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Spectator Perceptions of Fan Misbehavior: an Attitudinal Inquiry

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SPECTATOR PERCEPTIONS OF FAN MISBEHAVIOR:

AN ATTITUDINAL INQUIRY

by
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ABSTRACT

Title of Thesis: Spectator Perceptions of Fan Misbehavior: An Attitudinal Inquiry

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Spectators (N = 1,747) attending a Brockport State College, Rochester Americans or Buffalo Sabres hockey game responded to a 28 item, 14 factor questionnaire. The questionnaire was developed to identify factors perceived as facilitative to fan misbehavior at sporting events. The responses to the questionnaire indicated that the top ranked factors were (1) age, (2) referees, (3) rivalry, (4) alcohol, and (5) nature of game. Kendall's coefficient of concordance (W) was computed and converted into a Spearman rank correlation coefficient in order to assess the similarity of factor rankings. The findings indicated that regardless of the location where the spectator completed the survey statistically significant ranking of the factors were identified as facilitating fan misbehavior. This statistically significant rank ordering of the factors also existed for spectator perceptions when the college sample was compared to the combined professional samples. The Kendall coefficient of concordance and Spearman rank correlation coefficient demonstrated that regardless of an individual's sex or age, the spectators identified the factors listed above as facilitative to fan misbehavior at sporting events. These factor rankings were statistically significant for all comparisons of concordance. The discussion centered on the importance of the identified factors facilitating spectator misbehavior and how these factors tend to be related to the characteristics of the spectator, the game and the environment where the game is played.

DEDICATION

To my family and friends

for your continuous support, understanding, and inspiration.

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CHAPTER I

INTRODUCTION

Sporting events characterized by excessive aggression, violence, and hostile outbursts have become the subject of much controversy. In the stands as well as on the playing surfaces across the United States and the world, measures are beginning to be taken to combat the growing incidence of misbehavior. Sports themselves have undergone a number of rule changes designed to curb violence within the framework of the games. Spectators have witnessed an increase of crowd control measures in an effort to reduce the amount and severity of misbehavior in the stands. In many major sports, efforts are being made to separate spectators from participants and spectators from spectators for the purpose of preventing spectator violence (Albin, 1978).

Yet the incidents of spectator misbehavior continue. In November 1978, a spectator knifed a referee to death after a soccer match at Bosanski Milosevac, near Modrica in central Yugoslavia (Soccer referee dead, 1978).

At a 1976 National Football League game at Foxboro, Massachusetts, between the New York Jets and the New England Patriots, rowdy fans continually ran out on the field stopping play a dozen times. By the time the game ended two fans had died of heart attacks, thirty were taken to the hospital with cuts or bruises, forty-nine were arrested, a policeman's jaw was broken and a spectator had been stabbed (Falls and Surface, 1976).

On May 24, 1964, a riot precipitated by a referee's decision erupted at a soccer match in Lima, Peru, killing 318 spectators. An eventual severing of diplomatic relationships between the countries of El Salvador and Honduras has been traced to this tragic soccer match (1972).

June 1974, "Beer Night," hosted by the Cleveland Indians resulted in a forfeiture when fans stormed onto the playing surface and threw chairs and bottles at members of the Texas Rangers baseball team. Four players and an umpire were injured in the melee (Firmrite, 1974).

One of the most recent incidents involving spectator misbehavior at a sporting event occurred during an ice hockey contest at New York's Madison Square Garden. The violence occurred during a game between the New York Rangers and the Boston Bruins. Following a 4-3 Bruin victory, a fan reached over the protective plexiglass near the visiting team's exit area and punched a Bruin player named Stan Jonathan as he was leaving the ice. What ensued was a brawl involving several members of the Bruins team and Madison Square Garden fans. The fight lasted more than ten minutes before security guards restored order and apprehended four New Jersey men who were taken to a nearby police precinct and given summonses for disorderly conduct (Calabria, 1980).

It is not surprising that the sport of ice hockey in North America has been the subject of considerable scrutiny and criticism for an apparent lack of regard for the amount of violence exhibited by the participants and by spectators in attendance. Hockey has even been accused of condoning and promoting violence in certain expansion cities where hockey has yet to root (Ronberg, 1975).

These cases serve as representative examples of the problems that can be caused by spectator misbehavior at sporting events. It is all too often that these incidents create a considerable amount of damage to public and private property as well as jeopardizing the personal well being of individuals attending the contests. Despite the seriousness of the problem, spectator misbehavior has received little systematic examination from the scientific community. The literature is distinctly lacking in investigative inquiries that study the sport spectator in a realistic setting or in how spectators perceive factors conducive to fan misbehavior in the sport setting. The need to understand spectator misbehavior extends beyond the clinical analysis of laboratory study. Therefore a study of what spectators believe contributes to spectator misbehavior should be valuable as a means of further understanding the aberrant behavior of individuals at sporting events.

The present study provides a description of the attitudes from over 1500 spectators who attended ice hockey contests. Their responses contribute insight concerning what factors are perceived as facilitating spectator misbehavior at sport contests. There has been no known study that provides an attitudinal inquiry derived from such a vast population of sport spectator respondents. The precipitating factors identified by these spectators as contributing to spectator misbehavior provides a foundation for the understanding and advancement of the study of the sport spectator.

Statement of the Problem

What do spectators at ice hockey contests perceive to be the major precipitating factors that facilitate spectator misbehavior at sporting events?

Justification of the Study

It has been stated that misbehavior is a growing problem at sporting events today. As yet, a clear understanding and explanation of spectator misbehavior does not exist. It is the belief of the author that efforts should be made to determine the factors that precipitate spectator misbehavior at sporting events. There is a demonstrated need to investigate the spectator who attends sporting events where larger crowds gather to observe an event. This includes the sport situation where thousands of individuals are densely gathered together to view a professional contest. Previous studies have involved systematic laboratory research (Eastwood, 1974) or have placed emphasis upon the collegiate spectator (Turner, 1970; Goldstein & Arms, 1971). To the author's knowledge there has been no study regarding spectator attitudes at professional sporting events. The present study analyzed the attitudes of over 1500 spectators who attended professional ice hockey games. There has been a lack of studies that have compared attitudes of more than one group of spectators. Therefore, a major objective of this study was to analyze the data obtained from three population groups. This includes a college spectator sample and two professional spectator samples. A third important aspect of this attitudinal inquiry is an analysis of the spectator's attitudes according

to the biographical information obtained through the questionnaire. Analyses were made according to the spectator's age, sex and frequency of game attendance (F.O.G.A.). A comparison of the determinating factors that contribute to spectator misbehavior as perceived by a spectator according to these demographic factors provided information that has yet to be determined in previous studies.

Finally, based on the information obtained in this study, some tentative generalizations are made concerning the relative importance of factors facilitating spectator misbehavior. A possible consequence of such an investigative undertaking is that improved regulation and control of spectator misbehavior may be achieved from an understanding of the precipitating factors determined in this study.

Limitations of the Study

This study is an investigation of the attitudes of spectators who attend ice hockey contests. Specifically, data was gathered from three distinct settings. These include two professional contests and a college ice hockey contest. There was no attempt to determine whether spectators at other sport settings hold similar kinds of attitudes.

Definitions of Terms

Constitutive

Spectator: A spectator is considered to be a person who observes, or looks at, some scene or occurrence. It is a person who is present at, and has a view or sight of, anything in the nature of a show or spectacle (Oxford English Dictionary, 1970).

Misbehavior: The term misbehavior refers to any action which can be identified as wrong or improper conduct (Oxford English Dictionary, 1970).

Deviant: A deviant is an individual who differs markedly from an accepted social standard usually in terms of attitudes, moral standards and overt behavior. The term deviant may refer to a person who misbehaves or conducts oneself improperly in a group setting (Wolman, 1973).

Attitude: An attitude may be considered to be a learned predisposition to react consistently in a given manner (either positively or negatively) to certain persons, objects or concepts (Wolman, 1973).

Operational

Spectator: In the context of the present study, spectator and "fan" may be used interchangeably in reference to the following definitions:

1. College - those persons attending a varsity ice hockey game at the State University of New York College at Brockport, New York.
2. American Hockey League (A.H.L. - Professional) - those persons attending a Rochester Americans ice hockey game. Rochester was at the time of this study a minor league affiliate of the Boston Bruins and is located in Rochester, New York.
3. National Hockey League (N.H.L. - Professional) - those persons attending a Buffalo Sabres professional ice hockey contest. The Sabres are members of the Adams Division of the National Hockey League and are located in Buffalo, New York.

Spectator Misbehavior: This term is characterized as behavior that is infringing, insulting or punitive to other individuals; it may be of a physical or verbal nature. For the purpose of this study, it includes the following:

1. throwing objects onto the playing surface,
2. blatant cursing or swearing,
3. directing vulgarity at players, officials, or other spectators,
4. engaging in fisticuffs and disturbing others by disorderly conduct.

Attitude: For the purpose of this study the spectators' attitudes are those statements measured and evaluated by the subjects' responses to the Spectator Misbehavior Attitudinal Inquiry (S.M.A.I.).

CHAPTER II

REVIEW OF THE LITERATURE

Despite its lengthy history, spectator misbehavior at sporting events has only recently received systematic attention (Goldstein & Arms, 1971; Smith, 1975). A search for literature on sport spectator misbehavior revealed that little data based research has been reported or published. The following chapter contains a review of collective behavior theories, studies in the areas of social and group violence and research concerning sport spectator misbehavior.

Collective Behavior

The domain of collective behavior has received a considerable amount of theoretical attention from numerous individuals. Throughout the last decade various theories have been advanced in an attempt to explain this phenomenon. The four major orientations to the study of collective behavior are contagion, convergence, emergent-norm, and value-added theories.

Contagion Theory

Gustave Le Bon (1895), a French sociologist of the nineteenth century, can be considered one of the early proponents of the "group mind" theory. The group mind position, in which Le Bon was involved, theorizes that "the crowd" has a mind of its' own and a person will conduct himself quite differently in a crowd as compared to when alone.

The individual will become transformed by the crowd and this makes the person feel, think and act in a manner quite different from normal. Contagion theory purports that an individual acts on the "law of mental unity," where impulsive and irrational behavior may be elicited as a result of association in a particular group.

Blumer (1957), who is considered to have developed a more complete and modern approach to contagion, defined collective behavior as "that which arises spontaneously and is not due to pre-established understandings or traditions." He believed that this behavior was circular in nature and compared the crowd to "herd behavior" often witnessed in the actions of animals. Blumer (1957) has argued that all instances of collective behavior proceed in three distinct stages and each stage is a more intense extension of the preceding stage. These stages include: milling, collective excitement and social contagion. Milling can be described as "pure circular reaction," in which individuals move among one another in a random fashion and in doing so become increasingly sensitized to one another. Collective excitement is when the milling is "speeded" and people will become emotionally aroused. They may become carried away by impulse and/or feelings. Social contagion is characterized by "relatively rapid, unwitting, and non-rational dissemination of a mood, impulse, or form of conduct." A person in this stage may act as a model and the group will reinforce an action by lowering their restraints and acting in a similar manner.

Although the group mind approach still has considerable popular appeal and acceptance, it has come under heavy criticism from social

psychologists for its' impressionistic portrayal of crowd behavior. Thus, the crowd mind has been rejected by most social psychologists (Milgram & Toch, 1969).

Convergence Theory

The convergence theory suggests that within each group reaction there is a common thread or belief which is the basis for the type of response that a person may elicit. Milgram and Toch (1969) point out that in this situation a crowd consists of people who share common predispositions which are stimulated by some object or event. This position seems to exemplify the compositions of many sporting events where spectators gather in mass to cheer for the home team or boo the visiting team.

Turner and Killian (1972) posit that this theory accounts for the release of energies or emotions that were already existing inside the personality characteristics of an individual. These "latent tendencies" are examples of a person revealing his or her true self, with the crowd serving only as an excuse or the "trigger." The crowd influences the individual by intensifying his or her behavior and this reaction is intensified further by witnessing other individuals responding in the same manner. Vander Zanden (1975) used the analogy of a hospital ward to illustrate how convergence theory operates. Individuals may be grouped together because they share something in common but the origins of their problems are quite different. He postulates that hostile crowds exemplify convergence because they seek out the crowd to "translate hidden impulses into overt behavior."

Emergent-Norm Theory

Emergent-norm theorists reject the belief that crowds can be described as having uniformity or "oneness." This theory emphasizes the differences that characterize certain individual's motives, attitudes, and behaviors (Vander Zenden, 1975).

A pioneering study on norm foundation was conducted by Muzafer Sherif (1936), who utilized an optical illusion called the "Autokinetic Effect." This autokinetic effeet was derived from a small, fixed spot of light when briefly exposed to an individual in a darkened room. The spot appeared to move and it seemed to move in various directions. Individual subjects when tested alone, developed a characteristic range for the repeated movements. Sherif (1936) then organized groups made up of subjects who had established very different ranges and reference points in their individual sessions. When tested in the group situation, the subjects developed a group norm for the apparent light movement. Finally, when individuals were re-tested alone, the norm that had been established by the group setting persisted.

Solomon Asch (1951) also found that groups will influence the response of an individual in selecting an appropriate response. He devised a study where subjects had to match a standard line to three comparison lines in the presence of a confederate group. He found that despite the obviousness of the correct answer, the fear of failure (in front of the group) caused the subject to choose the incorrect response. The subjects, when interviewed after the experiment, revealed that they felt constrained by group pressure. To remain independent, seemed for each subject, a violation of the group norm.

Turner and Killian (1972) who employed concepts from the Sherif (1936) and Asch (1952) studies, formulated the basis of what investigators consider to be the emergent norm theory. They point out that crowds contain core activists, cautious activists, passive supporters, opportunistic yielders, passers-by, the curious, the unsympathetic, and dissenters. They further state that collective behavior typically entails an attempt to define a vague situation, where people are looking to act in an appropriate and acceptable manner. The behavior that emerges from individuals who are part of a crowd setting is a result of conduct that is in accordance with a norm established for that particular setting. In the development of an emergent-norm, the behavior of a few conspicuous and active members becomes perceived as the proper way to act or behave.

Value-Added Theory

There is considerable support for the idea that various social factors or "strains" initiate reactions that precipitate crowd misbehavior. This is exemplified by the work of Neil Smelser (1962) who provided one of the most elaborate and comprehensive treatments of collective behavior from the value added approach. In this approach, Smelser undertook to answer the question: "why do collective behavior episodes occur where they do, when they do, and in the ways they do?" (1962, p. 1).

Smelser's framework identified six determinants of collective behavior: (1) structural conduciveness, (2) structural strain, (3) growth and spread of a generalized belief, (4) precipitating factors,

(5) mobilization of participation of action, and (6) the operation of social control. Each determinant is shaped by those that precede it and each add its value to the determinant that follow. It is in this sense that this model reflects the economists concept of "value-added." Structural conduciveness refers to certain structural characteristics that permit or encourage episodes of collective behavior. This may include the presence of race, origin, religious, or other group diversification. This conduciveness allows rapid transmission of communication between and among various groups. Structural strain could include any possible conflict or deprivation that accompany the particular stereotype of the groups. These strains make it possible to assign responsibility for evils to other groups. Growth and spread of a generalized belief identifies the source of the strain and attributes certain characteristics to this source. Communication and information travel by diverse networks throughout the crowd during a contest. Mobilization of participation for action refers to the degree of organization within the crowd. A leader may provide a sense of direction as to the course of action that is to be followed. In this respect he, or she acts as a model for the group. Other individuals may react as merely spectators or as a passive audience for the particular action.

