTION SATURDAY AFTERNOON ACTIVITY BY PITTSBURGH OWNERS AND NON-OWNERS

Sept. 29 - Nov. 24, 1951

Attenders with Very great interest	TV owners	Non-owners
Attended a college game	10	10
Listened to game on radio	21	29
Watched game on TV.	40	23
Did something else.	29	38
Total	100%	100%
Attenders with Some interest		
Attended a college game	6	13
Listened to game on radio	17	31
Watched game on TV.	39	11
Did something else.	38	45
Total	100%	100%
Attenders with Little or no interest		
Attended a college game	4	3
Listened to game on radio	10	17
Watched game on TV.	31	19
Did something else.	55	61
Total	100%	100%

TABLE 9 (continued)

All attenders	TV owners	Non-owners
Attended a college game	7	9
Listened to game on radio	17	26
Watched game on TV.	38	18
Did something else.	38	47
Total	100%	100%

5. High School Attendance

Table 10 indicates the average number of high school games attended by our sample of college attenders during the four years 1947 - 1950.

TABLE 10

PERCENT DISTRIBUTION OF COLLEGE FANS BY AVERAGE NUMBER OF HIGH SCHOOL GAMES ATTENDED EACH YEAR 1947-1950

Boston

Games Attended	Non-owners	TV owners	Total
0	42	32	35
Less than 1	17	11	13
1 - 1.9	17	20	19
2 - 2.9	6	7	7
3 - 3.9	2	10	7
4 - 4.9	4	5	5
5 - up	12	15	14
Total	100%	100%	100%

Pittsburgh

Games Attended	Non-owners	TV owners	Total
0	32	30	31
Less than 1	12	13	12
1 - 1.9	12	9	10
2 - 2.9	13	9	10
3 - 3.9	9	7	8
4 - 4.9	10	6	8
5 - up	12	26	21
Total	100%	100%	100%

6. Professional Game Attendance

Table 11 indicates the professional game attendance of our panel of college fans.

TABLE 11

PERCENT DISTRIBUTION OF COLLEGE FANS BY AVERAGE NUMBER OF PROFESSIONAL GAMES ATTENDED EACH YEAR 1947 - 1950

Boston

Games Attended	No TV	TV	Total
0	79	67	71
Less than 1	16	19	18
1 - 1.9	4	9	8
2 - 2.9	1	3	2
3 - 3.9	-	1	1
4 - 4.9	-	1	-
5 - up	-	-	-
Total	100%	100%	100%

Pittsburgh

Games Attended	No TV	TV	Total
0	41	32	35
Less than 1	28	20	23
1 - 1.9	13	15	14
2 - 2.9	8	10	9
3 - 3.9	4	6	6
4 - 4.9	2	7	5
5 - up	4	10	8
Total	100%	100%	100%

7. Other Data

Complete answers to all questions included on the listing on page 4 which have not been given in the text or appendix, are available in the files of N.O.R.C. All basic answers were cross-tabulated by TV ownership class.

APPENDIX D

As noted in Appendix C , it was deemed wiser to invest our interviewing budget in a small number of surveys of football fans in specially chosen areas than in a large-scale national cross-section. Nevertheless, it was apparent that national survey data would contribute to our understanding of the problem at many points in the analysis.

Such basic information as the proportion of football fans to the population and their distribution by sex, age, economic level, geographical region, etc., could be gathered only through a national survey. In addition, national survey data would be a useful benchmark against which to evaluate the results of the Boston-Pittsburgh and stadium studies.

Fortunately, a relatively inexpensive means of collecting the necessary data from a national cross-section was available in the regular monthly surveys which NORC conducts for other purposes on other matters of public interest. It was possible, therefore, on an early September national survey to add four questions dealing with television and college football, and on a late November survey to add six more.

These regular NORC national surveys are conducted by means of personal interviews with a representative corss-section of the adult population. The pre-season survey was based on 1,292 such interviews and the post-season survey on 1,281 different interviews.

This size of sample, as we have observed in the main body of our report, is not large enough to permit detailed analysis of particular groups which represent only a small fraction of the population. But it is large enough to provide stable national estimates and to permit simple breakdowns of the data by two, three or four population groups.

The interviewing was conducted by NORC's permanent national staff, all of whom have been hired and trained personally by our supervisors. A modified "quota-type" sampling procedure was employed, in which interviewers in the large urban areas are assigned to randomly selected blocksites from which they fill their quotas according to age and sex, and in other areas are assigned quotas of respondents in each of four rental or home-value brackets.

On the pre-season survey, the questions included telephone and television ownership; in the case of TV owners, the channels they could satisfactorily receive in their area; interest in college football, and attendance at college football games, both "ever" and during the preceding season of 1950. From the routine "factual data" at the end of the interview, we ascertained each respondent's occupation, amount of education, age, sex, economic level and place of residence.

These findings were used to define the groups who were interested in, and/or attended, college football games; to ascertain, for the purposes of our Boston-Pittsburgh research, that very few football fans lacked telephone service, and to obtain some indication of the amount of "overlap" in the major TV areas.

The post-season survey obtained the following information: date of attendance at last college football game, reasons for not attending more frequently, 1951 attendance experience, interest in college football, TV ownership and length of same, amount of viewing normally done by non-owners, exposure to football telecasts during the 1951 season, knowledge of the NCAA experimental plan and attitudes toward it, and the extent of feelings of deprivation that particular games had not been telecast. Again, the routine "factual data" on each respondent was used in the analysis of the results.

Data from this post-season survey were coded in terms of each fan's actual behavior (attendance, TV-viewing or neither) on each Saturday of the football season, with special reference in TV areas to the television schedule on each particular date.

The major findings have already been presented in the text of the report. Additional information on length of TV ownership, and geographic location etc., is available in NORC files.

APPENDIX E

SPECIAL STUDIES WITH COOPERATING COLLEGES

I. Introduction

This phase of the research program was developed to supplement the detailed information obtained from the intensive Boston and Pittsburgh interviews and from the national cross-section polls. As noted in Appendix C, cost considerations limited the full-scale area studies to only Boston and Pittsburgh. In view of the wide diversity in types of fans located in various towns and regions, however, it was hoped that a number of additional less detailed studies could be obtained by college research personnel working in cooperation with NORC.

Three types of cooperative surveys were planned:

1) Stadium surveys, consisting of one-page self-administered questionnaires of fans actually attending a game.

2) Area checks on week-end activity, using a short telephone interview with a representative cross-section of all local fans similar to the weekly call-backs in Boston and Pittsburgh.

3) Alumni and Student surveys, consisting of self-administered questionnaires to get additional information about these special groups of fans.

In general, the plan was for NORC to furnish technical assistance in planning each project and for members of the graduate school or teaching staff to be responsible for collecting and tabulating the data. In the case of four schools, however, NORC personnel, in cooperation with the college athletic directors, assumed full responsibility for the research, and in most other cases, due to considerations of time and cost, NORC also did the basic tabulations.