The operation of social control includes those persons who minimize and prevent the occurrence of an episode of collective behavior. These "effect agencies" have a counter control upon the collective outburst and regulate organization and development. The presence of

police, fences or walls, may be considered to be operations of social control.

According to Smith (1975), Smelser's theory is the most useful of all the approaches to collective behavior, however its breadth and resulting lack of precision has created problems for social scientists. Smith (1973), in his analysis of collective outbursts in sport, applied Smelser's (1962) framework to the abundance of "riots" that have occurred in the sport of soccer, dating from 1947. Smith focused his attention upon the numerous outbursts by spectators that have been prevalent in European and Latin American soccer matches. According to Smith, structure, dynamics and social control have an effect upon the nature of hostile outbursts. Structure may take a variety of forms but the two main parts are conduciveness and strain. Essentially Smith combines Smelser's categories into a single factor. Given conduciveness and strain, the stage is set for the dynamics of a riotous outburst. It begins with the spread of a generalized belief and these beliefs are narrowed by a precipitating factor. This may be the case where riots have taken place following an unpopular decision by a referee or official. When a widespread hostile belief has emerged around a precipitating incident, or series of incidents, the mobilization of the participants for action begins. Smith refers to the actions of a "model" that causes the eruption of the crowd to follow. An example may be the spectator who runs onto the playing surface, either accidentally or deliberately and in doing so, acts as a model for future crowd behavior. Finally, the ecology of the stadium and surrounding

areas may shape the outburst. It may provide an accessible means of protest for the individuals involved.

Social and Group Violence

The following section is devoted to a review of literature pertaining to various aspects of social and group violence. Material reviewed will include behavior at political protests, student demonstrations, race riots and other social situations when violent mob behavior has resulted in significant social repercussions.

One of the most extensive pieces of investigative literature on group violence is the Final Report of the National Commission on the Causes and Prevention of Violence (1969). Known as the Eisenhower Commission, this investigative body was created by President Lyndon Johnson on June 6, 1968. It initially was established as a result of the violent assassinations of Senator Robert Kennedy and Dr. Martin Luther King (Marsh, 1978; Menninger, 1970).

The commission revealed through an examination of data from police arrest records, that the United States is no more violent today than it was over 100 years ago. Examples of violent activity throughout the history of the United States was evidenced through examples of the Boston Tea Party, the Ku Klux Klan which terrorized the South in the post Civil War Decade and management versus labor disputes of the early twentieth century. These incidents represent some of the more notable examples of American mob violence (Final Report, 1969). The report further concludes that the occurrence of group violence is a product of society's inability to carry out protest in a peaceful manner.

The student uprisings on college campuses in the 1960's and the political demonstrations against the Viet Nam war were violent because the groups involved did not have the proper peaceful channels to exercise their freedom of speech. This absence of a proper peaceful means of expression and the improper handling of the situation by legal authorities led to an increase in violent behavior (Final Report, 1969). The strategy suggested by the presidential body to control mob violence is to allow a group its "fundamental right" to protest as proclaimed in the Constitution. The Constitution states that our government should provide for the American people a society with equal justice for citizens and tranquility for all. This can best be achieved by keeping open the channels of peaceful protest. The Commission further recommends that police departments maintain order by peaceful means and the media, which includes radio, television and newspapers, attempt to provide honest and responsible information to the public.

Extensive research on social and group violence has also been conducted by Lieberson and Silverman (1965). The authors examined the immediate precipitants and underlying conditions of seventy-six race riots in the United States between 1913 and 1963. Using the New York Times Index with additional descriptions from the Negro Yearbook, they found a considerable amount of evidence supporting the proposition, that the functioning of local community government is important in determining whether a riot will result from a "precipitating event." Several precipitating events were outlined in the study and include:

highly charged violent actions committed by members of one group against the other, such as attacks on women, police brutality, murder and assault, and the violation of an existing norm by one particular race group, such as breaking rules of segregation or harming a symbol of the opposition group (destroying a national flag). Lieberson and Silverman (1965) identified police enforcement and local government policy as the main determinants of a race riot following a precipitating event.

Oberschall (1968) provided a sociological analysis and explanation for the causes and course of events regarding the Los Angeles riot of August 1965. A comparison of the events of this mob violence using police records and media reports was made with the collective behavior theory suggested by Smelser (1962). Oberschall (1968) identified several groups present during the riot: active participants, encouragers, and those persons merely acting as "lookers on." In figures that were examined from the Riot Participation Study (Los Angeles County Probation Department, Research Report No. 26, November 1965) and Bureau of Criminal Records, he concluded that looking at age, socioeconomic status (based on income), and education, the Los Angeles riot drew its participants from young and old alike. Oberschall (1968) attributes the identification of the participants as belonging to a "lower class character" from large numbers of unemployed persons who were arrested during this riot. The foundation of Oberschall's (1968) investigation centers on the relationship between the people of South Los Angeles and the police enforcement of this area of the city. The predominant black population

had a "generalized belief" that police brutality and discriminatory law enforcement practices existed prior to the riot. The elected officials and law enforcement agencies in the area, who were largely Caucasian, regarded the racial tension issue as a means of political protest by a select group of "racial agitators." This generalized belief followed by a precipitating event, the arresting and mishandling of several drunken black youths, began the framework for violent mob action. A mobilization for action existed in the form of a collection of black gangs that looted and burned white business in the area. This was intensified by the operation of social control which existed in the form of white policemen and firemen and the summoning of the National Guard troops.

Couch (1968) has approached the study of group violence by examining stereotypes held by sociologists concerning mob behavior. Characteristics of the acting crowd were identified, using collective behavior theories of Smelser (1962) and LeBon (1895). Factors identified included suggestability, destructiveness, irrationality, emotionality, mental disturbances, lower class participation, spontaneity, creativeness, lack of self control and anti-social behavior. Couch (1968) has concluded that crowds are lacking several important variables that sociologists overlook in their analysis of mob behavior and these include primarily, the decision making powers of authority and the availability of a means to express their views. The destructiveness, irrationability and lack of self control often characterized as mob behavior may have been the consequence of police enforcement to stop a protest or demonstration against establishment views. Crowds may be

rational but the "emotions of the situation" can cause a group situation to appear to be volatile. Groups involved in demonstrations are often expressing ideas that they believe may lead to obtaining "justifiable rights." Couch (1968) regards the traits identified by sociologists as "empirically valid" and suggests that the investigation of mob behavior should be considered as a micro social system.

Menninger (1970) analyzed mob behavior using statistics compiled by the TASK FORCE for the National Commission on the Causes and Prevention of Violence (1969). He identified that man, by his nature, is not necessarily a violent being but is an "emotional animal" that is constantly striving to control these emotions. Basically man is a product of both his heredity and environment. The environment is becoming increasingly larger in competitive numbers and this overcrowding can be a factor that determines mob behavior. Menninger (1970) using the task force statistics found that most violent crime tends to be intraracial, that is, most violent crime involves blacks assaulting blacks, whites victimizing other whites with the exception of robbery. Media, which provides "visibility to all levels of society," provides a means for mob behavior to be expressed to everyone. This contributes to violence today because there is an increasing sense that the only way a person can be sure to become visible is to gain the attention of the electronic media. Menninger (1970) concludes his study by stating that the responsibility of controlling violent mob action belongs to all levels of society including state and local government as well as each individual.

Pepitone (1972) examined the social psychological factors that effect mob behavior or social violence. These include the level of discontent, deprivation, attribution, conflict and anger that is characteristic of mob action. Many of the destructive acts of mobs which have come under the heading of collective violence are not strictly included in the frustration-aggression theory. Pepitone's (1972) model attributed a "failure of achievement" as a possible explanation to reprisings that have occurred in group situations. The model described by Pepitone (1972) is illustrated below:

INDIVIDUAL DISCONTENT → SHARED DISCONTENT → INCREASED GROUP IDENTIFICATION → RELIEF OF INDIVIDUAL RESPONSIBILITY → ATTRIBUTION OF RESPONSIBILITY TO EXTERNAL AGENT → FOCUS OF DISCONTENT INTO ANGER AND ACTIVATION OF DESTRUCTIVE TENDENCIES.

The outbreak of violence would appear to depend upon several major variables and these are the level of anger aroused in the situation, the effectiveness of disinhibitory processes and the estimate each group makes of its power. Disinhibition and power are the two main components that violence depends on. Disinhibition can be a complex variable that includes the "restraint" a group places on itself or the enforcement of restraint placed upon a mob by police or authorities. Pepitone (1972) believed that the rejection of LeBon's (1895) group mind theory may have held back social psychologists' understanding of the disinhibition of mob behavior. Disinhibition may be a major process allowing destructiveness to occur in group violence situations. Another major variable that Pepitone identified upon

which violence depends is power, and among the sources of physical power, weapons are the most significant in terms of their effects.

In a related study conducted by Harrison and Pepitone (1972), the author attempted to determine what effect power had upon a person's administration of punishment toward another subject. Subjects trained a rat to press a lever to a criterion by using shock treatments to manipulate their movements in a controlled environment. In an experimental condition subjects were presented with relatively weak shocks which they could use and a relatively strong shock which they could not use. In a control condition, subjects had only the relatively weak shock level to use. The results were clear-cut, in situations where a subject could not use extreme punishment they administered excessive dosages of the weaker punishment.

From Pepitone's (1972) research he recommends that police enforcement should avoid possession of lethal weapons if under a restriction not to engage in the use of the weapon. A policeman or security officer who holsters a pistol or gun together with a club (nightstick) and is under orders not to use the gun against a protester, may administer a more violent beating with the club on an individual. The club can be compared to the mild shock. Restricted use of the gun is similar to the limitation of the strong shock. Pepitone believes this restriction from using the gun especially during protests or political demonstrations may lead to the excessive use of clubs by policemen to counter violence.

In a study immediately after the violence at Kent State University, Adamek and Lewis (1973) explored two prevalent hypotheses concerning

mob behavior. The "radicalization" hypothesis suggests that a student who experiences some form of social control violence as when severe force is used against demonstrators, will become radicalized in his attitudes and behavior. The "pacification" hypothesis suggests that the use of severe force by police or authorities is effective in stopping demonstrations, demoralizing demonstrators, and deferring further expressions of dissent. Adamek and Lewis (1973) interviewed 233 Kent State University undergraduates in April and May 1971, one year after the shootings at that campus. Data was also provided by the University on three variables: sex, academic class, and major area of study. Although it was an attitudinal study, that provided no measure of "before" attitudes, the results indicate that those students who had previous exposure to social control violence appeared to have attitudes favorable toward violence against police or security officers. Adamek and Lewis also suggest that the amount and degree of social control violence at Kent State in 1970 may have led to further violence.

In related research, Adamek and Lewis (1974) compared social characteristics, political and protest activities, and the impact of social control violence on participants and non-participants in an anti-Reserve Officer Training Corp (ROTC) sit-in at Kent State University. The subjects (N = 129) were individuals arrested by authorities who were interviewed by members of a collective behavior class using a questionnaire developed by Lewis and Adamek (1973). A second set of data were collected using the same questionnaire mailed to a random sample of juniors and seniors registered at Kent State University during the spring quarter 1974. The data indicated that participants in contrast

to non-participants were more likely to be male, younger, and majoring in the social sciences or humanities. Participants also considered themselves as radical in political outlook and to have lower grades. Adamek and Lewis (1974) found that those students who had been exposed to previous social control violence were more likely to participate in a sit-in to protest than a student not previously exposed to social control violence.

Erlanger (1974) examined existing literature bearing on the subculture of violence thesis that has been attributed to Wolfgang and Ferracuti (1967). The subculture of violence thesis attributes from a person's adherence to a set of values which supports and encourages its expression. These values are seen as being in conflict with, but not totally in opposition to, those of the dominant culture. Erlanger (1974) cites several shortcomings in this thesis including a lack of adequate representation from minorities, inconclusive evidence and a lack of a proper sample of "more traditional householders" in the studies that have suggested that mob violence may be a part of a specific race, culture or group. Erlanger (1974) believes that at this time sociologists do not know if a "deviant value system" exists in the United States nor can experts predict that this system be found predominantly within the black or low income white communities.

Herbert Kritzer (1977) presented a model to account for the outbreak of violence at incidents of political protest. Using the key event questionnaire designed by MacConnell (1973) data was collected concerning 126 protest demonstrations from persons who participated in "nonviolent action training programs." The subjects using a "yes" or

"no" response provided accurate information concerning anti-war demonstrations. Kritzer identified three determinants of violent action: (1) a normative choice about the use of violence, a moral decision of right or wrong, (2) the possible "other" means available to protesters, and (3) was the group engaged in protest demonstration provoked into violent behavior by the police. The results strongly suggest the need to view outbreak of violence at protest events as a process rather than a simple occurrence. The most important factor Kritzer (1977) accounts for the outbreak of violence at any single event is the nature of the interaction between the various groups present at the event.

The previous section reviewed various studies and research concerning social and group violence. Several studies utilized police arrest records to examine the characteristics of an individual involved in mob behavior during race riots or student protests. Through the examination of the data, researchers concluded that individuals generally involved in social and group violence are often members of various social classes and educational levels.

Several studies identified citizen rights to express individual ideas and the improper police enforcement of protest as variables affecting social and group violence situations. The inability of such a group to express the rights guaranteed by the Constitution can combine with a sense of deprivation and feelings of discrimination.

Social and group violence may be a means to gain attention to this need. In a similar manner the improper enforcement of a protest could cause demonstrators to turn from peaceful means to more violent action.

Sport Spectator Behavior

There has been a limited amount of data based research conducted in the area of spectator misbehavior; that which has been done has been speculative in nature, limited by relatively small sample size characterized by little actual assessment of spectator attitudes. The following section will be devoted to studies that have focused upon the sports spectators' behavior.

Kingsmore (1970) studied the effect of a professional wrestling and professional basketball contest upon the aggressive tendencies of male spectators. The subjects for this study were twenty-six habitual professional wrestling spectators and twenty-eight habitual professional basketball spectators. Selected pictures of the Thematic Apperception Test (T.A.T.) and a questionnaire were administered pre and post to a professional basketball game and a professional wrestling match. In addition, the same tests were administered to thirty control subjects before and after attending regularly scheduled academic classes. Reported findings did not support Kingsmore's hypothesis that those individuals who had previously attended the basketball and wrestling contests would display a significant amount of extrapunitive aggression. The professional wrestling spectators displayed significantly less T.A.T. extrapunitive aggression after viewing the contests. The

basketball spectators displayed no significant changes in aggression. There was also a significant pre to post contest decrease in self reported aggression of the wrestling spectators. Finally, both basketball and wrestling spectators possessed significantly less extrapunitive aggression than the control subjects as measured by the T.A.T.

Turner (1970) conducted a similar study by testing forty-four subjects in an attempt to determine the effects of viewing college football, basketball, and wrestling on the elicited aggressive responses of male spectators. The subjects were divided into three groups, an experimental group, and two control groups. The experimental group viewed a football game, a wrestling match and a basketball game. Control group I viewed the basketball and a wrestling match, while Control group II viewed only the wrestling match. Pre and post to each viewing of athletic contests, the subjects were administered a twenty-item Sentence Completion Test and six pictures of the T.A.T. Frequency of aggressive words expressed to the Sentence Completion Test and T.A.T. increased significantly from the pre to post test for spectators of the football and basketball contests. There were no significant differences in the frequency of aggression expressed on these pre-post tests by those observing the wrestling match nor were there any significant differences in the intensity of aggression expressed by the spectators for all athletic contests before or after the event. The post contest questionnaires indicated that the score of the contest, the outcome of the game, the outstanding players on the team, the action of each team's members, officiating, the size of the crowd, and their attitude emotionally influenced almost one-third of the subjects.

The study of sport spectator violence has not been limited to North America. Ingham and Nixon (1970), in a paper presented at the 74th Annual Conference Physical Education Association for Men, reviewed possible causes related to the amount of vandalism and violence incurred by English spectators following British soccer games. It was hypothesized that spectators who were fans of contending teams caused much of the problems in the commuter trains immediately following soccer matches. Using library research of the London Times Newspaper, they found that contending teams' fans were involved in fifteen of eighteen reports of vandalism following games and in only two cases were fans involved in misbehavior prior to a sporting event. Ingham and Nixon also contend that many of the problems were essentially a result of a social class struggle between the middle class and lower middle class spectators of the soccer team.

Goldstein and Arms (1971) provided one of the first field experimental studies concerning spectator behavior at a sporting event. They studied the degree of hostility of spectators before and after viewing a Navy football game as compared to the hostility levels of spectators before and following an Army-Temple gymnastics meet. Thirteen undergraduate students served as interviewers and 150 subjects completed the interview. Following the interview process, subjects were asked to complete items from the Buss-Durkee Hostility Inventory (1957). Scales used from the original inventory included those measuring resentment, irritability, and indirect hostility. The results indicated that the hostility increased significantly after observing the football game regardless of the outcome of their favorite team. There was no significant increase found in the level of hostility for those observing the

gymnastics meet. This study provided no support for the previously accepted notion of a "cathartic effect," which contends that a release of aggression follows the observance of an athletic contest.

Lowe and Harrold (1973) attempt to describe and explain some of the factors which may lead to spectator misbehavior. They attribute such spectator practices as throwing objects onto the playing surface to a feeling of "de-individualization" by those persons involved. The individual fan feels that he or she is an integral part of the crowd, and this anonymity enables that spectator to rationalize his or her actions as being a normal part of group behavior. Lowe and Harrold also suggest that small groups of collective behavior may exist within a crowd. These "pockets" may be dispersed throughout the stadium or arena and contain spectators who have identified with specific players. They cause disturbances or hostile actions when their "idol" is threatened or attacked.

Probably the most significant contribution to the analysis of sport spectator misbehavior in recent years has come from the work of Michael D. Smith (1973, 1974). According to Smith (1973), structure (which includes both strain and conduciveness), dynamics and social control interrelate to form a total environment in which hostile outbursts may occur. Structure may take a variety of forms that include "cleavages" of religious, ethnic, regional, national or class background. It may also include the "unavoidability of alternate avenues of protest," which lead spectators to express their grievances through improper or violent means. Structure allows for rapid communication or beliefs

throughout the crowd. This includes the media hype before a game and the "cheek to jowl" conditions inside a stadium. Dynamics includes the spread of a generalized belief, precipitating factors, mobilization of the participants for action, and the ecology of the stadium. Spread of a generalized belief can be described as the presence of a value judgment or mood that circulates throughout the crowd by rumor before or during a contest. One of the earliest references to this idea is exemplified in the writings of Ian Taylor (1969) in his article on soccer "hooliganism" in England. In this article Taylor cites that British crowds attribute player outbursts to the "contamination" by visiting "Latin" teams. In this sense, a spread of a generalized belief involves the mood of the spectators toward the opposition players. Precipitating factors may include player violence and unpopular referee's decision. Smith (1973) identified these as elements that "touch off" other more severe collective outbursts. Mobilization of the participants for action involves the shaping of roles for individuals. Leadership often figures strongly as exemplified when one spectator models a certain behavior for others that follow. Lastly, the ecology of the stadium may help to shape an outburst. The amount of protection for players in and around an arena may force the violence to occur outside and after the game has been played. When some objects of attack are unobtainable then others will be substituted. Smith believes social control can prevent hostile outbursts when used in proper amounts and injected at the proper time. Thus the recognition of development of a particular incident is crucial. Social control can determine "how fast, how far, and in what direction the episode will develop."

It appears that a simple and concise explanation of sport spectator behavior does not exist. In a Final Report of a Select Committee of the House of Representatives on Professional Sports (1977), the Committee members concluded that indeed there has been an increase in the amount and degree of disturbances in sport by both player and spectators at professional events. The Committee further commented that a simple and accurate explanation of the cause of spectator violence has eluded some scientists. According to the select committee, there is very little the Government or Congress can do to prevent or control crowd violence in sports until "there is a more complete understanding of the causes for this phenomenon."

CHAPTER III

PROCEDURES

For the brief period of time that spectator misbehavior and fan violence has been studied, there has been an obvious lack of a testing device adaptable for use in sport situations. Rushall (1975), a Canadian sport psychologist, states that the use of general inventories for determining relationships between behavioral reference and sport activity classification has proven unsatisfactory. According to Rushall, sport psychologists and sociologists have been limited in the amount of relevant information that can be obtained because of the lack of situation specific testing devices. In order to avoid the shortcomings cited by Rushall, a testing device was developed for the specific purpose of measuring factors relevant to spectator misbehavior. The purpose of this Chapter is to provide information on the development of this measuring instrument and the implementation of the questionnaire in a field study of spectator attitudes toward fan misbehavior.

Method

Instrument Development

In order to obtain relevant data based information on factors facilitating fan misbehavior, a measuring instrument entitled the Spectator Misbehavior Attitudinal Inquiry (S.M.A.I.) was developed. The factors generated for the questionnaire were initially based on the extensions of several theories of collective behavior. The theories

utilized in identification of relevant factors included: contagion (Le Bon, 1895), convergence (Turner & Killian, 1972; Vander Zanden, 1975), emergent-norm (Asch, 1951; Sherif, 1936), and value-added (Smelser, 1962).

Preliminary Investigations

A series of preliminary investigations preceded the primary investigation. The first investigation involved conducting a content analysis of ten factors generated from the various theoretical positions previously cited. These factors were ordered randomly and given to collegiate coaches, sport psychologists, sport sociologists, and former collegiate athletes. The original list of ten factors appears in Appendix A. Each individual was asked to rank the factors listed according to their relative importance in facilitating spectator misbehavior. Spectator misbehavior was defined as a fan at a live sporting event exhibiting one or more of the following behaviors: (a) throwing objects on the playing surface, (b) cursing or swearing freely at players, officials or other spectators, (c) causing a stoppage in game play, (d) engaging in fisticuffs or other disorderly conduct.

A separate category was also made available for the identification and ranking of a factor not appearing on the factor list. Appendix B contains the list of twenty factors generated from the pilot research conducted. Based on this list, fourteen factors were finally selected as a function of their demonstrated importance. The final list combined some factors from the list of twenty and the exact factors selected appears in Appendix C. Two questions or statements were then composed for each factor comprising a questionnaire of twenty-eight items. Since

each factor had two questions, fourteen factors were identified apriori. Each question was followed by a four point Likert type scale with the response categories identified as: (1) Strongly agree, (2) Agree, (3) Disagree, and (4) Strongly disagree. This categorization was chosen since it emphasizes the absence of a neutral response category. Thus subjects indicated some degree of direction when responding to each factor (Sellitz, Wrightsman & Cook, 1976).

Several demographic variables were also included in the questionnaire. These included a spectator's sex, the frequency of game attendance (F.O.G.A.) and the spectator's age. The complete questionnaire is illustrated in Appendix D. From this information, the major analyses and comparisons were made for all subject populations tested.

Reliability

Following the formulation of the survey, a second pilot study was conducted in an attempt to factor analyze the questionnaire and to assess the reliability of the instrument. Twenty-four volunteers from an undergraduate physical education service class at the State University of New York, College at Brockport were utilized in this pilot test. Each subject completed the questionnaire on a Monday and then again on a Friday. As recommended by Safrit (1976), a two-way analysis of variance technique with repeated measures was utilized to compute the intraclass correlation between days (test/retest), between items and between factors. The intraclass correlation between days was .79 (test/retest). The consistency of a response across all items, which included the twenty-eight statements was .94. Finally, the consistency of a response to a

factor (comparing the subject's score for the paired items on a Monday to the same pair on a Friday) resulted in an intraclass correlation of .89. The purpose of the pilot study was to determine the reliability of the instrument prior to its distribution in the primary investigation. Based upon the results of the pilot testing, it was concluded that consistency of responses existed and the testing device possessed sufficient reliability. The raw data generated in the pilot study is found in Appendix E.

Factor Validity

Both apriori or logical, and statistical procedures were utilized in order to establish factor validity, as suggested by Harris (1971), Kerlinger and Kaya (1959) and Thorndike (1978). Statistical tools that can be used to establish logical validity include factor analysis, item analysis and cluster analysis. The present study used variations of all of these techniques. A random sample of 241 spectators from the total population were selected for this purpose. An item analysis was performed by computing the correlations between each of the twenty-eight items. The inter item correlation matrix was inspected to determine if the matched item pairs, correlated highly with the appropriate paired item.

Secondly, a series of factor analyses were performed to assess if the hypothesized item pairs loaded on the same factor. The solution produced is similar to a cluster analysis, in that certain items had a tendency to cluster around specific factors. Thorndike (1978) points out that cluster analysis is more appropriate than factor analysis to

construct a scale. Factor analysis separates item variance into each factor that is extracted. However, selecting the factor that each item loads most heavily on, is a modification of factor analysis such that it gives a result similar to cluster analysis.

To insure that proper and objective findings resulted, a factor analytic technique suggested by Harris (1971) was used. Harris (1971) has recommended the use of several different techniques which includes obtaining a derived solution, from both orthogonal and oblique rotations. Those results are compared and items that load on factors across both methods are considered as composing strong factors. Both principal factor method and alpha factoring were utilized since they are widely used and accepted factoring methods. The criteria adopted for factor acceptance was that a pair of items must load on the same factor in three of the four analytic procedures utilized. The results of the factor analytic techniques can be found in Appendix F.

Primary Investigation

Subjects

Subjects for the primary investigation were spectators attending a live ice hockey game at one of three locations. The spectators were in attendance at a Brockport College (N = 89), Rochester Americans (N = 784), or Buffalo Sabres (N = 874) hockey game. The total number of subjects responding to the questionnaire was 1747.

Organizational Approval. All three organizations were contacted in person prior to the testing. Copies of the letters sent to each organization are located in Appendix G. The management of each organization agreed to allow the questionnaires to be passed out by twenty

research assistants during pregame time. An announcement was made over the public address system prior to the actual testing. In Buffalo, a special announcement was made at the previous home game to advise the spectators of an upcoming survey. The management in Buffalo also provided an announcement on the electronic message board located at balcony level atop Memorial Auditorium.

Training Procedures

In order to obtain the large number of respondents desired and to insure a representative sample from each section of the sports arenas, twenty assistants were identified and trained in the distribution and collection procedures utilized in this study. Several meetings were held prior to the initial testing enabling each research assistant an opportunity to familiarize themselves with the testing problems. Each assistant was informed that they would be assigned a section in each arena. Within each section assigned, the assistants were instructed to distribute 50 questionnaires and 50 pencils to spectators over 18 years of age who were seated or approaching their seats. All questionnaires were passed out prior to the start of the game. A copy of the floor plan of each building with designated areas circled for easy identification was given to each assistant. In this way each assistant knew exactly where to go in the building. The context of the statement used during the distribution appears in Appendix H.

The twenty assistants were advised on possible questions that may be asked by spectators and were instructed to be as polite as possible but not to divulge any information that might bias the responses of the subjects to the questionnaire. All research assistants and the investigator

convened approximately ninety minutes prior to the start of the game to review the testing procedures and discuss any questions concerning the distribution and collection of the questionnaire. The assistants final instructions were to make sure that the questionnaire was filled out completely and properly when it was collected. Many of the same personnel provided their assistance at all three test locations providing a high degree of continuity at each testing site.

Testing Procedures

The seating arrangements of each arena were carefully examined in an attempt to assure a representative subject sample. Twenty trained volunteers assisted in the administration of the questionnaire. These volunteers wore gold arm bands to identify themselves to the respondents. Each assistant had been preassigned to a particular section of the arena and given fifty questionnaires and pencils. All questionnaires were passed out thirty minutes prior to the start of each contest and the collection was finished at least five minutes prior to the start of any game. This procedure avoided any reactivity a respondent may have had if a game incident occurred while filling out the questionnaire. The rate of return for the questionnaires exceeded seventy percent at both Buffalo and Rochester. The Brockport return was approximately eighty percent.

CHAPTER IV

RESULTS AND DISCUSSION

Introduction

The purpose of this investigative inquiry was to identify spectator attitudes toward fan misbehavior at sporting events. Theories such as Smelser (1962), and Smith (1973; 1974; 1975) have indicated that the violence and disruption associated with crowds attending sporting events have been the result of numerous interrelated factors. Some of these factors are easily identified but others obscure and unknown. The approach utilized in this study represents one of the first known attempts to gather information on fan misbehavior from actual spectators at live sporting events. It is anticipated that this approach may yield some meaningful insight and direction to the continued systematic study of the international problem of spectator violence and misbehavior.

The subjects in the present study were spectators attending a live ice hockey contest at either the State University of New York College at Brockport, Rochester Americans, Rochester, New York, or Buffalo Sabres, Buffalo, New York. Those participating were asked to complete a 28 item, 14 factor questionnaire prior to the start of the actual game. Twenty research assistants were trained in distribution and collection procedures to effectively coordinate collection of the data. Subjects were required to be sitting or approaching their

seats and no subject appearing to be under eighteen years of age was allowed to complete the survey. Other than these stipulations distribution was random with each sector of the arenas equally represented in questionnaire distribution.

Data Analysis

Several analyses were conducted on the data. Preliminary analyses included an item intercorrelation. This analysis was conducted on a random sample of 241 questionnaires. The item intercorrelations are presented in Table 1.

The item intercorrelations demonstrated that the items composing the factors of alcohol, referees, time remaining/losing, time of game, rivalry, age, and nature of game correlated most highly with their appropriate paired item. The items composing the factors of proximity, amount of security, expect to get caught, score, sex, crowd density and severity of punishment all correlated most highly with a nonpaired item. Six of the top seven factors as ranked by the 1747 respondents were included in the group of factors whose items correlated most highly with its appropriate paired item.

Overall Comparison

The factors were then ranked according to the mean scores of the total sample of 1747 respondents. The means and standard deviations based on the overall population appear in Table 2.

The factors of age, referees, rivalry, alcohol, and nature of the game were ranked as the top five factors with age and referees ranked as the top two factors perceived as facilitatory to fan misbehavior.