II. Selection of Colleges

A number of factors were considered in the selection of colleges where cooperative projects would be undertaken. In the first place, it was desirable to have representation from as many geographic regions as possible. Secondly, for each cooperating college, studies were needed of games played during different types of TV competition and during blackouts. And to the extent possible, colleges should be selected from areas with such attendance variables as: high and moderate TV saturation, high school and professional football competition, large primary football markets involving considerable travel distance for attending fans, etc.

In early September, all athletic directors were asked to specify on the pre-season questionnaire the names of local research personnel who might be willing to participate in the research program. In early October, a letter outlining the three types of studies was mailed to 120 NCAA colleges. After consideration of the criteria listed above, cooperative agreements were concluded with 24 of these schools. We wish to thank in particular the following college personnel who helped direct this research:*

*) In the case of four schools - Holy Cross, Maryland, Northwestern and Pittsburgh Univ. - the surveys were conducted by NORC personnel with the cooperation of the athletic directors; in the case of UCLA, the surveys were conducted by Dr. Neil Warren and Mr. Maxim Goode of the University of Southern California.

Allegheny College.	Miss Cynthia Britton, senior student.
U.S. Military Academy. . .	Major Joseph F.H. Cutrona, Assistant Public Information Officer.
Columbia University. . . .	Mr. Thomas Blair, graduate student.
Cornell University	Mr. Gordon Streib, Department of Sociology and Anthropology.
Franklin and Marshall. . .	Mr. Jerry Neprash, Deaprtment of Sociology.
Harvard University	Mr. Edgar Lowell, graduate student.
Kentucky University. . . .	Dr. E.G. Sulzer, Department of Radio Arts.
Michigan University. . . .	Mr. John S. Aird, graduate student.
Minnesota University . . .	Mr. Ralph D. Casey, School of Journalism.
Nebraska University. . . .	Mr. George S. Round, Director of Public Relations.
New Hampshire Univ. . . .	Prof. Joseph E. Shafer, Department of Economics and Business Administration.
Northeastern College . . .	Prof. Edward Willett, Economics.
Notre Dame Univ.	Dr. Daniel C. O'Grady, Department of Psychology and Philosophy.
Oklahoma University. . . .	Dr. Marshall E. Milligan, Department of Business Statistics.
Pennsylvania Univ.	Prof. Donald F. Blankertz, Department of Marketing - Wharton School.
Pennsylvania State Col. .	Dean Carl P. Schott, Physical Education and Athletics.
Southern California Univ..	Dr. Neil Warren, Mr. Maxim Goode, Dept. of Psychology.
Wayne University	Mr. Paul Pentecost, Division of Community Relations.
Yale University.	Miss Mildred L. Hackett, Secretary for Student Employment.

The principal analysis design of the stadium surveys and telephone area checks was to study differences in the behavior of TV owner and non-owner fans under different TV conditions. For this reason several colleges which completed surveys of only single games were not utilized in the final tabulations.

Unless otherwise specified, the Chi Square (X^2) test of homogeneity was used to establish significant differences between analytical groups. This technique demonstrates whether any observed difference between two groups (such as owners and non-owners) might be due to chance sampling fluctuations or whether observed differences reflect actual differences in the populations from which the samples are drawn. An observed difference is generally considered statistically significant when, by the X^2 test, we find that the difference could have occurred by chance in only five cases out of 100.

III. Stadium Surveys

Data on the characteristics of approximately 25,000 football attenders were secured at 35 games of 13 colleges,* under a variety of television conditions. Table 1 lists these schools and games, as well as the TV variables, the weather and the attractiveness ratings of each of the games.

TABLE 1

STADIUM SURVEYS

School	Games	Percent of*** Questionnaires Returned	TV ** Situation	Game Attractiveness	Weather
Army	Dartmouth	40%	N.R.	More	Favorable
	Columbia	36	B.O.	Less	Favorable
	Citadel	32	N.R.	Less	Favorable
Columbia	Dartmouth	25%	N.R.	Less	Favorable
	Navy	15	L	More	Favorable
	Brown	30	B.O.	Less	Unfavorable
Cornell	Columbia	7%	N.R.	More	Unfavorable
	Michigan	15	N.R.	More	Favorable
Franklin & Marshall	Swarthmore	52%	B.O.	More	Favorable
	Wash.&Jeff.	44	L	Less	Favorable
	Gettysburgh	19	B.O.	More	Favorable
Harvard	Dartmouth	35%	L	More	Favorable
	Princeton	27	N.R.	More	Favorable
	Brown	18	S	Less	Favorable
Maryland	Missouri	15%	N.R.	Less	Unfavorable
	N.Carolina St.	34	B.O.	More	Unfavorable
	West Virginia	29	B.O.	Less	Unfavorable
Michigan	Minnesota	62%	B.O.	More	Unfavorable
	Northwestern	43	N.R.	Less	Unfavorable
	Ohio State	49	S	More	Favorable
Minnesota	Indiana	40%	N.R.	Less	Favorable
	Wisconsin	6	B.O.	More	Unfavorable
New Hampshire	Maine	70%	N.R.	More	Favorable
	Vermont	63	L	Less	Favorable
	Tufts	48	N.R.	Less	Favorable

* This does not include one game of Kentucky University and one game of Penn State College and it likewise excludes two Oklahoma Univ. games where technical difficulties prevented use of the data.

** N.R.=non-regional, L=local, S=sectional or regional, B.O.=blackout.

*** Percentage based on number of questionnaires distributed.

TABLE 1 (Continued)

School	Game	Percent of Questionnaires Returned	TV Situation	Game Attractiveness	Weather
Northwestern	Wisconsin	39%	L	More	Favorable
	Purdue	46	B.O.	Less	Favorable
Pittsburgh	Ohio State	n.a. *	N.R.	More	Favorable
	West Virginia	n.a.	B.O.	Less	Unfavorable
S.California	Notre Dame	13%	L	Less	Unfavorable
	T.C.U.	49	B.O.	Less	Favorable
	U.C.L.A.	25	N.R.	More	Favorable
	Stanford	44	B.O.	More	Favorable
U.C.L.A.	Washington	21%	B.O.	Less	Favorable
	California	6	S.	More	Favorable

1. Stadium Survey Procedures

In general, questionnaires similar to form #311E-1 were distributed to a 10% random sample of each stadium audience. In most cases ushers handed them to every tenth person entering each stadium section. At several games, however, local Boy Scouts or students handled the distribution and collection of questionnaires.

This design was varied somewhat where the total audience exceeded 40,000 and where sufficient time and research personnel permitted the use of a more controlled sampling plan. For example, at some of the larger games every "n"th row in every "k"th section was sampled. In other similar situations, randomized rows in every section were used. In every sampling plan, however, every attender had an equal probability of selection.