Table 1

Item Intercorrelations, Means and Standard Deviations for Factors

Factor	Items	Highest + r	r with Paired Item	Mean
*1. Alcohol	1, 18	.301 (18)	.301	4.22
*2. Referees	5, 21	.273 (21)	.273	3.84
·3. Proximity	3, 22	.190 (11)	.006	5.28
·4. Amount Security	13, 19	.298 (16)	.231	5.43
·5. Expect to Get Caught	4, 15	.265 (7)	.000	4.94
*6. Time Remaining Losing	8, 23	.341 (23)	.341	4.84
*7. Time of Game Day/Night	6, 20	.417 (20)	.417	5.98
*8. Rivalry	2, 24	.517 (24)	.517	4.19
·9. Score	7, 17	.314 (24)	.086	4.88
*10. Age	12, 25	.164 (25)	.164	3.83
·11. Sex	14, 28	.369 (18)	-.252	5.01
*12. Nature of Game	9, 16	.208 (16)	.208	4.41
·13. Crowd Density	10, 27	.264 (15)	.073	4.56
·14. Severity of Punishment	11, 26	.144 (28)	-.249	5.60

Brockport = 89 Rochester = 77 Buffalo = 77 Total N = 241

*Correlated most highly with paired item.

·Correlated most highly with a nonpaired item.

Table 2

Overall Ranking and Means and Standard Deviations for Factors[a]

Factor	Mean	Standard Deviation	Overall Rank
1. Alcohol	4.220	1.351	4
2. Referees	3.839	1.158	2
3. Proximity	5.279	1.108	11
4. Amount Security	5.427	1.272	12
5. Expect to Get Caught	4.936	1.074	9
6. Time Remaining Losing	4.836	1.193	7
7. Time of Game Day/Night	5.980	1.182	14
8. Rivalry	4.191	1.212	3
9. Score	4.882	1.125	8
10. Age	3.825	1.558	1
11. Sex	5.006	0.892	10
12. Nature of Game	4.413	1.225	5
13. Crowd Density	4.556	1.222	6
14. Severity of Punishment	5.596	1.179	13

[a]Means and standard deviations based on total sample of 1,747. The means are also based upon factor scores. Each factor is made up from two items. A factor score can thus range from 2 - 8.

A Select Committee of the House of Representatives (1977) which investigated professional sports violence identified the factor of age as contributing to related misbehavior by fans at sporting events. The Committee studied incidents occurring at Major League Baseball and National Football League contests where fans caused disruption to the games itself and injury to numerous spectators. Possible explanation of why age would tend to be linked to fan misbehavior may be the enormous attention and admiration shown by younger spectators toward their "favorite players." These dedicated fans often strongly identify with the emotional high and low of every play, pitch or piece of action that occurs. Before and following many contests, youths gather at dressing room gates to view their idols. Many wear the team jersey as a symbolic gesture of being a part of the team they religiously follow. This strong identification process may also lead to modeling behavior by young fans who tend to follow the behavior of players during games. Loy, McPherson and Kenyon (1978) identified "significant others" as models that youths tend to follow when involved in sport situations. A young fan who holds a player or another older fan in high regard may act in a similar fashion as that person or player during the contests. Thus, when a player, who is admired, gets involved in aggressive or violent play, a fan, especially a young fan, may perceive this as the proper way to act and model this behavior. Loy, McPherson and Kenyon (1978) believe that each one of us have established a behavior pattern at a young age and if these patters are disruptive it may be due to modeling improper behavior.

According to the ranking of the factors as perceived by the overall population, the factor of referees was found to be the second most important factor in facilitating fan misbehavior. Michael Smith (1973) identified unpopular referee decisions as a type of "precipitating event" that contributes to the dynamics of crowd violence. The sports of soccer and ice hockey serve as examples where a referee has to make a split second decision which may alter not only the contest but the behavior of the sport spectator as well. Counting or disallowing a goal could be a decision defined by crowd members as "discrimination against their team and against themselves." A referee's judgment has been directly related to a major riot by spectators at a soccer match in Lima, Peru in 1964 (Smith, 1973). The effect of a referee's decision on both players and fans has always been enormous and often very volatile at sports events. Throughout sport history the referee has often been characterized as the person who has ultimate control of the contest. Since the official has such tremendous control over the game and its very outcome, he is a powerful figure that can easily be viewed as the obstacle to a fan's team goal of winning. This control often extends beyond the playing field and into the stands as well. Spectators frequently use the referee as a "scapegoat" in games where the outcome is not favorable to their team. He becomes a potent source of frustration when the decision made leads to a team loss and the game outcome does not meet the expectations of the fan. Depending on the sport, disenchantment for referees' decisions are exhibited in various forms. The apparent poor decision by a referee that may lead to a team losing a

game may be perceived by fans as an act against themselves and the team they are supporting.

Rivalry, alcohol and nature of the game were identified as the next three factors perceived as important to the facilitation of fan misbehavior at sporting events. Rivalry, ranked third, and nature of the game, ranked fifth, are both characteristics of the teams competing on the field of play. The intensity and emotional confrontation of the players from past performances and conference play can transcend into the stands where spectators become more emotionally involved in the performance on the field.

The classic study of Goldstein and Arms (1971) involving the measurement of hostility levels in spectators following an Army-Navy football game found that a significant increase in hostility levels existed following this traditional rivalry. When two teams, intra-divisional rivals, come together on the field of play, the players and fans seem to become more involved and interested in the outcome of the game.

Nature of game, ranked fifth, refers to the type of play collision or contact affecting the behavior of spectators. Sports such as ice hockey, football and basketball all have an element that allows players to come into physical contact with one another. These sports seem to cause fans to react more violently than fans attending a sport totally void of physical contact or collision. Sports that are non-contact such as golf, tennis and swimming are often person-object in focus. These sports that have contact and collision are three dimensional since they are person-object and person in focus.

Football, ice hockey and basketball all require competition for the manipulation of an object by an opponent on the field with whom one may engage in physical contact.

Alcohol, ranked fourth, is a drug that acts as a depressant or an anesthetic on the central nervous system and affects a person in a numbing sense. It may also facilitate aberrant behavior in an indidivual who consumes it (Sinacore, 1968). This drug may facilitate a spectator to act mischieviously because it releases person's "inhibitions" to violate the norm of group behavior. It may also allow a person of relatively mild demeanor to become boisterous, aggressive, and not act according to one's general code of behavior. When spectators arrive at a football game at night with a few after-work drinks already circulating through the blood, the type of behavior elicited may be different than what is generally exhibited by this person in other social settings. Also, related to this is the deindividualization that a spectator may achieve when attending a game with thousands of other individuals. This deindividualization combined with a diffusion of responsibility can result in anonymity for the spectator and increase the probability of misbehavior (Lowe & Harrold, 1973).

It is perhaps an interaction of the factors that combine to facilitate spectators to misbehave at sporting events. The nature of the game, inconsistent or poor refereeing, the age of the spectator and alcoholic consumption, combined with a contest involving two teams who have traditional rivalry, seems to create the atmosphere for a potentially volatile situation.

The factors of score, expects to get caught, sex, proximity, amount of security, severity of punishment and time of game day/night which possessed means between 4.93 and 5.98 indicated that spectators did not perceive these as important to fan misbehavior. It is not clear what the importance of these factors may be in determination of crowd behavior. Their unimportance in this study could also be a function of the inadequacy of the questionnaire since these factors had items that did not appear to be strong in the intercorrelations.

Location Comparison

All factors were re-ranked according to the three separate population locations of Brockport, Rochester and Buffalo. Kendall's coefficient of concordance (W) was computed to determine if any significant difference existed in the ranking of the factors by these population groupings. A $\underline{W}$ of .833 was calculated indicating a high degree of correspondence in the ranking of the factors by these three locals. A Spearman rank correlation coefficient was computed according to the procedure suggested by Siegel (1956, p. 229). The Spearman rank was .755, $p < .001$. This indicated that the amount of agreement between the three populations was significant; that is they tended to rank the factors in a very similar fashion. The only noticeable difference in the ranking was the age factor. This factor was ranked eleventh by the more youthful Brockport college sample, while the Rochester sample ranked age first and the Buffalo sample ranked age second. The means, standard deviations and ranks for each locale are provided in Table 3.

Table 3

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient by Location

	Location									
	Brockport (N=89)			Rochester (N=784)			Buffalo (N=874)			Sum of
Factor	M	SD	Rank	M	SD	Rank	M	SD	Rank	Ranks
Alcohol	4.63	1.27	5	4.24	1.41	4	4.16	1.30	3	12
Referees	4.06	1.21	3	3.92	1.22	2	3.74	1.08	1	6
Proximity	5.30	1.26	13	5.25	1.14	11	5.30	1.06	11	33
Security	4.87	1.26	8.5	5.34	1.31	12	5.57	1.24	12	32.5
Expects to Get Caught	4.79	0.83	6	4.86	1.11	9	5.02	1.06	9	24
Time Remaining/ Losing	4.94	1.32	10	4.81	1.26	7	4.85	1.11	7	24
Game Time	6.07	1.20	14	6.03	1.25	14	5.93	1.12	14	42
Rivalry	3.94	1.18	1	4.20	1.25	3	4.21	1.18	4	8
Score	4.85	1.14	7	4.85	1.16	8	4.92	1.10	8	23
Age	5.08	0.90	11	3.57	1.49	1	3.93	1.60	2	14
Sex	4.87	0.88	8.5	5.00	1.00	10	5.03	0.79	10	28.5
Nature of Game	3.98	1.23	2	4.41	1.26	5	4.46	1.19	5	12
Crowd Density	4.37	0.96	4	4.50	1.30	6	4.62	1.17	6	16
Punishment	5.17	0.84	12	5.49	1.23	13	5.74	1.14	13	38

Kendall $W = .833 = x^2(13) = 32.48$; $x^2(.01,13) = 27.69$

Spearman Rank $r_{sav} = \frac{k(W)-1}{k-1} = .755 = t(12) = 5.27$; $t(.001,12) = 4.32$ (two tail)

The agreement in the factor rankings by each locale indicates the strength of these determinants. Spectators at each location, Brockport, Rochester and Buffalo, regarded primarily the same determinants as important to facilitating fan misbehavior. This high general agreement tends to provide a degree of confidence in the probable power of these factors to be perceived as facilitatory to fan misbehavior at sports events such as ice hockey.

Collegiate Versus Professional Comparison

Since the data obtained from the three locations included spectators' perceptions of fan misbehavior at a professional or a collegiate contest, a comparison of the ranking of factors between these two settings was calculated. The comparison of the collegiate sample (Brockport) to the professional samples (Rochester and Buffalo) appear in Table 4.

Table 4

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient Location: College vs Professional

Factor	College Brockport (N=89) M	Rank	Professional Rochester/Buffalo (N=1658) M	Rank	Sum of Ranks
Alcohol	4.62	5	4.19	3	8
Referees	4.05	3	3.82	2	5
Proximity	5.30	13	5.27	11	24
Security	4.86	8.5	5.45	12	20.5
Expects to Get Caught	4.78	6	4.94	9	15
Time Remaining/ Losing	4.94	10	4.82	7	17
Game Time	6.06	14	5.97	14	28
Rivalry	3.94	1	4.20	4	5
Score	4.85	7	4.88	8	15
Age	5.07	11	3.75	1	12
Sex	4.86	8.5	5.01	10	18.5
Nature of Game	3.97	2	4.43	5	7
Crowd Density	4.37	4	4.56	6	10
Punishment	5.16	12	5.61	13	25

Kendall $W = .817 = x^2(13)\ 21.24$; $x^2\ (.05,13) = 22.36$; $x^2\ (.10,13) = 19.81$

Spearman Rank $r_{sav} = \frac{k(W)-1}{k-1} = .634 = t(12)\ 2.83$; $t\ (.02) = 2.68$ (two tail)

Kendall's coefficient of concordance (W) was computed to determine if any significant difference existed in the ranking of the factors according to whether a subject attended a professional or collegiate ice hockey contest. A W of .817 was calculated indicating a high degree of correspondence in the ranking of the factors according to whether a subject attended a professional or collegiate ice hockey contest. The Spearman rank was calculated and was .634, $x^2(13) = 21.24$; x^2 (.05,13) = 22.36. This indicated that the ranking of the factors was significant at the .10 level and approached significance at .05 level. Whether a fan was attending a collegiate or a professional hockey game, the same factors were generally seen as important. Again, the only noticeable difference between the college and professional spectator's rankings was the age factor. It seems that the fans, regardless of the competitive level of the contest perceive the same factors as potentially contributing to misbehavior at the event.

Location Versus Overall Comparisons

The data was re-ranked to compare the locations, Brockport, Rochester and Buffalo, ranking of the factors to the overall ranking of each factor by the 1747 subjects. Kendall's coefficient of concordance (W) was calculated and was found to be .869. The Spearman rank was .826. The comparison of the locations with the overall ranking appear with means and standard deviations in Table 5.

Table 5

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient Location vs Overall

Factor	Location: Brockport (N=89) M	SD	Rank	Rochester (N=784) M	SD	Rank	Buffalo (N=874) M	SD	Rank	Overall (N=1747) M	SD	Rank	Sum of Ranks
Alcohol	4.629	1.265	5	4.236	1.412	4	4.164	1.296	3	4.229	1.351	4	16
Referees	4.056	1.209	3	3.923	1.223	2	3.741	1.082	1	3.839	1.158	2	8
Proximity	5.303	1.256	13	5.249	1.137	11	5.304	1.064	11	5.279	1.108	11	46
Security	4.865	1.256	8.5	5.337	1.312	12	5.565	1.236	12	5.427	1.272	12	44.5
Expects to get Caught	4.787	0.832	6	4.861	1.109	9	5.018	1.058	9	4.936	1.079	9	33
Time Remaining/ Losing	4.944	1.317	10	4.811	1.263	7	4.847	1.113	7	4.836	1.193	7	31
Game Time	6.067	1.195	14	6.026	1.248	14	5.930	1.117	14	5.980	1.182	14	56
Rivalry	3.944	1.181	1	4.202	1.253	3	4.206	1.176	4	4.191	1.212	3	11
Score	4.854	1.144	7	4.846	1.155	8	4.916	1.096	8	4.882	1.125	8	31
Age	5.079	0.895	11	3.568	1.489	1	3.929	1.598	2	3.825	1.558	1	15
Nature of Game	3.978	1.224	2	4.409	1.256	5	4.461	1.189	5	4.413	1.225	5	38.5
Crowd Density	4.371	0.958	4	4.504	1.303	6	4.621	1.165	6	4.556	1.222	6	17
Punish-ment	5.169	0.843	12	5.489	1.233	13	5.737	1.139	13	5.596	1.179	13	51

Kendall W = .8696 Spearman Rank = $r_{sav} = \frac{k(W)-1}{k-1}$ = .8261 = t(12) 5.07; t(.001,12) = 4.32 (two tail)

x^2 (13) = 45.18

x^2 (.001,13) = 34.53

The agreement between location and overall ranking indicates that factors identified by each location are indeed similar to that by all 1747 respondents. This agreement tends to reinforce the powerfulness of the primary factors that were identified as facilitative to fan misbehavior as perceived by spectators. Neither the location where the sporting event took place, nor the level of play seemed to affect the identification of the primary factors. This consistency of factor rankings indicates that fans' perceptions generally remained constant and did not differ from location to location nor level to level.

Biographical Information Comparisons

The data collected in this study was also analyzed according to the biographical information derived from each spectator's questionnaire. The biographical section of the questionnaire is located on page one of Appendix D. Each spectator was asked to indicate their sex, age and frequency of game attendance (F.O.G.A.).

From this information, comparative analyses were made to determine if any significant difference existed in the attitudes of spectators concerning fan misbehavior based upon an individual's background.

Sex Comparison

The ranking of the factors, the means and standard deviations according to an individual's sex appear in Table 6.

Table 6

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Sex Variable

Factor	Unidentified (N=147) M	SD	Rank	Male (N=1,006) M	SD	Rank	Female (N=593) M	SD	Rank	Sum of Ranks
Alcohol	4.05	1.51	3	4.29	1.34	9	4.14	1.33	4	11
Referees	3.78	1.14	2	3.87	1.19	2	3.80	1.11	1	5
Prox-imity	5.01	1.28	11	5.25	1.11	11	5.40	1.04	11	33
Security	5.42	1.37	12	5.41	1.29	12	5.46	1.22	12	36
Expects to Get Caught	4.91	1.10	10	4.92	1.12	8	4.97	0.99	9	27
Time Remain-ing/ Losing	4.74	1.17	8	4.89	1.22	7	4.77	1.14	7	22
Game Time	6.00	1.13	14	5.94	1.23	14	6.04	1.11	14	42
Rivalry	4.06	1.44	4	4.26	1.21	3	4.10	1.14	3	10
Score	4.69	1.28	7	4.97	1.13	9	4.78	1.07	8	24
Age	3.74	1.60	1	3.75	1.54	1	3.98	1.56	2	4
Sex	4.77	1.17	9	4.99	0.87	10	5.09	0.83	10	29
Nature of Game	4.52	1.23	5	4.38	1.24	5	4.44	1.23	5	15
Crowd Density	4.56	1.43	6	4.53	1.18	6	4.60	1.23	6	18
Punish-ment	5.50	1.14	13	5.63	1.14	13	5.57	1.26	13	39

Kendall $W = .988 = x^2(13) = 38.53$; $x^2(.001,13) = 34.53$

Spearman Rank $r_{sav} = \frac{k(W)-1}{k-1} = .97 = t(12) = 15.25$ $t(.001,12) = 4.32$ (two tail)

This table includes males, females and those persons who did not indicate gender. A Kendall Coefficient of Concordance was computed to determine if any significant difference existed in the ranking of the factors according to the sex variable. A W value of .988 was calculated indicating a high degree of correspondence in the ranking of the factors according to the sex variable. The Spearman rank was calculated to be .976.

Sex vs. Overall Comparison

The factors of age, referees, rivalry, alcohol and nature of game represent the top five factors perceived as facilitative to fan misbehavior at sporting events according to the sex variable. These factors represent the top five ranked factors for the overall population as well, indicating that neither males nor females differed in identification of the important factors from the overall population rankings. The means, standard deviation and rankings for the factors according to the sex variable compared to the overall rankings appear in Table 7.

Age Comparison

The age of the respondent was included in the biographical information obtained in the survey. This information was utilized in comparing the ranking of the factors among the age groups identified. The categories of age groups were: 18-25, 26-35, 36-45, 46-65 and 65 and over. Table 8 indicates the ranking of the factors and the means and standard deviations for each age group along with those persons who did not identify a category.

Table 7

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient Sex vs Overall

	Sex												
	None (N=147)			Male (N=1,006)			Female (N=593)			Overall (N=1747)			Sum of
Factor	M	SD	Rank	M	SD	Rank	M	SD	Rank	M	SD	Rank	Ranks
Alcohol	4.054	1.512	3	4.288	1.335	4	4.143	1.335	4	4.220	1.351	4	15
Referees	3.782	1.144	2	3.867	1.185	2	3.804	1.113	1	3.839	1.158	2	7
Proximity	5.014	1.277	11	5.249	1.113	11	5.396	1.038	11	5.279	1.108	11	44
Security	5.422	1.365	12	5.407	1.292	12	5.464	1.216	12	5.427	1.272	12	48
Expects to Get Caught	4.912	1.097	10	4.922	1.120	8	4.966	0.988	9	4.936	1.074	9	36
Time Remaining/ Losing	4.741	1.165	8	4.887	1.224	7	4.774	1.143	7	4.836	1.193	7	29
Game Time	6.000	1.129	14	5.941	1.230	14	6.040	1.110	14	5.980	1.182	14	56
Rivalry	4.061	1.439	4	4.261	1.214	3	4.103	1.140	3	4.191	1.212	3	13
Score	4.687	1.281	7	4.971	1.128	9	4.777	1.066	8	4.882	1.125	8	32
Age	3.735	1.602	1	3.750	1.544	1	3.978	1.562	2	3.825	1.558	1	5
Sex	4.769	1.171	9	4.990	0.873	10	5.093	0.832	10	5.006	0.892	10	39
Nature of Game	4.524	1.125	5	4.379	1.237	5	4.444	1.228	5	4.413	1.225	5	20
Crowd Density	4.558	1.434	6	4.529	1.182	6	4.599	1.231	6	4.556	1.222	6	24
Punishment	5.497	1.137	13	5.629	1.138	13	5.565	1.257	13	5.596	1.179	13	52

Kendall W = .990 Spearman Rank = $r_{sav} = \frac{k(W)-1}{k-1}$ = .986 = t(12) = 20.78; t (.001,12) = 4.32 (two tailed)

$x^2(13) = 51.48$

$x^2(.001,13) = 34.53$

Table 8

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Age Variable

Factor	None (N=47) M	SD	Rank	Age (N=652) 18-25 M	SD	Rank	Age (N=493) 26-35 M	SD	Rank
Alcohol	4.426	1.778	5	4.468	1.358	5	4.274	1.286	3
Referees	3.638	1.326	1	3.729	1.167	1	3.957	1.165	2
Proximity	5.043	1.367	12	5.282	1.103	12	5.363	1.053	11
Security	4.915	1.457	10	5.184	1.246	11	5.552	1.106	12
Expects to get Caught	4.894	0.840	8.5	4.847	1.134	9	5.053	0.968	10
Time Remaining/ Losing	4.830	1.239	6	4.725	1.242	7	4.911	1.223	7
Game Time	5.851	1.351	14	6.029	1.293	14	6.012	1.133	14
Rivalry	3.830	1.388	2	3.983	1.161	2	4.337	1.213	4
Score	4.894	0.961	8.5	4.779	1.083	8	4.996	1.163	8
Age	4.319	1.321	4	4.077	1.580	3	3.671	1.533	1
Sex	4.979	0.872	11	5.008	0.983	10	5.037	0.734	9
Nature of Game	4.234	1.306	3	4.081	1.230	4	4.617	1.200	6
Crowd Density	4.872	1.227	7	4.474	1.268	6	4.535	1.152	5
Punishment	5.298	1.267	13	5.339	1.157	13	5.795	1.012	13

Table 8 (Continued)

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Age Variable

Factor	Age (N=281) 36-45 M	SD	Rank	Age (N=240) 46-65 M	SD	Rank	Age (N=34) 65-over M	SD	Rank	Sum of Ranks
Alcohol	4.004	1.308	3	3.742	1.237	2	3.559	1.284	1	19
Referees	3.950	1.098	2	3.817	1.101	3	3.765	1.304	2	11
Proximity	5.320	1.009	11	5.133	1.234	11	5.029	1.291	12	69
Security	5.637	1.489	12	5.750	1.053	12	4.971	1.962	11	68
Expects to Get Caught	5.018	1.057	9	4.854	1.153	9	4.912	1.083	10	55.5
Time Remaining/ Losing	4.993	1.089	7	4.817	1.059	7	4.706	1.292	9	43
Game Time	5.779	1.095	14	5.850	1.020	14	5.676	1.093	14	84
Rivalry	4.512	1.181	4	4.167	1.185	4	4.059	1.516	4	20
Score	5.025	1.043	10	4.837	1.114	8	4.294	1.784	5	47.5
Age	3.559	1.509	1	3.667	1.522	1	3.882	1.701	3	13
Sex	5.004	0.791	8	5.008	0.892	10	4.588	1.635	8	56
Nature of Game	4.722	1.184	6	4.575	1.099	5	4.382	1.101	6	30
Crowd Density	4.644	1.217	5	4.654	1.193	6	4.559	1.440	7	36
Punishment	5.754	1.262	13	5.758	1.287	13	5.618	1.303	13	78

Kendall W = .945 = $x^2(13) = 73.71$; $x^2(.001,13) = 34.53$

Spearman Rank $r_{sav} = \frac{k(W)-1}{k-1} = .931 =$ t(12) = 8.84; t(.001,12) = 4.32 (two tail)

A Kendall Coefficient of Concordance was calculated to determine the agreement in the ranking of the factors across the five age groups and the forty-seven individuals who did not indicate their age. This group appears as "none" in Table 8. A W of .945 was calculated indicating a high degree of correspondence in the ranking of the factors. The Spearman rank correlation was computed to be .931. This indicated that the amount of agreement among all age groups was significant; they tended to rank the factors in a similar fashion. According to the sum of ranks, the first five factors perceived as important by spectators to facilitating fan misbehavior as determined by an individual's age were: referees, age, alcohol, rivalry and nature of game. It is interesting to note that as the age of the respondent became older the factor of alcohol was identified as becoming increasingly important as a precipitating factor. Younger adults may not consider alcohol, a drug, as an important cue to aberrant behavior at sporting events. Whereas, older more mature adults seem to recognize the effect of this often abused substance. The younger ages 18-25 ranked alcohol fifth and the 65-older group ranked alcohol first.

Age Versus Overall Comparison

Table 9 shows the comparison of the ranking of the factors by age groups with that of the overall ranking of the factors according to the total population. The means, standard deviations and ranks are shown also.

Table 9

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Age Variable vs Overall

Factor	None (N=47) M	SD	Rank	Age (N=652) 18-25 M	SD	Rank	Age (N=483) 26-35 M	SD	Rank	Age (N=281) 36-45 M	SD	Rank
Alcohol	4.426	1.778	5	4.468	1.358	5	4.274	1.286	3	4.004	1.308	3
Referees	3.638	1.326	1	3.729	1.167	1	3.957	1.165	2	3.950	1.098	2
Proximity	5.043	1.367	12	5.282	1.103	12	5.363	1.053	11	5.320	1.009	11
Security	4.915	1.457	10	5.184	1.246	11	5.552	1.106	12	5.637	1.489	12
Expects to Get Caught	4.894	0.840	8.5	4.847	1.134	9	5.053	0.968	10	5.018	1.057	9
Time Remaining/ Losing	4.830	1.239	6	4.725	1.242	7	4.911	1.223	7	4.993	1.089	7
Game Time	5.851	1.351	14	6.029	1.293	14	6.012	1.133	14	5.779	1.095	14
Rivalry	3.830	1.388	2	3.783	1.161	2	4.337	1.213	4	4.512	1.181	4
Score	4.894	0.961	8.5	4.779	1.083	8	4.996	1.163	8	5.025	1.043	10
Age	4.319	1.321	4	4.077	1.580	3	3.671	1.533	1	3.559	1.509	1
Sex	4.979	0.872	11	5.008	0.983	10	5.037	0.734	9	5.004	0.791	8
Nature of Game	4.234	1.306	3	4.081	1.230	4	4.617	1.200	6	4.722	1.184	6
Crowd Density	4.872	1.227	7	4.474	1.268	6	4.535	1.152	5	4.644	1.217	5
Punishment	5.298	1.267	13	5.339	1.157	13	5.795	1.012	13	5.754	1.262	13

Table 9 (Continued)

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Age Variable vs Overall

Factor	Age (N=240) 46-65 M	SD	Rank	Age (N=34) 65-over M	SD	Rank	Overall (N=1747) M	SD	Rank	Sum of Ranks
Alcohol	3.742	1.237	2	3.559	1.284	1	4.220	1.351	4	23
Referees	3.817	1.101	3	3.765	1.304	2	3.839	1.158	2	13
Proximity	5.133	1.234	11	5.029	1.291	12	5.279	1.108	11	80
Security	5.750	1.053	12	4.971	1.962	11	5.427	1.272	12	80
Expects to Get Caught	4.854	1.153	9	4.912	1.083	10	4.936	1.074	9	64.5
Time Remaining/ Losing	4.817	1.059	7	4.706	1.292	9	4.836	1.193	7	50
Game Time	5.850	1.020	14	5.676	1.093	14	5.980	1.182	14	98
Rivalry	4.167	1.185	4	4.059	1.516	4	4.191	1.212	3	23
Score	4.837	1.114	8	4.294	1.784	5	4.882	1.125	8	55.5
Age	3.667	1.522	1	3.882	1.701	3	3.825	1.558	1	14
Sex	5.008	0.892	10	4.588	1.635	8	5.006	0.892	10	66
Nature of Game	4.575	1.099	5	4.382	1.101	6	4.413	1.225	5	35
Crowd Density	4.654	1.193	6	4.559	1.440	7	4.556	1.222	6	42
Punishment	5.758	1.287	13	5.618	1.303	13	5.596	1.179	13	91

Kendall W = .9504 = $x^2(13) = 86.45$; $x^2(.001,13) = 34.53$

Spearman Rank $r_{sav} = \frac{k(W)-1}{k-1} = .9421 = t(12) = 9.75$; $t(.001,12) = 4.32$ (two tail)

A Kendall Coefficient of Concordance was calculated to determine the amount of agreement in the ranking of the factors by these groups. A W value of .950 was calculated. A Spearman rank correlation coefficient was computed to be .942. This indicated that there was a significant amount of agreement in the ranking of the factors by each age group and the overall population. This agreement further verifies the strength of the factors perceived as important to the facilitation of fan misbehavior at sporting events.

Frequency of Game Attendance Comparison

The spectator attending the contests who completed the questionnaire was requested to indicate the frequency of game attendance. Through this information an analysis of the data would indicate if any difference in the ranking of the factors existed according to a spectator's attendance record and perhaps commitment to the team or sport. The F.O.G.A. category consisted of the following options: seldom, occasionally, regularly and those persons who did not indicate their amount of attendance. The means, standard deviations and ranking of the factors according to the frequency of game attendance appear in Table 10.

Table 10

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Frequency of Game Attendance (F.O.G.A.)