The average questionnaire return was just under 40%. To encourage returns and to minimize possible bias in response, announcements were made over the public address systems during the quarter-and/or half-time explaining that a survey of audience characteristics was being conducted by the college and urging full cooperation. In order to curcumvent the problem of late arrivers and early leavers as a possible source of bias, questionnaires were generally collected at half time.**

As described later, comparisons were made of time-ot-ticket-purchase reported by the sample of respondents and the actual control totals of

* Information is not available on the number of questionnaires distributed at these games

** At Northwestern, it was not feasible to collect the questionnaires at the game, so a pre-folded, stamped, self-addressed envelope form was distributed with instructions to drop it in a mail box after answering the questions.

game ticket sales. Such checks revealed that in most surveys the respondents were fairly representative of the stadium sudience.

2. Analysis Design

The questionnaires from each game were tabulated separately. Student questionnaires were separated from non-student: "student" in this case referring only to those respondents who indicated that they were attending either one of the two schools playing in the game. This report deals exclusively with the data from non-student questionnaires.*

The non-student questionnaires were first sorted on the basis of the respondent's past attendance trend--his reply that his attendance at college football games in 1950 and '51 was "greater", "about the same", or "less" than it was in the 1947 and '48 football seasons. Each of these attendance groupings was then subdivided according to TV ownership and length of ownership. Within this basic grouping of attendance and TV ownership, hand tabulations were prepared on degree of interest in college football, time of ticket purchase, number of games attended in 1950, whether a football game had been watched on TV in 1951, school affiliation, age, and sex.

The second part of the stadium tabulations involved replies to questions on other college football games attended and televiewed in 1951. Each reported attendance or televiewing was tallied according to the TV situation (blackout, local, regional and non-regional telecasts) prevailing on the date of the activity in the respondent's TV area.

Before tallying, the questionnaires were sorted according to TV ownership and length of ownership subdivided by type of ticket purchased (season, non-season advance, day of game). This further sub classification of fans by type of ticket purchase was necessary if the influence of the different types of TV competition were to be tested. It is reasonable to assume that fans with season tickets would attend as many home games as possible, without regard to the variations in the TV situation. If there is a behavior variation by type of TV competition, it would be manifested by the non-season ticket purchasers and to combine them with the season ticket group would only obscure the analysis.

3. Stadium Survey Results

Prior to an analysis of the statistical data obtained from the stadium surveys, it is important to have some understanding of the possible biases reflected in the samples of respondents. Only one partial test of representativeness could be made, since for the most part

* The decision to utilize only the non-student findings was based on two considerations. First, opportunities for attendance are generally greater among students than among non students. Second, students' opportunities for televiewing could not be accurately determined. Some students who replied that they owned a television set may in fact have been referring to a TV set in their parents' homes and thus not have had a set available during football season.

there are no objective data from other sources describing the general characteristics of the stadium audience against which the characteristics observed in our samples could be compared.

As indicated previously, a comparison was made of the types of tickets bought by the sample with school records of actual ticket sales. In 12 of the 35 games a disproportionate number of season-ticket holders were found in the samples. There is no way of determining how this bias affected the personal characteristics found in our samples of stadium audiences.

Two techniques were employed to minimize the possible effects of this bias. Rather than present separate results for each game, data from all of the games of each school were combined into composite school results. Thus the relative importance of any over weighting found in one game would be lessened in the larger size of the merged samples. Further, in the analysis of the 1951 attendances of TV owners and non-owners as described in the analysis designs, only the data from non-season ticket holders were included.

Another possible source of bias, not related to the representativeness of the sample, might be mentioned here. This is the extent to which respondents were aware of the true purpose of the study (as one of determining the effects of TV on college football attendance). This purpose was not made explicit in the questionnaires not in the stadium announcements; however, it is possible that via general publicity or by inference from the survey situation and materials, a portion of the fans were aware of the nature of the study. It is possible, also, that this "awareness" bias may have affected TV owners differently from non-owners, in that owners may have attempted to understate any loss in attendance. By minimizing the effect of TV, they may have thought they would increase the number of available football telecasts.

One further general precaution which should be considered in interpreting the results of stadium surveys is the fact that the data are limited necessarily to only those football fans who actually attended games during 1951. Consequently, results cannot be generalized to the entire universe of college football fans, including those who have an interest in the game but did not attend a game this year. The telephone surveys which are described in the following section, however, were designed to represent all fans - attending or doing something else on selected Saturday afternoons.

a. General Audience Characteristics:

Some of the overall audience characteristics are presented in Table 2.

TABLE 2

CHARACTERISTICS OF 25,000 FANS WHO ATTENDED 35 GAMES OF 13 COLLEGES IN 1951

Age		Sex	
17 and under	5%	Men	78%
18 - 22 years	8	Women	22
23 - 29 years	19		
30 - 39 years	26	Interest in football	
40 - 49 years	22		
50 and over	20	Very great	60%
		Quite a bit	35
		Little or none	5

Types of Football Games Attended in 1950

College games only	28%
College and other	57
No college games	15

Table 3 indicates the composition of each college's audience by TV owner and non-owner group. As can be seen, practically all colleges are faced with heavy TV saturation.

TABLE 3

COMPOSITION OF STADIUM AUDIENCE BY TV OWNERSHIP

College	Percent TV Owners
Army	68%
Columbia	63
Cornell	47
Franklin and Marshall	63
Harvard	50
Maryland	67
Michigan	64
Minnesota	64
New Hampshire	38
Northwestern	69
Pittsburgh	56
U.C.L.A.	70
U.S.C.	60

Table 4 describes some of the other audience characteristics on the basis of the composite game data. To conserve space, the full distribution on each item has not been presented but can be calculated easily as the difference between the figures given and 100%.

TABLE 4

PERCENTAGE DISTRIBUTION OF AUDIENCE CHARACTERISTICS BY COLLEGE

School	Interest		Age	Sex	School Affiliation		Type of 1950 Games Attended	
	Very Great	Little Or None	Under 40	Male	Alumni	Non-response *	College Only	College and other
Army	49%	9%	65%	71%	22%	20%	39%	42%
Columbia	49	8	63	75	34	11	40	44
Cornell	56	5	48	77	46	11	48	41
Franklin & Marshall	51	8	47	77	29	10	26	61
Harvard	50	8	48	88	42	6	41	45
Maryland	65	4	77	85	24	16	21	61
Michigan	57	5	61	73	22	25	19	62
Minnesota	71	2	49	80	37	23	32	58
New Hampshire	40	18	48	79	43	10	34	47
Northwestern	56	7	44	84	40	1	32	60
Pittsburgh	50	8	50	75	31	5	14	71
U.C.L.A.	68	3	58	79	24	14	20	69
U.S.C.	68	3	61	79	28	16	24	64

c. Effects of TV Ownership

Two types of tests were made of the possible effects of TV ownership. The first considered owner and non-owner attendance differences during the 1951 season without regard to any variations in the TV situation, and also during TV competition and "blackouts". The second compared recent 1950 and 1951 attendance trends with the pre television years 1947 and 1948.