	F.O.G.A.												
	None (N=75)			Seldom (N=157)			Occasionally (N=576)			Regularly (N=936)			Sum of
Factor	M	SD	Rank	M	SD	Rank	M	SD	Rank	M	SD	Rank	Ranks
Alcohol	4.013	1.728	4	4.395	1.372	6	4.287	1.214	4.5	4.165	1.390	3	17.5
Referees	3.880	1.375	2.5	4.019	1.308	2	3.879	1.076	1	3.781	1.159	1	1
Proximity	5.360	1.291	12	5.166	1.339	11	5.239	1.078	11	5.315	1.065	11	45
Security	5.267	1.588	11	5.318	1.193	12	5.346	1.144	12	5.507	1.328	12	47
Expects to Get Caught	4.973	0.822	10	4.726	1.072	8	4.830	1.159	9	5.033	1.028	10	37
Time Remaining/ Losing	4.947	1.126	9	4.605	1.314	7	4.716	1.155	7	4.938	1.189	8	31
Game Time	5.973	1.185	14	5.873	1.131	14	5.872	1.187	14	6.065	1.182	14	56
Rivalry	3.880	1.708	2.5	4.191	1.026	3	4.114	1.072	3	4.263	1.270	4	12.5
Score	4.880	1.284	7.5	4.904	1.061	9	4.792	1.024	8	4.934	1.179	7	31.5
Age	3.453	1.679	1	3.764	1.661	1	3.960	1.503	2	3.783	1.558	2	6
Sex	4.880	1.304	7.5	4.936	0.972	10	6.061	0.823	10	4.995	0.878	9	36.5
Nature of Game	4.693	1.127	5	4.325	1.183	4	4.287	1.189	4.5	4.484	1.254	5	18.5
Crowd Density	4.720	1.410	6	4.331	1.365	5	4.566	1.183	6	4.574	1.201	6	23
Punishment	5.680	1.164	13	5.433	1.360	13	5.514	1.191	13	5.668	1.136	13	52

Kendall W = .972 Spearman Rank $r_{sav} = \frac{k(W)-1}{k-1} = .962 = t(.2) = 12.25$; $t(.001,12) = 4.32$ (two tail)

$x^2(13) = 50.54$ $x^2(.001,13) = 34.53$

A Kendall Coefficient of Concordance was computed to determine if any difference existed in the ranking of the factors. A W value of .972 was computed. A Spearman rank correlation coefficient was calculated and resulted in a Spearman rank correlation coefficient of .962. This indicated that a high degree of correspondence existed in the ranking of the factors across all the frequency options. The top five factors perceived as important by spectators determined by a spectator's frequency of game attendance were age, referees, rivalry, alcohol and nature of game. The ranking of the factors was quite similar in this category as compared to the previous categories of demographic variables. The frequency of game attendance did not alter the ordering of the prominent factors. The media coverage of many sporting events may have caused the similarity in factor ordering appearing across the frequency of game attendance variable. With radio, television, cable news, and sports videotaping and extensive sports coverage in newspapers, the details of misbehavior at sporting events are readily available to the interested spectator. Many spectators that have an allegiance to a team may not need to attend the live contest frequently in order to understand the factors involved in fan misbehavior.

Frequency of Game Attendance Versus Overall Comparison

Table 11 shows the comparison of the ranking of the factors by each spectator's frequency of game attendance to the overall rank of factors. The means and standard deviations also appear in Table 11.

Table 11

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Frequency of Game Attendance (F.O.G.A.) vs Overall

Factor	None (N=75) M	SD	Rank	Seldom (N=157) M	SD	Rank	Occasionally (N=578) M	SD	Rank
Alcohol	4.013	1.728	4	4.395	1.372	6	4.287	1.214	4.5
Referees	3.880	1.375	2.5	4.019	1.308	2	3.879	1.076	1
Proximity	5.360	1.291	12	5.166	1.339	11	5.239	1.078	11
Security	5.267	1.588	11	5.318	1.193	12	5.346	1.144	12
Expects to Get Caught	4.973	0.822	10	4.726	1.072	8	4.830	1.159	9
Time Remaining/Losing	4.947	1.126	9	4.605	1.314	7	4.716	1.155	7
Game Time	5.973	1.185	14	5.873	1.131	14	5.872	1.187	14
Rivalry	3.880	1.708	2.5	4.191	1.026	3	4.114	1.072	3
Score	4.880	1.284	7.5	4.904	1.061	9	4.792	1.024	8
Age	3.453	1.679	1	3.764	1.661	1	3.960	1.503	2
Sex	4.880	1.304	7.5	4.936	0.972	10	5.061	0.823	10
Nature of Game	4.693	1.127	5	4.325	1.183	4	4.287	1.189	4.5
Crowd Density	4.720	1.410	6	4.331	1.365	5	4.566	1.183	6
Punishment	5.680	1.164	13	5.433	1.360	13	5.514	1.191	13

Table 11 (Continued)

Kendall Coefficient of Concordance and Spearman Rank Correlation Coefficient for the Frequency of Game Attendance (F.O.G.A.) vs Overall

Factor	Regularly (N=936) M	SD	Rank	Overall (N=1747) M	SD	Rank	Sum of Ranks
Alcohol	4.165	1.390	3	4.220	1.351	4	21.5
Referees	3.781	1.159	1	3.839	1.158	2	8.5
Proximity	5.315	1.065	11	5.279	1.108	11	56
Security	5.507	1.328	12	5.427	1.272	12	59
Expects to Get Caught	5.033	1.028	10	4.936	1.074	9	46
Time Remaining/Losing	4.938	1.189	8	4.836	1.193	7	38
Game Time	6.065	1.182	14	5.980	1.182	14	70
Rivalry	4.263	1.270	4	4.191	1.212	3	15.5
Score	4.934	1.179	7	4.882	1.125	8	39.5
Age	3.783	1.558	2	3.825	1.558	1	7
Sex	4.995	0.878	9	5.006	0.892	10	46.5
Nature of Game	4.484	1.254	5	4.413	1.225	5	23.5
Crowd Density	4.574	1.201	6	4.556	1.222	6	29
Punishment	5.668	1.136	13	5.596	1.179	13	65

Kendall W = .9765 = $x^2(13) = 63.44$; $x^2(.001,13) = 34.53$

Spearman Rank $r_{sav} = \frac{k(W)-1}{k-1} = .9687 = t(12) = 13.46$; $t(.001,12) = 4.32$ (two tail)

A Kendall Coefficient of Concordance was calculated to determine the amount of agreement in the ranking of the factors by these groups. A W value of .976 was computed. A Spearman rank was calculated to be .968. This indicated that there was a high degree of congruency in the ranking of the factors as determined by a spectator's game attendance and the overall population. The factors of age, referees, rivalry, alcohol and nature of game were found to be the top five factors across all the biographical information obtained. Regardless of sex, age or game attendance these factors predominated.

Dif. Between Survey Model Time on Job differences

Summary

Spectators attending ice hockey contests attributed particular factors as facilitative to fan misbehavior at sporting events. These factors are ranked in Table 2 and range from the age of a fan ranked most important, to time of the game, ranked least important. Furthermore, whether a fan was attending a college hockey game or a professional hockey game, the same factors were generally seen as important. This correspondence in the factor rankings was also found for the demographic variables of sex, age and frequency of game attendance. The top five ranked factors appeared prominent throughout the entire data analyses and these were: (1) age, (2) referees, (3) rivalry, (4) alcohol, and (5) nature of game.

Young fans and those fans under the influence of alcohol have been the focus of attention for misbehavior at several sporting events. Both of these factors are related to the spectator, who brings a certain personality characteristic to the stadium or auditorium.

These personal characteristics and habitual behavior patterns certainly seem to be a potential influence on spectator misbehavior.

The factors of rivalry and nature of the game, ranked third and fifth respectively, are related to the game being played on the field or in the case of this study, ice. A game that involves contact or collision may arouse spectator emotion and this aroused state has been shown in the laboratory to facilitate aggressive behavior (Green & O'Neal, 1969). At sporting events the state may facilitate a fan throwing an object in anger or disgust or behaving in an otherwise dangerous manner. Lefebvre, Leith and Bredemeier (1980) attributed some cases of fan disturbances to the level of play on the field. The overt aggressiveness of players transcends into the stands and this emotional surge will heighten crowd reactions. The fights in stands, throwing of beer bottles and destroying public property are examples of occurrence of misbehavior by fans that may be the result of aggressive overt behavior of players on the field.

Emotions may also cause persons to act in an extreme manner. Izard (1977) points out that emotions are linked to an individual's drive or desire for attainment of a goal. The emotion heightens this need to a necessary level of satisfaction of the goal. A spectator aroused by two rival teams competing on the field, such as intra-divisional rivals in football, may act in an extreme manner to satisfy an emotion such as happiness or anger. The result may be throwing an object on the field, cursing a player or fighting with someone else. Both of these factors, rivalry and nature of game, are related to the context of the game and seem to play an integral part in fan misbehavior.

Referees may be considered an integral part of the game but in a unique way. This factor ranked second may be known as the "precipitating event" that triggers the explosion of misbehavior. Both Smith (1973, 1974) and Smelser (1962) have referred to violent outbreaks of collective behavior in terms of the determinants that combine to elicit such action by participants. Included in these determinants is the one mechanism that seems to ignite a crowd into action. A decision by a referee may be taken by spectators as an act against their team and in some cases misbehavior may be viewed as a legitimate form of protest against the decision of an authority figure such as a referee.

In summary, the factors identified in this study provide an initial indication of facilitative influences of fan misbehavior and a beginning to understanding this problem recognized around the world of sport. It is hoped that this work can be expanded and perhaps assist in the eventual control and elimination of spectator violence and misbehavior.

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of this investigation was to determine spectator perceptions fan misbehavior at live ice hockey contests. The subjects were 1747 spectators in attendance at one of three locations. All subjects were spectators at either a Brockport State College, Rochester Americans, or Buffalo Sabres ice hockey game during March 1979. Each subject completed a 28 item, 14 factor questionnaire prior to the actual start of the contest. The factors included in the questionnaire were: (1) Alcohol, (2) Referees, (3) Proximity, (4) Amount of Security, (5) Expect to Get Caught, (6) Time Remaining/Losing, (7) Time of Game, Day/Night, (8) Rivalry, (9) Score, (10) Age, (11) Sex, (12) Nature of Game, (13) Crowd Density, and (14) Severity of Punishment.

Based on these factors an instrument entitled SPECTATOR MISBEHAVIOR ATTITUDINAL INQUIRY was specifically designed to investigate attitudes at live sporting events. Twenty trained assistants under the researcher's supervision administered and collected questionnaires prior to the start of the actual contest to eliminate any reactivity from the game itself. Data analyses included a rank order list of the fourteen factors according to the mean score as determined by the overall population. The purpose of this ranking was to identify the factors perceived as the most important precipitants of fan misbehavior at sporting events.

A Kendall Coefficient of Concordance was utilized on the following analyses:

1. A comparison of spectator perceptions according to the location where the instrument was administered: Collegiate (Brockport State College), American Hockey League (Rochester Americans), or National Hockey League (Buffalo Sabres).

2. A comparison of spectator perceptions according to the sex of the respondent completing the questionnaire: males, females and unidentifiables.

3. A comparison of spectator perceptions according to the age of the respondent completing the questionnaire: 18-25, 26-35, 36-45, 46-65, 65-over, unidentifiables.

4. A comparison of spectator perceptions according to the frequency of game attendance by the respondents: seldom, occasionally, regularly, unidentifiables.

Several other subanalyses were also conducted comparing location, sex, age and frequency of game attendance to the overall ranking of the factors. The results demonstrated that a high degree of congruency existed in the ranking of the factors by location, sex, age and frequency of game attendance by the respondents. These rankings were also significantly similar to the overall rankings for the total population sample.

Since this study is an initial attempt at investigating the factors important to facilitating fan misbehavior at sporting events, the findings were generally that of a descriptive nature. Examination of this data revealed that there were several important factors

identified by spectators as contributing to fan misbehavior at sporting events. These factors in order of importance were age, referees, rivalry, alcohol, nature of game, crowd density, time remaining/losing and score. These factors possessed means between 3.82-4.88, which indicates spectator agreement that these factors are facilitative to fan misbehavior. These factors rank as the top eight determinants of fan misbehavior as perceived by the 1747 spectators in attendance at live ice hockey contests.

The origin of these factors centers primarily around three distinct characteristics which encompass several facets of the sporting environment. The factors of age and alcohol, ranked first and fourth, respectively, are associated with the fans themselves. How young or old a fan may be and the level of intoxication of the spectator are factors determined by each individual who attends the sporting event. The factors of referees, rivalry, nature of game, time remaining/losing and score are all descriptive of a characteristic of the sports event. These factors represent five of the top eight ranked factors. It is apparent that a relationship exists between the events that occur on the ice with the misbehavior that takes place in the stands at sporting events.

The factor of crowd density, ranked sixth, is associated with the characteristic of the building, stadium or environment where the sport takes place. Sporting facilities that jam large numbers of spectators into confined areas were perceived as conducive to fan misbehavior.

In summary, three general categories may be tentatively identified as important facilitators to fan misbehavior. These categories are characteristics of the sporting event, characteristics of the individual spectator who attends the event, and characteristics of the building or arena where the contest is held.

Conclusions

Based upon the results of the present study, the following conclusions are advanced:

1. The most important factors facilitative to fan misbehavior at sporting events as perceived by spectators at ice hockey contests include: age, referees, rivalry, alcohol, nature of game, crowd density, and time remaining/losing.

2. The least important factors facilitative to fan misbehavior at sporting events as perceived by spectators at ice hockey contests include: time of game day/night, severity of punishment, amount of security, and proximity of a spectator to the playing surface.

3. There was a significant amount of concordance in the ranking of the factors by the spectators attending the professional and collegiate ice hockey contests.

4. There was a significant amount of concordance in the ranking of the factors by male and female spectators attending the ice hockey contests.

5. There was a significant amount of concordance in the ranking of the factors as determined by a spectator's age.

6. There was a significant amount of concordance in the ranking of the factors by the spectator's frequency of game attendance at sporting events.

7. There was a significant amount of concordance in the ranking of the factors according to the spectator's sex, age, frequency of game attendance when compared to the overall ranking of the factors.

Recommendations

Based upon the present study the following recommendations are offered:

1. Since the questionnaire used in this study was an initial attempt at gaining information on the attitudes of spectators at sporting events, a study that refines and further develops the Spectator Misbehavior Attitudinal Inquiry would benefit future studies of spectators.

2. Data based research in the area of spectator misbehavior at sporting events is greatly needed and should be continued.

3. A study that would compare spectator responses from different sports, such as football, baseball or basketball would be a productive next step toward understanding the sport spectator. The data gathered could determine if there are different factors perceived as important as a function of the characteristics of the game attended.

4. Many of the recent disturbances involving spectators at sporting events have been linked to alcohol consumption by individuals attending the event. This factor has been perceived as an important determinant (ranked fourth) to fan misbehavior at sporting events. A

study obtaining data comparing spectators' attitudes concerning fan misbehavior at sporting events where alcoholic beverages are consumed to an arena that prohibits alcohol sale may provide valuable information to the area of spectator misbehavior at sporting events.

5. The present study derived data from spectators attending collegiate and professional events. In many areas high school sports are as popular and attract numerous spectators. A study that would obtain data from high school spectators would provide new information to the area of spectator misbehavior at sporting events.

APPENDIX A

LIST OF TEN ORIGINAL FACTORS RELATED TO FAN MISBHEHAVIOR

APPENDIX A

LIST OF TEN ORIGINAL FACTORS RELATED TO FAN MISBEHAVIOR

1. Age
2. Amount of Security
3. Closeness of Crowd
4. Effect of Alcohol
5. Nature of Game
6. Officiating
7. Seating Proximity
8. Size of Crowd
9. Socioeconomic Status (Based on Income)
10. Time of Game Day/Night

APPENDIX B

LIST OF TWENTY FACTORS THAT WERE DERIVED FROM PILOT STUDY

APPENDIX B

LIST OF TWENTY FACTORS THAT WERE DERIVED FROM THE PILOT STUDY

1. Age
2. Amount of Security
3. Closeness of Crowd
4. Closeness of Game
5. Effect of Alcohol
6. Expect to Get Caught
7. Game Outcome
8. Media Hype
9. Nature of Game
10. Officiating
11. Point in the Season
12. Punishment
13. Relative League Standings of Teams
14. Rivalry
15. Seating Proximity
16. Sex
17. Size of Crowd
18. Socioeconomic Status (Based on Income)
19. Time of Game Day/Night
20. Time Remaining Game

APPENDIX C

FINAL FOURTEEN FACTORS SELECTED FOR THE PRIMARY INVESTIGATION

APPENDIX C

FINAL FOURTEEN FACTORS SELECTED FOR THE PRIMARY INVESTIGATION[a]

1. Age
2. Alcohol
3. Amount Security
4. Crowd Density
5. Expect to Get Caught
6. Nature of Game
7. Proximity
8. Referees
9. Rivalry
10. Score
11. Severity of Punishment
12. Sex
13. Time of Game Day/Night
14. Time Remaining /Losing

[a]Items are in alphabetical order.