1) 1951 Trends in Attendance

In general owners and non-owners attended about the same number of games in 1951. As fully discussed in the text of the report, there were many reasons for this inconclusive finding. The assumption that owners and non-owners were two distinct groups was to some extent negated by the ready accessibility of TV to non-owners. In addition, 1951 average attendance was low for both owners and non-owners so that

* On this question, there was an unusually high rate of non-response. To prevent any upward bias in the alumni percentage, the figures have been calculated on a total base which includes the fans who failed to answer this question; the percent of non-response is also listed.

differences in attendance were bound to be small and short of statistical significance. Finally, technical tabulation problems prevented the simultaneous control of personal differences among fans, which is expecially important when group differences are small.

A comparison of the proportion of TV owners in the stadium audience with the proportion of TV owners in the area revealed that the percent of owner-attenders was about equal to the overall proportion in the area.

Another comparison was made of average weekly attendances of owners and non-owners during the 1951 season. In this analysis, as mentioned earlier, only respondents who did not purchase season tickets were included. Each reported attendance at a 1951 college game was coded according to the type of TV situation prevailing in the local TV area at the time of the attendance. A comparison of the weekly average attendance of owners and non-owners, regardless of TV situation, indicated that there were no significant differences in any of the 13 colleges.

In evaluating the effects of the different types of TV situations, the games of each college were divided into two groups - those with TV competition and those without TV ("blackout").

Two measures were used to determine the possible "blackout" effects on owners and non-owners:

1) The relative proportions of TV owners at "blackout" games compared with TV competition games. If a "blackout" significantly helps attendance, a relatively greater number of TV owners would be expected to attend during "blackouts" than when a football game was available.
2) A comparison of the number of "losers" at "blackout" and "competition" games. If TV ownership was contributing to the number of "losers" - fans with less attendance in recent years compared to pre-television years - a relatively greater number of "losers" would be expected to attend during blackouts than during TV competition.

These analyses involved ten schools for which data were available from both "blackout" and "competition" games. With regard to our first hypothesis, in only four out of the ten schools was there a significant difference in the proportions of owners and non-owners attending games. In only one case did more owners attend during a "blackout", while in three cases relatively more non-owners attended. Similarly, in testing our second hypothesis (proportion of "losers" among ow ers at "blackout" and "competition" games), only two schools showed a statistical difference while eight did not, and the differences were again inconsistent -- in one case more "losers" at the blackout game; in the other, fewer "losers" at such games.

From what we now know about game attendance and from our Boston and Pittsburgh findings, these inconclusive "blackout" results were to be expected. In the first place, most fans were poorly informed about blackout dates; secondly, most of the ten colleges were large ones with relatively unimportant gate sales. Consequently, with no overall

"blackout" effects observed in our attendance data among the universe of large colleges, it was to be expected that a sample of large college audiences would confirm this result.

2) Recent Attendance Trends Compared to Pre-Television Years

A special check was made of the historical attendance trends of owners and non-owners who reported that their attendance in 1950 and 1951 was less than during the pre-television years 1947 and 1948. Such fans are called "losers", and if there are more "losers" among TV owners, an inference might be drawn about the harmful effects of TV. Actual results, however, do not confirm the above hypothesis.

In eight of the thirteen schools significant differences were observed. But in seven schools, there was a higher proportion of "losers" among the non-owners; in only one, the TV owners showed a higher number of "losers". In four of the five schools where no significant difference was found, the direction was also toward a greater number of "losers" among the non-owners.

Upon closer analysis, however, the apparent discrepancy can be explained. It should again be recalled that in these overall comparisons there may be some bias in the sample of respondents due to the over representation of season ticket purchasers. Secondly, there is the possibility of a differential memory bias. TV owners who saw many games on TV during the past few seasons may now be unable to recall which games they attended and which they saw on TV. It may be that they are unconsciously inflating their attendance in the more recent years. In addition, there is some possibility that TV owners who were aware of the purpose of the study may have tended to understate their recent losses. In a number of instances comments which were voluntarily written on questionnaires attempted to explain away the possible influence of TV on their attendance. It must also be recalled that only actual attenders are studied here. TV owners who no longer attend games would not appear in our stadium surveys. And in addition to these possible biases, there are the problems of controlling personal differences between owners and non-owners.

We know from our Boston and Pittsburgh studies and from the national cross-section polls that level of interest in football, age, sex, school affiliation, economic level, etc., strongly influence attendance. By means of the X^2 test of homogeneity, we determined that there were differences in these characteristics among the owner and non-owner groups in the stadium audiences and that when these characteristics are controlled, the past attendance differences largely disappear.

Interest Differences:

Our analysis indicates that the owner and non-owner groups, as represented by our stadium samples, do differ with respect to interest. Primarily, TV owners attending games have a higher level of interest than non-owners. In eight out of thirteen schools, a difference was found that could be attributed to chance sampling fluctuations in only two chances out of 100; in each of these schools more owners reported

"very great interest" and more non-owners only "quite a bit" or "little" interest. Of the five schools where there were no statistically significant differences, three again showed a higher concentration of "very" interested fans among the TV owners.

When TV owners and non-owners of equal interest are compared, no reliable differences occur among the "little interested", and only 4 of the 13 colleges demonstrated a significant number of "very interested" non-owners still reporting more "losers". Among the fans with moderate interest in 6 of the 13 cases, more non-owners are classified as "losers".

Within the owner and non-owner groups themselves, the relationship between level of interest and attendance trends was similar; in both cases, the "very" interested more frequently reported gains in attendance, and the "quite" and "little" interested reported attendance losses. For the TV owners, this was true in six out of the thirteen schools; for the non-owners, in eight out of the thirteen schools.

Since more non-owners state they have only a "moderate" interest in football, this factor probably is most important in explaining the overall owner vs.-non owner comparison. That even as many as 6, or less than half of the cases of equal moderate interest, still report more non-owner "losers" may be due to other personal differences among owner and non-owner groups which are not controlled.

Age Differences:

Two comparative age groupings, which had revealed the greatest attendance differences on the national poll, were used -- under 40 years old and 40 and over. Our analysis indicates that the owner and non-owner groups tend to differ also with respect to age, although these differences are not as great as those observed for interest in football. In general, TV owners at football games were found to be older than non-owners. In three schools a difference was found that would appear by chance in only one case out of 100; in each of these three schools, there were more younger fans under 40 in the non-owning group and a greater number over 40 among the owners. Of the ten schools where the differences did not quite meet the standard of significance, six also showed more older TV owners.