APPENDIX D

SPECTATOR MISBEHAVIOR ATTITUDINAL INQUIRY

(S.M.A.I.)

APPENDIX D

SPECTATOR MISBEHAVIOR ATTITUDINAL INQUIRY (S.M.A.I.)

In recent years, crowd behavior has resulted in increased disturbances and violence at numerous sporting events. These instances have generated several investigative inquiries into the reasons for spectator misbehavior at sporting events.

The purpose of this questionnaire is to identify the factors that you as a spectator believe cause or lead to fan misbehavior. Fan misbehavior, for the purpose of this study, can be defined as behavior where a fan does one or more of the following:

1. throwing objects onto the playing surface
2. blatant cursing or swearing
3. directs vulgarity at players and officials
4. actually causes a stoppage of game play
5. engages in fisticuffs and disorderly conduct

While responding to this questionnaire, consider any sporting event you have experience observing. Through your help and effort it is hoped that watching games will continue to be a safe and enjoyable experience for all fans.

PLEASE READ THE DIRECTIONS ON THE NEXT PAGE CAREFULLY AND ANSWER EACH QUESTION

BIOGRAPHICAL INFORMATION

NO NAMES PLEASE

PLEASE CIRCLE THE APPROPRIATE RESPONSE.

Sex: Male Female

Age: 18-25 26-35 36-45 46-65 65-over

Attend games: seldom occasionally regularly

Earnings per year: 0-4,000 5,000-9,000 10,000-15,000

16,000-20,000 25,000-above

INSTRUCTIONS

After reading each of the following statements, please CIRCLE the ONE response you find consistent with your attitude according to the following categories:

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

---

1. Fans who drink alcoholic beverages before or during a game often misbehave during or after the game.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

2. Fan misbehavior can be directly related to the teams playing the game. Fans tend to misbehave often when the game involves two rival teams.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

3. Fans would probably become more involved in misbehavior during a game if they were sitting closer to the playing surface.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

4. Fan misbehavior tends to increase at games when individuals are caught or removed from the premises by police or security.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

5. When fans throw objects or debris on the playing surface, it is generally an expression of disagreement with an official's call.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

6. If games were played during daytime hours fans would be more orderly and misbehave less.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

7. Fans misbehave more frequently when the score of a game is very close.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

8. Many fans misbehave because the game is nearly finished and their team is losing.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

9. The type of play (contact or collision) has <u>little</u> effect on how fans behave during the game.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

10. Anonymity, or the inability to single out a fan, <u>increases</u> the likelihood of fan misbehavior.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

11. Fans who misbehave at games should be punished more severely as a way to stop further fan problems.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

12. Select from the following groupings the age range that you feel is most involved in fan misbehavior.

1	2	3	4
15-25 yrs	26-36 yrs	37-47 yrs	48-58 yrs

13. The amount of police security often increases rather than prevents fan misbehavior at sporting events.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

14. Most fan misbehavior problems are caused by men not women.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

15. Fans often know they will not be caught and therefore often misbehave at games.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

16. Violent sports often foster fan misbehavior.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

17. The conduct of fans often gets disorderly when one team completely dominates another.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

18. Fans who misbehave at a game have often been drinking alcoholic beverages.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

19. Usually the security or police overreact to fan incidents during a game and cause fans to further misbehave.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

20. If possible, a way to eliminate fan misbehavior is to schedule as many daytime games as possible

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

21. Referee's poor judgment often causes spectators to misbehave at events.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

22. Fans sitting far from the playing surface or high above the surface generally misbehave more at games.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

23. Most fan misbehavior problems occur during the end of the game, when the losing team fans are frustrated.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

24. When rival teams are playing fans tend to misbehave more often.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

25. Younger fans (under 25) usually cause most fan misbehavior.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

26. Fan misbehavior often results from a reaction to seeing other fans punished for their misbehavior.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

27. Crowd closeness (sitting near one another) has little influence on fan misbehavior.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

28. Most fan behavior problems are caused by women not men.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

THANK YOU FOR YOUR TIME AND EFFORT.

APPENDIX E

RAW DATA GENERATED FROM PILOT STUDY

APPENDIX E

RAW DATA FROM PILOT INVESTIGATION

The raw data presented in Appendix E was interpreted as follows:

Column 1-4: identifies the subject number. Subject number ranged from 0001 to 0027.

Column 5: Represents the location where the subject completed the questionnaire. The number 0 indicates the location as Brockport pilot study--Brockport State College.

Column 6-19: Represents the factor score for the subject's response on Monday testing. The numbers correspond with the factors in the following order: Alcohol, Referees, Proximity, Amount Security, Expect to Get Caught, Time Remaining/Losing, Time of Game Day/Night, Rivalry, Score, Age, Sex, Nature of Game, Crowd Density, Severity of Punishment.

Columns 20-33: Represent the factor score for the subject's response on the Friday testing. The numbers correspond with the factors in the same manner as the Monday testing.

Factor scores represent the total of a pair of items and range from a 2-8.

APPENDIX E

RAW DATA GENERATED FROM PILOT STUDY

0001045454464475325465636635554 36
0002045645464555545456554645654 45
0003053555663445555446556645556 46
0004044564554546446446544645454 45
0005054644564654324655446745554 45
0006043452753545225334636534552 25
0007054645464455654446454644656 36
0008044454564455435445544544554 45
0009044555554545435435554645454 44
0012033654364555436436544644454 36
0013045664474555536446634745556 46
0014033654464355445246544644454 35
0015045455464556355445454545535
0016044554444565445444544445654 45
0017044554564555345445556445553 45
0018044545564555446446544645544 45
0019064543344466246436645534553 35
0020044443544545364355446445535 6
0021034575463535436445645623552 35
0023044653364465344445544644654 45
0024042554543545345335644423643 36
0025044546654565446445446644554 46
0026044754464565435647544624644 45
0027022644464555445236446645555 45

APPENDIX F

FACTOR ANALYSIS - ALPHA VARIMAX
FACTOR ANALYSIS - ALPHA OBLIQUE
FACTOR ANALYSIS - FACTOR VARIMAX
FACTOR ANALYSIS - FACTOR OBLIQUE

APPENDIX F

FACTOR ANALYSIS ALPHA VARIMAX

Factor	Items	Loading Factors 1	2	3	4	5	6	7	8	9
Alcohol	1	.263	-.080	.001	.068	.054	.289	-.118	-.067	-.111
	18	.440	-.246	.166	-.010	-.060	.336	-.301	-.043	.029
Referees	5	-.032	-.012	.130	.438	-.146	.137	-.094	-.134	.152
	21	-.004	.129	-.031	.294	.036	.506	.010	-.125	.126
Proximity	3	.047	-.013	.187	.279	.143	.107	.085	.130	-.105
	22	.357	.179	.187	.005	.141	.077	.031	-.044	.165
Amount of Security	13	.109	.415	.063	.030	.097	.073	-.147	.181	-.373
	19	-.066	.622	.010	.119	-.026	.127	-.048	.036	-.020
Expects to Get Caught	4	.044	.101	-.072	.566	.121	-.068	.064	.089	-.107
	15	.573	.141	.078	-.055	.108	.084	-.007	.024	-.063
Time Remaining/ Losing	8	.069	-.116	.059	.150	.767	.075	.013	-.027	-.030
	23	.315	.164	.102	-.097	.411	.184	-.113	.005	.096
Time of Game Day/Night	6	.130	.034	.683	.126	.031	.060	.082	-.083	.018
	20	.156	.011	.627	-.043	.067	.001	-.170	.115	-.035
Rivalry	2	.166	.115	.103	.020	.197	.549	.039	-.087	-.085
	24	.111	-.004	-.006	.012	.040	.759	.173	.103	.059
Score	7	-.063	.031	.020	.387	.035	.335	.042	.151	-.100
	17	.179	.174	.027	.024	.384	.320	-.145	.133	-.020
Age	12	.111	-.059	-.011	-.088	.016	.029	-.186	.018	.610
	25	.151	.121	.056	-.037	.128	.288	-.081	-.125	.158

FACTOR ANALYSIS ALPHA VARIMAX (Continued)

Factor	Items	Loading Factors 1	2	3	4	5	6	7	8	9
Sex	14	.360	-.014	.025	-.029	-.018	.285	-.118	-.296	.139
	28	-.109	.095	.031	.087	.012	-.027	-.133	.667	.001
Nature of	9	-.094	-.038	-.016	.091	.114	.185	.385	-.013	-.073
Game	16	.228	.280	.135	.121	-.040	.424	.323	.175	.160
Crowd	10	.524	-.154	.031	.055	.044	.130	.201	-.037	.134
Density	27	-.012	-.067	-.021	-.035	-.150	-.042	.413	-.095	-.069
Degree of	11	-.478	.176	-.162	.010	-.035	.009	.252	.148	-.015
Punishment	26	.360	.148	.091	.252	.164	.029	.240	.045	.072

Note: Values underlined are strongest item loadings on hypothetical factor

FACTOR ANALYSIS ALPHA OBLIQUE

Factor	Items	Loading Factors 1	2	3	4	5	6	7	8	9
Alcohol	1	.272	-.082	.015	.106	-.091	-.174	.365	.069	-.003
	18	.291	-.120	.126	.307	-.029	-.104	-.617	.019	.232
Referee	5	.121	-.080	.051	.144	-.489	.055	-.046	-.003	.102
	21	.513	-.113	-.028	.039	-.397	-.155	-.068	.181	.086
Proximity	3	.122	.179	-.129	.218	-.268	-.224	-.065	.051	-.147
	22	.109	-.129	.218	.296	-.007	-.234	-.279	.296	.233
Amount of Security	13	.090	.260	.139	.126	.055	-.163	-.109	.479	-.325
	19	.165	.113	.108	.039	-.159	-.019	.142	.578	-.087
Expects to Get Caught	4	-.051	.211	-.124	-.030	-.509	-.212	-.010	.139	-.202
	15	.106	.025	-.143	.241	.093	-.252	-.505	.345	.088
Time Remaining/ Losing	8	.100	.027	-.041	.139	-.107	-.774	-.118	-.001	-.018
	23	.209	-.024	.048	.238	.095	-.482	-.316	.318	.203
Time of Game Day/Night	6	.083	-.068	-.125	.696	-.160	-.115	-.134	.091	.027
	20	.001	.121	.117	.653	.038	-.129	-.226	.102	.044
Rivalry	2	.566	-.108	-.081	.210	-.102	-.324	-.239	.245	-.030
	24	.774	.007	-.210	.088	-.133	-.187	-.182	.120	.064
Score	7	.339	.209	-.069	.053	-.424	-.147	-.011	.081	-.178
	17	.336	.141	.099	.150	-.040	-.474	-.239	.317	.041
Age	12	.019	-.090	.157	.033	.049	-.007	-.114	-.030	.648
	25	.297	-.162	.051	.139	-.023	-.192	-.185	.200	.218

FACTOR ANALYSIS ALPHA OBLIQUE (Continued)

Factor	Items	Loading Factors 1	2	3	4	5	6	7	8	9
Sex	14	.274	-.362	.012	.148	-.028	-.094	-.416	.123	.281
	28	.027	.687	.142	.021	-.045	-.026	.096	.106	-.072
Nature of	9	.220	-.018	-.350	-.036	-.112	-.123	.159	-.060	-.172
Game	16	.475	.151	-.374	.222	-.163	-.124	-.137	.383	-.191
Crowd	10	.148	-.140	-.363	.164	-.036	-.182	-.444	.028	.228
Density	27	-.014	-.132	-.391	-.071	.038	.168	.141	-.125	-.133
Degree of	11	.037	.187	-.086	-.286	-.036	.144	.558	-.012	-.212
	26	.028	.100	.108	.227	-.213	-.303	.399	.315	.022

Note: Values underlined are strongest item loadings on hypothetical factor.

FACTOR ANALYSIS FACTOR VARIMAX

Factor	Items	Loading Factors 1	2	3	4	5	6	7	8	9
Alcohol	1	.218	.325	.059	.090	.029	.088	-.024	-.030	-.033
	18	.244	.564	-.086	.000	.178	-.015	-.189	-.019	-.003
Referees	5	.145	.033	-.154	-.136	.121	.428	-.097	-.008	-.093
	21	.541	-.002	-.055	.023	-.031	*.307	-.053	.079	.116
Proximity	3	.109	.058	.090	.166	.184	.259	.123	-.043	.108
	22	.095	.183	.008	.116	.196	.024	.006	.458	.023
Amount of	13	.067	.012	.657	.041	.060	.004	-.108	.060	.114
Security	19	.229	-.281	.337	-.087	.008	.163	-.152	.282	.017
Expects to	4	-.077	-.022	.132	.112	.064	.559	.082	.057	.078
Get Caught	15	.098	.419	.218	.103	.059	-.063	.016	.318	.000
Time Remaining/	8	.069	.055	-.040	.805	.061	.116	.023	.045	-.024
Losing	23	.218	.232	.110	.378	.078	-.094	-.144	.289	.007
Time of Game	6	.059	.082	-.006	.036	.692	-.124	.077	.146	-.062
Day/Night	20	-.014	.171	.100	.047	.609	-.044	-.135	.044	.103
Rivalry	2	.550	.153	.142	.166	.090	.008	.077	.082	-.077
	24	.767	.175	-.028	.029	-.029	-.013	.190	.004	.121
Score	7	.330	-.016	.079	.060	.033	.397	.092	-.129	.147
	17	.338	.113	.189	.357	.019	.028	-.189	.158	.114
Age	12	.067	.103	-.408	-.035	-.025	-.093	-.295	.247	.045
	25	.296	.131	-.018	.066	.041	-.030	-.119	.201	-.095

FACTOR ANALYSIS FACTOR VARIMAX (Continued)

Factor	Items	Loading Factors 1	2	3	4	5	6	7	8	9
Sex	12	.257	.403	-.066	-.029	.019	-.010	-.086	.157	-.240
	25	-.028	-.152	.101	.008	.046	.088	-.152	-.004	.742
Nature of	9	.165	-.095	-.004	.119	-.014	.098	.401	-.004	.007
Game	16	.419	.102	.325	-.053	.113	.139	.294	.181	.124
Crowd	10	.070	.501	-.122	.034	.002	.047	.244	.260	.047
Density	17	-.034	-.056	-.039	-.139	-.022	-.040	.397	.002	-.112
Degree of	11	-.064	-.556	.023	-.053	-.155	.022	.187	-.060	.115
Punishment	26	.017	.301	.229	.159	.073	.262	-.233	.161	.021

Note: Values underlined are strongest item loadings on hypothetical factor
* Values are second strongest item loadings on hypothetical factor