When comparing owners and non-owners of equal age, a significant difference between proportions "losing" was found much more frequently in the younger group. In seven out of thirteen schools, a difference was observed which could occur by chance in only 5 cases out of 100; in an eighth school the difference could have arisen from chance sampling fluctuations in only 7 cases out of 100. In all of these eight schools more non-owners than owners under 40 years of age were losing in attendance. In contrast, only two out of the thirteen schools reported a significant difference for those over 40; in only one there was a greater proportion of non-owners losing and in the other, more owners were losing. These data indicate that the greatest difference between owners and non-owners is concentrated in the younger group which contains relatively more non-owners.

The owner and non-owner groups separately showed a similar pattern of relationship between age and attendance trend. In every case, the older group more often reported stable attendance whereas the younger group included both more "gainers" and more "losers". For the TV owners, this occured in eight out of thirteen schools; for the non-owners, in ten out of the thirteen schools.

School Affiliation:

To test the importance of school affiliation in determining differences between owners and non-owners, the respondents were separated into two groups, alumni and general public (non-alumni). "Alumni" here refers to those fans who were graduates of either of the two schools playing in the game and does not include people who may have been alumni of some other college.

The high rate of non-response to this question (described in Table 4) disqualified many schools from this part of the analysis. Only three colleges consistently reported fewer than 10% non-response and at three other specific games missing answers were not too important. Recognizing the limitations of having only 6 cases available for analysis, the data do point up a possible difference between owner and non-owner alumni. In four of the six cases, more alumni were found in the non-owner group, and in three of these cases the non-owner alumni reported a greater number of "losers". As for the proportions of general public losing attendance, more non-owners were "losers" in only one case. These findings suggest that the greater differences between owners and non-owners are also found in the alumni group.

In summary, our analysis of interest level, age, and school affiliation provides some insights into the differences between TV owners and non-owners and their relative proportions "losing" in attendance. We have seen that loss in attendance is more frequent in the lower interest groups, in those under 40 years of age, and in alumni. And our data also indicate that each of these characteristics appears more frequently among the non-owners than among TV owners. If we had been able to separate younger alumni with equal interest, of the same sex and economic status, it is more than likely that the owner - non-owner attendance comparisons would have been different. Unfortunately, due to the number of cases and the use of inflexible hand tabulations, we were unable to control all of these variables simultaneously.

IV. Area Telephone Surveys of Saturday Afternoon Activity

1. Introduction

Cities were selected for the telephone surveys on the basis of the same general factors which determined the choice of football games for the stadium studies. Selections were made in various sections of the country where the home schedule of the local teams presented an opportunity for studying fan activity during a "blackout" and during TV competition. In addition, we were especially interested in local TV

competition.*

Telephone surveys were conducted in eight cities, and except for one case, following two or more different weekends. Table 5 lists the Saturday dates and the prevailing TV situation when the surveys in each city were conducted.

TABLE 5

TELEPHONE SURVEYS

City	Date	Type TV competition **
Detroit, Mich.	10/27	Blackout
	11/17	Inter-regional
	11/24	Sectional
New Haven, Conn.	10/20	Local
	10/27	Blackout
	11/3	Inter-regional
	11/24	Blackout
Lancaster, Pa.	11/10	Local
Minneapolis, Minn.	11/10	Inter-regional
	11/24	Blackout
Philadelphia, Pa.	10/20	Sectional
	10/27	Sectional
	11/3	Blackout
Worcester, Mass.	10/27	Local
	11/3	Blackout
	11/10	Inter-regional
	11/17	Sectional
Los Angeles, Calif.	11/10	Blackout
	11/17	Blackout
	11/24	Inter-regional
	12/1	Local
Lincoln, Neb.	11/3	Inter-regional
	11/17	Local

* A special consideration entered into the selection of Worcester. We wanted to see what happened when a local game was telecast in a nearby major city (Boston).

** Sectional and local competition, when combined are considered regional in the college attendance analysis.

2. General Procedure

The proceedures followed in the telephone surveys were identical with those used in Boston and Pittsburgh call backs. In general, each survey consisted of about 2000 initial telephone calls from which a sample of 400-500 football fans in each city was secured.

Each sample was randomly selected in accordance with the following proceedures. Starting from a randomly selected page of the local telephone directory and a randomly selected listing on this page (k), twenty consecutive listings were called. The position of the first number to be called on each successive (nth) sample page was regularly rotated (k - 1, etc.) with the average assignment consisting of 100 initial calls and approximately twenty - thirty call backs on each of the follow-up interviews.

In the initial call, which was used to select the panel of college football fans, each respondent was asked if anyone in the household had ever attended a college football game and if so who that person was and the date of the last attendance. He was then asked if there were a TV set in the home and when it had been purchased. If he did not have a set, he was asked about the frequency of televiewing on someone else's set — either at the home of a friend or in a public place. Similar to the Boston and Pittsburgh studies, any person attending since 1946 was considered a football fan. Each fan was then asked questions relating to his sports attendance, radio listening and televiewing activities over the weekend and especially during the Saturday afternoon of the home team football game.

All the fans in the household who were mentioned by the respondent as having attended since 1946 were interviewed except in cases where two or more related people were reported as having attended the same last game together. Then the interviewer determined who had been the initiator of the activity and only interviewed him. (E.g., in cases of husband and wife, the husband was usually interviewed.) If a person were mentioned as a fan but was not available to be interviewed at that time, the student was instructed to call back at least two more times at different hours.

All interviews were conducted during the week (usually Monday through Friday) following the local football game. In a few surveys, respondents were asked about two weekends in one interview, when there had not been time to make the calls earlier. In this case, the questions concerning the last weekend were asked and then the interviewer inquired about the previous weekend, mentioning it by date. If the respondent could not recall his activity, the interviewer probed with a mention of a local game played that weekend. The same fans were interviewed on the succeeding call backs. During the last call, in addition to his activities, the fan was asked about his age, sex, and past attendance trend -- whether his attendance at college football games was "greater", "about the same", or "less" in the 1950 and '51 seasons than in 1947 and '48.

3. Analysis

The procedures used in tabulating the telephone questionnaires were similar to those already described in the stadium surveys. Responses were tabulated separately for each city and for each weekend. The ballots were sorted on the basis of reported past attendance trend and television ownership. Further, they were sorted into "complete" and "incomplete" groups; the "complete" group representing those fans for whom there was a complete set of questionnaires for all call backs. In the final analysis, only the responses of the "complete" group were used, so that any changes in the proportion of fans engaging in one activity or another could not be attributed to a difference in the composition of the sample. Even more important, the "incompletes" were usually missing the last interview, so that we did not have the essential information on past attendance trends.

The results of the telephone surveys were analyzed separately for each city. Our first step was to compare the proportions of TV owners and non-owners reporting "loss" in attendance. Of the six cities for which complete data were available,* in only one was a difference observed which could not have been due to chance sampling fluctuations. In this city, the non-owners more often reported loss than the owners.

The next step was to compare the Saturday afternoon behavior of the two groups according to the types of TV competition. "Behavior" was grouped into three activities: 1) attended a college football game; 2) listened to college football game on the radio or watched it on TV; 3) did something else (worked, another kind of attendance or televiewing, etc.). Owner - non-owner differences were inconsistent among the various cities. In no case did the same sample of attenders in any city report significant differences in more than one type of TV situation. In three cities, while an inter-regional game was televised, a significant difference between owners and non-owners was found. In two of these cities, more of the owners were attending the game; while in one city, more non-owners were attending and more owners were listening to the radio or watching TV. During a sectional telecast, a significant difference emerged in only one city, with more of the non-owners listening to the radio and watching TV. Finally during "blackouts" in only one city was there a significant difference with more non-owners attending.

Because of the inconsistency of these findings for any one city and between cities, the data for all weekends were combined into an average behavior index for owners and non-owners in each city. Using these indices, no statistically significant difference was found in the behavior of owners and non-owners. It is more than likely that the above inconsistencies would not have occurred if we had been able to control for differences in personal characteristics among the owner and non-owner groups. Unfortunately, due to the size of the samples and the lack of flexibility in hand tabulations, such analyses were not possible.

* In one city, the question on attendance trend was not asked; in another city, the findings could not be utilized because of a confusion in sampling procedure.

IV. STUDENT ALUMNI SURVEYS:

1. Introduction

Since students and alumni represent large segments of stadium audiences, we were interested in getting a more detailed picutre of their behavior and characteristics. In selecting the colleges for these surveys, we feel it would be desirable to have representation from both large and small colleges in different geographical areas. Due to limitations of time and cost, however, only a relatively small number of student and alumni surveys were actually undertaken. As a result, we felt that this section of the study should be considered as only exploratory.

In all, four colleges conducted surveys of alumni* and three colleges, surveys of the student body.** Lack of uniformity in the collection and treatment of the student data, in addition to the priorities placed on other phases of this research, have prevented full utilization of the student surveys. This report, therefore, does not include a separate discussion of the student questionnaires. Data, however, are available in NORC files.

2. General Procedures

The alumni questionnaires were mailed at the end of November, at the close of the 1951 football season, to a random sample representing approximately 10% of each alumni listing. College alumni listings were generally used as the source for names and addresses; in one case, the Athletic Department mailing list was used to facilitate the mailing procedure, since about 80% of the list consisted of alumni.

In selecting each random sample, the procedure used was similar to the one employed in the telephone surveys. The entire list was divided into "n" equal sub groups, A sampling unit of twenty consecutive names was then taken from each sub group. The first cluster of twenty names was started from a random point (k), and each successive cluster was started at point equal to k + 1 - - - i.

To encourage alumni replies, a note signed by the Athletic department was printed at the top of the first page of each three page questionnaire asking each respondent to cooperate in filling out and returning the questionnaire. As a further step to facilitate response, a self-addressed stamped business reply envelope was enclosed with each questionnaire.

Alumni were asked questions on a variety of matters pertaining to their football behavior, as indicated in the attached form #311 E-2. There were items concerning the last game they had attended -- type of ticket used and who had accompanied them to the game; there were questions on their activities at the time of each of the 1950 and 1951 home games

* Alumni surveys were conducted at Columbia U., Notre Dame, U. of So. California, and Wayne U.

** Students surveys were undertaken at Allegheny College, Northeastern U., and Oklahoma U.

(whether they attended, televiewed, listened to a game on the radio, or did none of these things); there were items concerning the number and types of football games attended in 1950, on sports attendance in '51 and on sports enjoyed on TV; there was also a question on past attendance trend -- whether attendance in the 1950 and '51 football seasons was "greater", "about the same", or "less" than in 1947 and '48. Items on personal characteristics inquired about age, sex, graduating class, occupation, location of residence and television ownership -- length of ownership and degree of non-owner televiewing.

3. Analysis

The tabulating procedure was similar to that used in the stadium surveys. First the ballots were checked to eliminate those respondents, negligible in number, who had never been to a college football game. Then the questionnaires were sorted according to TV ownership and length of ownership and according to reported past attendance trend; responses to the different questions were hand-tallied within these sorted groups. For the question on activities during the time of the '51 home games, only those respondents were used whose residence was within the local TV center.*

This discussion of the findings deals only with the data from the alumni surveys of Columbia and Wayne Universities.** As a first step in investigating some of the characteristics of the alumni, the proportions of TV owners in the samples were compared with the proportions in the TV areas. In the case of Columbia U., there was no significant difference in TV ownership between the sample and the area as a whole. In the Wayne University study, there was a higher rate of TV ownership among alumni than in the general Detroit area.

The second characteristic which was investigated was age distribution -- under 40 and over 40 years of age. In Columbia, 55% of the alumni were under 40; at Wayne, 68% were under 40 years of age. As for the differences between owners and non-owners, in Wayne we found that more of the TV owners were under 40 years of age, a difference that could have arisen from chance sampling fluctuations in only one case in 100. In the case of Columbia, however, no significant age difference was found between the owners and non-owners.

The alumni data were also analyzed for the proportion of "losers" among owners and non-owners. In the case of Wayne, a higher proportion of owners reported "loss" in attendance (probability 8%). It should be noted that it was at Wayne that there were more owners under 40 years of ate. At Columbia, on the other hand, there was no significant difference between the two groups in the proportions reporting loss in attendance.

* Arrangements had been made to tabulate separately the ballots of any sizeable group of alumni from another TV area, but this did not prove necessary. In one of the schools, questionnaires were mailed only to local alumni.

** One college returned completed questionnaires too late and the small number of cases included in the sample made its representativeness highly questionable. In another case, technical difficulties in the treatment of the data prevented the inclusion of the findings.

In analyzing the proportions of "losers" among owners and non-owners of equal age, neither of the surveys demonstrated a significant difference. Thus our earlier finding in the Wayne survey of more owners losing attendance seems to be accounted for in a large part by the younger age of the owner group. Furthermore, in the Columbia survey, when comparing age and attendance trends within the owner and non-owner groups, a significantly greater number of younger TV owners than older owners were found to be losing attendance. The difference at Wayne was in the same direction but did not quite meet the standard of significance. This also confirms the previous stadium findings of the greater stability in the attendance trends of older fans.

For the non-owners, however, younger and older alumni reported no significant differences in their historical attendance trends. In both cases, however, there was a tendency for younger alumni to report greater loss in attendance; the difference could be due to chance, in 17 cases out of 100 in Wayne, and in 10 cases out of 100 in Columbia.

Of the two alumni surveys, only Columbia afforded an opportunity to compare behavior under local, non regional TV competition and during blackouts. In this survey however, there was no significant difference between owners and non-owners in the proportions of alumni attending the different games.

Both owners and non-owners attended games more frequently under TV competition than under "blackout" conditions. For the TV owners this was a significant difference; the difference for the non-owners was not quite significant. However, the Columbia "blackout" game was generally less attractive and was played under poor weather conditions. Since these factors weren't controlled, the higher attendance during TV competition, has very limited meaning.

To further test whether there was a difference in attendance between the owners and non-owners, regardless of type of TV competition, an average weekly behavior index for the five Saturdays when home games were played was derived for Columbia alumni. This index was identical to the one used in the telephone surveys. It was found that there was no significant difference in the attendance of TV owning and non-owning alumni. This same analysis was made of the data from the Wayne survey and again, there was no significant difference between the attendance of owners and non-owners.

In summary, we did find a difference between owner and non-owner alumni losing in attendance in one survey, but this difference disappeared when age was held constant in the two groups. Younger alumni (under 40) more frequently report loss in attendance than older alumni, regardless of TV ownership. And there was no difference between TV owning and non-owning alumni in our sample with regard to frequency of attendance on selected Saturdays during the 1951 season.

NORC 311-E-1.

NCAA FOOTBALL STADIUM STUDY FOR _____ GAME

We are trying to find out something about football fans, who they are, where they come from, etc., and would greatly appreciate your answering the following questions:

1. How much interest would you say you take in college football?

   Very great interest ( )
   Quite a bit ( )
   Only a little or none ( )

2. Was your ticket to the game bought in advance or on the day of the game?

   In advance ( )*
   Day of game ( )
   Don't know ( )

   *A. IF "IN ADVANCE": Is it a season ticket?

   Yes ( ) No ( )

3. A. How many college football games did you attend in 1950? _____

   B. How many high school games did you attend in 1950? _____

   C. How many professional games did you attend in 1950? _____

4. Please list any other college football games you have attended this year (1951)

   _____

   _____

   _____

5. A. Would you say your attendance at college football games during 1950-51 was greater, about the same or less than the 1947-1948 seasons?

   Greater ( )
   About the same ( )
   Less ( )

   B. If greater or less, why?

   _____

   _____

   _____

6. A. Do you happen to own a radio or television set?

   Radio ( )
   Television ( )
   Neither ( )

   B. If you own a television set, how long have you owned one? _____

   C. How clearly do you receive the following channels?

	Channel Number ( )	( )	( )	( )
Very well				
Only fairly well				
Poorly				
Not at all				

   D. Have you watched any football games on TV this year?

   Yes ( ) No ( )

   E. If "YES": Which ones?

   _____

   _____

   F. Did you see any of these televised in a movie theatre?

   Yes ( ) No ( )

7. Are you a student or alumnus of the:

	Student	Alumnus
Home school	( )	( )
Visiting school	( )	( )
Neither school	( )	( )

8. For purposes of classification, we would like to know:

   A. Your approximate age: _____

   B. Your sex: Male ( ) Female ( )

   C. Your occupation: _____

   D. Location of your residence:

   _____ _____
   (City) (State)

NORC 311-E-2

Segment Number _____ Address _____ Phone _____
(Street) (City)

QUESTIONNAIRE FOR LOCAL TELEPHONE SURVEYS

Hello. This is ( ). We're doing a survey of leisure time activities, (what people do in their spare time), for (the National Opinion Research Center of the University of Chicago) The first question is:

1. Is there anyone in your household who has ever attended a college football game?

Yes ( )* No ( )

*A. IF "YES": Who are they -- that is, which members of your family have ever gone to a college football game, and about how long ago was the last time (you) (he) (she) attended?

		Year Last Attended		Year Last Attended
LIST EACH ELIGIBLE MEMBER: (Attended Game)	1.		3.	
	2.		4.	

2. Do you happen to have a television set in your home? Yes ( )* No ( )**

*A. IF "YES": A. What was the month and year in which first set was purchased?

_____

B. What channels can you receive on your set? _____

1. ASK ABOUT EACH: Does that channel usually come in very well, only fairly well, or poorly?

	Channel Number			
Very well				
Only fairly well				
Poorly				

** IF "NO": How often do you watch television at the home of your friends or in public places -- quite often, only occasionally, or never?

Quite often ( )
Only occasionally ( )
Never ( )

NOTE: A. IF NO MEMBER OF THE FAMILY HAS ATTENDED A FOOTBALL GAME IN 1947 OR LATER, DISCONTINUE THE INTERVIEW.

B. IF THE PERSON WHO ANSWERS THE PHONE HAS ATTENDED A COLLEGE FOOTBALL GAME IN 1947 OR LATER, ASK HIM THE FOLLOWING QUESTIONS, THEN ASK TO SPEAK TO ANY OTHER ELIGIBLE MEMBERS OF THE HOUSEHOLD. IF HE HAS NOT RECENTLY ATTENDED A GAME, ASK TO SPEAK TO ANY ELIGIBLE MEMBER, EXPLAINING THAT YOU HAVE JUST A FEW QUESTIONS WHICH EACH ELIGIBLE MEMBER COULD ANSWER BETTER FOR HIMSELF. (FOR EXPLANATION OF "ELIGIBLE", SEE NOTE BOTTOM OF PAGE 2.)

Upon contacting each eligible member of a household, use the introduction at the top of this questionnaire and ask the following questions:

Name of *Eligible: _____ Phone Number: _____ Segment Number: _____

1. How did you spend the afternoon last Saturday? (What were you doing from about 2 o'clock till about 5?)

   PROBE: Did you listen to the radio or watch television at all on Saturday afternoon?

   CHECK APPROPRIATE BOX OR BOXES BELOW AND SPECIFY NATURE OF ATTENDANCE, RADIO LISTENING OR TELEVISION VIEWING:

   ( ) Attended college football game
   Which? _____

   ( ) Attended high school football
   Which? _____

   ( ) Attended other football game
   Which? _____

   ( ) Attended other sports event
   Which? _____

   ( ) Attended movies
   What theatre? _____

   ( ) Attended other entertainment
   Specify: _____

   ( ) Listened to radio
   ( ) Football games (Which?) _____
   ( ) Other sports (Which?) _____
   ( ) Other programs

   ( ) Watched television
   ( ) Football game (Which?) _____
   ( ) Other sports (Which?) _____
   ( ) Other programs

   ( ) DID NONE OF ABOVE -- No attendance, no radio, no TV viewing.
   (What did he do?) _____

2. Did you attend any (other) entertainment or sports events last weekend -- Friday night, Saturday night, or Sunday?

   ( ) Yes (specify) _____
   ( ) No

3. And did you listen to any (other) sports events on the radio, or watch any on television last weekend -- Friday night, or Saturday night, or Sunday?

   ( ) Yes, radio (specify) _____
   ( ) Yes, TV (specify) _____
   ( ) No, neither

INTERVIEWER'S SIGNATURE: _____ DATE OF FIRST CALL: _____ DATE OF LAST CALL: _____

* An eligible member must have attended a college football game since 1947 to be asked these questions.

*Name of Eligible: _____ Phone Number: _____ Segment Number: _____

1. Now, how did you spemd the afternoon on Saturday a week ago --that would be (month and day). (Probe: that wae the day of the _____ football game.) (What were you doing from about 2 o'clock til about 5?)

PROBE: Did you listen to the radio or watch television at all on Saturday afternoon?

CHECK APPROPRIATE BOX OR BOXES BELOW AND SPECIFY NATURE OF ATTENDANCE, RADIO LISTENING OR TELEVISION VIEWING:

( ) Attended college football game
Which? _____

( ) Attended high school football
Which? _____

( ) Attended other football game
Which? _____

( ) Attended other sports event
Which? _____

( ) Attended movies
What theatre? _____

( ) Attended other entertainment
Specify: _____

( ) Listened to radio
( ) Football games (Which?) _____
( ) Other sports (Which?) _____
( ) Other programs

( ) Watched television
( ) Football game (Which?) _____
( ) Other sports (Which?) _____
( ) Other programs

( ) DID NONE OF ABOVE -- No attendance, no radio, no TV viewing

(What did he do?) _____

2. Did you attend any (other) entertainment or sports events that weekend -- Friday night, Saturday night, or Sunday?

( ) Yes (specify) _____
( ) No

3. And did you listen to any (other) sports events on the radio, or watch any on television that weekend -- Friday Night, or Saturday night, or Sunday?

( ) Yes, radio (specify) _____
( ) Yes, TV (specify) _____
( ) No, neither

INTERVIEWER'S SIGNATURE: _____

DATE OF FIRST CALL: _____
DATE OF IAST CALL: _____

* An eligible member must have attended a college football game since 1947 to be asked these questions.

NORC 311-E-3

SURVEY OF ALUMNI

Dear Alumnus:

Columbia University is cooperating with the National Opinion Research Center in a nation-wide study of college football attendance. We are trying to find out something about alumni activities during the football season and we would greatly appreciate your answering the following questions. For your convenience in returning this information, a stamped self-addressed envelope is enclosed. Please fill in the questionnaire and mail it to NORC. Thank you.

Ralph Furey
Director of Athletics
Columbia University

---

1. Have you ever attended a college football game?

   *Yes . . . . . ( )
   No . . . . . ( )

*A. IF "YES": ANSWER THE FOLLOWING QUESTIONS; IF "NO": PLEASE SKIP TO Q. 6.

2. A. Do you remember whether you went alone or with someone to the last game you attended?

   Alone. . . . . ( )
   *With someone . . . ( )
   Don't remember . . ( )

*B. IF "WITH SOMEONE": How many were in the party, and who were they? (Family, fellow students, alumni, another couple, etc.)

_____

_____

C. Was your ticket bought in advance or on the day of the game?

   *In advance . . . . ( )
   Day of game. . . . ( )
   Don't remember . . ( )

D. IF "IN ADVANCE": Was it a season ticket?

   Yes. . . . . ( )
   No . . . . . ( )

3. Please check whether you attended the following Columbia home games in 1950, watched them on TV, or listened to them on the radio, or did none of these things:

Hobart (Sept. 30)
Attended ( ) TV ( ) Radio ( ) None ( )

Penn (Oct. 21)
Attended ( ) TV ( ) Radio ( ) None ( )

Army (Oct. 28)
Attended ( ) TV ( ) Radio ( ) None ( )

Cornell (Nov. 4)
Attended ( ) TV ( ) Radio ( ) None ( )

Navy (Nov. 18)
Attended ( ) TV ( ) Radio ( ) None ( )

4. Did you attend any other football games during 1950?

	*Yes	No
College.	( )	( )
High School. . . .	( )	( )
Professional . . .	( )	( )

*A. IF "YES": Which ones?

_____

_____

_____

5. Would you say your attendance at college football games during 1950 and 1951 was greater, about the same, or less than in the 1947 and 1948 seasons?

   *Greater. . . . . ( )
   About the same . . . ( )
   *Less . . . . . ( )

*A. IF "GREATER" OR "LESS": Could you tell us why?

_____

_____

_____

6. Now, could you check the general way in which you spent each of the Saturday afternoons on which Columbia played a home game this year:

	Attended Columbia Game	Attended Other Football Game (Which?)	Attended Other Sports Event (Which?)	Watched TV Program (Which?)	Listened to Radio Program (Which?)	Other (Please Specify)
(Oct. 6) Harvard. . . .	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Oct. 13) Yale	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Nov. 10) Dartmouth. . .	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Nov. 17) Navy	( )	( )_____	( )_____	( )_____	( )_____	( )_____
(Nov. 24) Brown.	( )	( )_____	( )_____	( )_____	( )_____	( )_____

7. Have you attended or do you expect to attend any (other) football games in 1951?

*Yes. . . . . ( )
No . . . . . ( )

*List Games:

_____

_____

8. Do you happen to own a radio or television set?

Radio. . . . . ( )
*Television . . . . ( )
Neither. . . . . ( )

*A. IF "TV": How long have you owned one? _____Yrs. _____Mos.

B. IF "NO TV"; How often do you watch TV programs at the homes of your friends or in public places?

**Quite often. . . . ( )
**Occasionally . . . ( )
Never. . . . . ( )

**IF YOU OWN A TV SET OR WATCH TV PROGRAMS OCCASIONALLY OR OFTEN: Have you watched any football games on TV during the 1951 season?

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which games?

_____

_____

9. Did you watch any football games on TV during the 1950 season?

Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": How many games and can you tell us which ones?

_____

_____

_____

_____

10. IF YOU HAVE A RADIO: Have you listened to any football games during 1950-1951:

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": How often?

Regularly. . . . ( )
Occasionally . . ( )
Seldom or never. ( )

11. Aside from football, have you attended any other sport events or games during 1951:

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which ones?

_____

_____

_____

12. Aside from football, are there any sports you enjoy watching on TV?

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which ones?

_____

_____

_____

13. Aside from Columbia, did you attend any other colleges or universities?

*Yes. . . . . ( )
No . . . . . ( )

*A. IF "YES": Which ones?

_____

_____

14. For purposes of classification, we would like to know:

A. Your approximate age: _____

B. Your sex: Male ( ) Female ( )

C. Your Columbia graduating class:

_____

D. Your occupation _____

E. Location of your home residence:

_____

_____
(City) (State)