FACTOR ANALYSIS FACTOR OBLIQUE

Factor	Items	Loading Factors 1	2	3	4	5	6	7	8	9
Alcohol	1	.297	-.152	.146	.140	.148	-.103	-.133	-.151	.229
	18	.351	-.247	.379	.323	.071	.043	-.032	-.311	.379
Referees	5	.172	-.112	.071	.170	-.079	.164	-.425	.037	-.024
	21	.538	-.166	.041	.074	.144	.078	-.343	.214	.076
Proximity	3	.173	.106	-.077	.230	.210	-.159	-.294	-.038	.054
	22	.138	-.134	.098	.316	.212	.020	-.036	.145	.465
Amount of Security	13	.089	.173	.170	.125	-.125	-.616	-.032	.267	.113
	19	.166	.110	.079	.053	.029	-.216	-.156	.568	.024
Expects to Get Caught	4	-.002	.143	-.076	.004	.152	-.163	-.556	.082	.020
	15	.196	-.163	.183	.221	.195	-.224	.024	.029	.552
Time Remaining/ Losing	8	.115	-.015	.025	.140	.804	-.049	-.146	-.072	.126
	23	.257	-.107	.266	.220	.465	-.100	.061	.088	.411
Time of Game Day/Night	6	.099	-.094	-.025	.711	.105	-.020	-.149	.019	.181
	20	.030	.217	.217	.632	.097	-.118	.023	-.055	.170
Rivalry	2	.575	-.173	.009	.207	.285	-.163	-.082	.103	.247
	24	.798	-.050	-.094	.086	.161	-.027	-.082	.020	.234
Score	7	.377	.151	-.086	.092	.136	-.135	-.441	.048	-.052
	17	.363	.046	.265	.151	.460	-.180	-.068	.169	.252
Age	12	.043	-.093	.299	.023	-.012	.471	.123	.016	.189
	25	.297	-.193	.171	.136	.149	.055	.008	.120	.246

FACTOR ANALYSIS FACTOR OBLIQUE (Continued)

Factor	Items	Loading Factor 1	2	3	4	5	6	7	8	9
Sex	14	.314	-.422	.219	.156	.046	.078	-.021	-.099	.379
	28	-.012	.750	.138	.036	.041	-.114	-.083	.117	-.064
Nature of	9	.180	.039	-.403	-.026	.126	-.073	-.137	-.010	-.026
Game	16	.480	.059	-.187	.220	.087	-.355	-.212	.181	.300
Crowd	10	.206	-.179	-.030	.150	.090	.046	-.089	-.274	.553
Density	27	-.034	-.088	-.402	-.075	-.168	.000	.029	-.060	-.019
Degree of	11	-.047	.305	-.374	-.283	-.079	.003	-.005	.321	-.397
Punishment	26	.111	-.053	.355	.228	-.245	-.218	.275	.025	*.318

Note: Values underlined are strongest item loadings on hypothetical factor
* Values are second strongest item loadings on hypothetical factor

APPENDIX G

LETTERS OF ORGANIZATIONAL APPROVAL

November 29, 1978

E. J. McGuire
Varsity Hockey Coach
Assistant Athletic Director
SUNY College at Brockport
Brockport, New York 14420

Dear Mr. McGuire:

I am currently conducting research concerning spectator behavior at various sporting events. Interesting as it may sound to be, there in only a limited amount of factual knowledge on the behavior of spectators.

I am interested in obtaining data from spectators who attend various amateur and professional sporting events. I would like to include college hockey spectators as part of my subject sample. It is in this regard that I am interested in obtaining information from spectators at a regularly scheduled Brockport State College Hockey game.

The information will be obtained through a questionnaire that will not cause any disruption for your organization nor the spectators involved. The research project in which I am involved intends to identify what factors may cause a spectator to become aggressive at an ice hockey contest. It will serve to provide data that will be included in my Master of Science Degree in Physical Education.

Again, I would like to emphasize that this information will be used in an educational manner and will not impose upon the State University of New York College at Brockport. In fact, I would hope it could provide further insight into an area that has caused concern for many professional and college sports administrations, and I will be glad to share the results of the project with you and Brockport State.

In conclusion, I am planning on a date in February to administer the questionnaire and I hope to meet with you in the near future to discuss the plans for my research. Thank you for your time and consideration.

Sincerely,

Brian Cavanaugh

Brian Cavanaugh
Graduate Assistant Physical Education
127 Health and Physical Education Building
Phone - 395-2765

November 29, 1978

Paul Wieland
Director of Public Relations
Buffalo Sabres Hockey Organization
Memorial Auditorium
Main Street
Buffalo, New York 14203

Dear Mr. Wieland:

By way of introduction, my name is Brian Cavanaugh and I am presently a Graduate Assistant in Physical Education at the State University College at Brockport, New York.

I am currently conducting research concerning spectator behavior at various sporting events. Interesting as it may sound to be, there is only a limited amount of factual knowledge on the behavior of spectators.

I am interested in obtaining data from spectators who attend various professional sporting events. I would like to include professional hockey spectators as part of my subject sample. It is in this regard that I am interested in obtaining information from spectators at a regular season Buffalo Sabres game.

The information will be obtained through a questionnaire that will not cause any disruption for your organization nor the spectators involved. The research project in which I am involved intends to identify what factors may cause a spectator to become aggressive at an ice hockey contest. It will serve to provide data that will be included in my Master of Science Degree in Physical Education.

Again, I would like to emphasize that this information will be used in an educational manner and will not impose upon the Buffalo Sabres organization. In fact, I would hope it could provide further insight into an area that has caused concern for many professional sports organizations, and I will be glad to share the results of the project with the Sabres.

In conclusion, I am planning on a date in February to administer the questionnaire and I hope to meet with you in the near future to discuss the plans for my research. Thank you for your time and consideration.

Sincerely,

Brian Cavanaugh

Brian Cavanaugh
Graduate Assistant Physical Education
127 Health and Physical Education Building
Phone - 395-2765

November 30, 1978

John Denhamer
Director of Public Relations
Rochester Americans Hockey Organization
War Memorial
100 Exchange Street
Rochester, New York 14614

Dear Mr. Denhamer:

By way of introduction, my name is Brian Cavanaugh and I am presently a Graduate Assistant in Physical Education at the State University College at Brockport, New York.

I am currently conducting research concerning spectator behavior at various sporting events. Interesting as it may sound to be, there is only a limited amount of factual knowledge on the behavior of spectators.

I am interested in obtaining data from spectators who attend various professional sporting events. I would like to include professional hockey spectators as part of my subject sample. It is in this regard that I am interested in obtaining information from spectators at a regular season Rochester Americans game.

The information will be obtained through a questionnaire that will not cause any disruption for your organization nor the spectators involved. The research project in which I am involved intends to identify what factors may cause a spectator to become aggressive at an ice hockey contest. It will serve to provide data that will be included in my Master of Science Degree in Physical Education.

Again, I would like to emphasize that this information will be used in an educational manner and will not impose upon the Rochester Americans organization. In fact, I would hope it could provide further insight into an area that has caused concern for many professional sports organizations, and I will be glad to share the results of the project with the Amerks.

In conclusion, I am planning on a date in February to administer the questionnaire and I hope to meet with you in the near future to discuss the plans for my research. Thank you for your time and consideration.

Sincerely,

Brian Cavanaugh

Brian Cavanaugh
Graduate Assistant Physical Education
127 Health and Physical Education Building
Phone - 395-2765

APPENDIX H

CONTEXT OF DISTRIBUTION STATEMENT

APPENDIX H

CONTEXT OF DISTRIBUTION STATEMENT

Excuse me, would you please complete this questionnaire on spectator misbehavior at sporting events. It will take approximately 10 minutes to complete. Please remain in your seat until collection time.

Thank you.

APPENDIX I

RAW DATA GENERATED FROM PRIMARY INVESTIGATION

RAW DATA FROM PRIMARY INVESTIGATION

The raw data generated from the primary investigation presented in Appendix H was interpreted as follows:

Columns 1-4: Represent the subject's number. Subject numbers ranged from 0031 to 1931.

Column 5: Represents the location where the subject completed the questionnaire. Subjects were from:

1 = Brockport State College
2 = Rochester American A.H.L. Rochester, N.Y.
3 = Buffalo Sabres N.H.L. Buffalo, N.Y.

Column 6: Represents the sex of the individuals who completed the survey:

1 = Unidentifiables
2 = Male
3 = Female

Column 7: Represents the age of the respondent completing the survey:

0 = Unidentifiables
1 = 18-25
2 = 26-35
3 = 36-45
4 = 46-65
5 = 65 to over

Column 8: Represents the frequency of game attendance of the spectator who completed the survey:

0 = did not indicate game attendance frequency
1 = seldom
2 = occasionally
3 = regularly

Column 9: Represents the approximate income of the spectator who attended the contest and completed the questionnaire:

0 = did not indicate an indicate an income
1 = 0-4,000 per year
2 = 5,000-9,000 per year
3 = 10,000-15,000 per year
4 = 16,000-20,000 per year
5 = 25,000-above per year

Raw Data from Primary Investigation: (Continued)

Columns 10-23: Represent the fourteen factor scores for each subject's response to the questionnaire. A score could range from 2-8. A 2 indicates a high level of agreement and an 8 a high level of disagreement with the statement being responded to. The factor order beginning in column 10 are: Alcohol, Referees, Proximity, Amount of Security, Expect to Get Caught, Time Remaining in Game/Losing, Time of Game Day/Night, Rivalry; Score, Age, Sex, Nature of Game, Crowd Density; Severity of Punishment.

41	10131	65554774545436
42	10131	54355574555354
43	11132	535437845553 57
46	11121	52755773647455
47	11122	65837484655465
49	10131	44555464555565
51	12131	44456464455545
52	12131	44755472354455
61	10131	44554573265245
170	11131	64566473355455
31	11121	42445565664245
32	11131	64646664545556
33	11131	44555464655445
34	11131	55545574455444
35	11131	43565263545445
99	11131	54554464455445
201	12131	55654564675456
202	11131	62466674556544
217	11131	534335633532 55
218	11121	32454343465646
91	11121	74454452456355
104	11131	45525674654462
92	10000	85475383665335
191	11121	36555644645545
121	11131	23544663555355
120	11121	55545475665445
196	11335	55645464455545
195	11134	75765777674546
150	11131	46656755655445
127	11220	46554454554446
135	11131	44645664545655
134	11131	54655464555455
126	12111	43645873555325
125	11121	44554564555546
93	11131	53556683455346
97	11131	44554464565345
190	11131	44645654555446
199	11123	66545455545644
193	12131	42765565455236
130	12121	64554464556555
138	12121	53554564454445
137	12121	54244454455445
182	12131	56855887855865
102	12121	45554564455454
100	11121	55765473463346
96	11131	63764674646456
123	11131	73585883462254
98	11131	54454543655345
95	12121	42445662346335
103	11111	34765573445547
219	12131	33544364555426
131	11131	54545454465645
203	11131	44656564656465
198	12131	55655664444455
204	12121	53737662455267
197	11321	55665665655665
64	11131	54355474555344
63	11123	44255444454445
62	11121	55645272564346
45	11131	44755655554356
209	11131	45654544565346
205	12131	54644474544455
124	11131	53455564565445

180	11131	64754587365454
129	12121	546554644555566
208	11024	638456855735445
181	12121	546465654455555
192	11131	445545644555545
194	11234	254665645654455
207	11233	425636443652224
206	11133	545556645555556
101	11124	234455455563455
115	11234	456654645645567
111	11111	345654634454466
129	11121	544354345336655
114	11131	436464844653555
113	11131	445446536454555
112	11121	244543526444466
94	11121	536543642453555
110	11113	633446664435552
118	11131	466554336542255
119	11131	346557435553455
128	12234	436543644452466
151	12131	885875888885555
152	12335	888858888888555
183	11111	555554646554455
184	12121	225543424454355
116	12231	436355645544466
216	11121	363535625542255
0200	22332	245766545565566
0201	21123	545644644356466
0202	20033	545665645354566
0203	21122	456446535352455
0204	21132	435655644554466
0205	22121	446546655655555
0206	21122	653663544364375
0207	21325	445655646554566
0208	20321	446666657367666
0209	21122	545753655555385
0210	21121	345334434355666
0211	20200	547364844255566
0212	21132	436454834333445
0213	22233	544644646355455
0214	22235	444456634354355
0215	21235	555444644354455
0216	21432	645456866356566
0217	22432	645545666365475
0218	21120	747568856556466
0219	21113	335646555354375
0220	22422	466466656666566
0221	22122	554543423552455
0223	22234	457556755555665
0224	21235	556565856255565
0225	20223	445656446354465
0226	21122	444346434352555
0227	22333	446673744353455
0228	21234	445444434343555
0229	21250	547656644354565
0230	21020	545366867354665
0231	22131	646666747467665
0232	21124	554556635562655
0233	22224	455665555444665
0234	21224	446663664506465
0235	22110	656526745553455
0236	22123	446556666356575
0237	22101	466655664554565
0238	21335	445555466256465
0239	22225	552456344364465
0240	21132	545544644464555

0241	21122	55485674545546
0242	21112	44645664524446
0243	22211	44554554535445
0244	21123	55756563625233
0245	20000	65765885535556
0246	22132	45565463555556
0247	22111	43665674634655
0248	22132	54365365525656
0249	21234	44666554553545
0250	21134	43555664535436
0251	20212	35565463545345
0252	21234	64666665535665
0253	21223	43453364654347
0254	21235	34486584545638
0255	21511	54766664435456
0256	21024	54655464645456
0257	21122	22422324434445
0258	21223	54587475325455
0259	21333	44756465735646
0260	21233	44674564535447
0261	22233	44365564455547
0262	22232	54655464455456
0263	22131	45555453545456
0264	21334	34633666535545
0265	22133	44354566525656
0266	21134	45365685625537
0267	21235	40565684535655
0268	21235	55545566656546
0269	22330	23575476535446
0270	21111	47522675656533
0271	21334	44767686525456
0272	21335	44786556555457
0273	22331	44665464455656
0274	21335	54665554635555
0275	22233	67766766605567
0276	22111	77866676706876
0277	21435	44433264233455
0278	22334	23644664345437
0279	22333	53745774345557
0280	21400	56564666635555
0281	22431	45544454422347
0282	22131	45445464523356
0283	21133	74566754545455
0284	21135	45486684635584
0285	20322	44655665535565
0286	21320	55666664635400
0287	21334	64545565445665
0288	21133	00665073555245
0289	20223	44565664434445
0290	22132	53676774665336
0291	21132	34566454524447
0292	22233	55555564635545
0293	21234	46565666645546
0294	21230	54665646635446
0295	21400	57665666545657
0296	21334	64466454635546
0297	21123	44665484545445
0298	21234	54564464535437
0299	20435	44575665635656
0300	21135	64787574424306
0301	21231	34344262245236
0302	22132	43656656355256
0303	21222	45665666636656
0304	20330	34064656434564
0305	21434	32584262535426
0306	21134	44635675535655

0307 21130 424444734554 56
0308 21130 424444734554 56
0309 21234 266535865334 55
0310 20233 444767563557 37
0311 21233 345656664355 56
0312 22133 335664645353 65
0313 22233 446564544344 56
0314 21235 436654645355 56
0315 21111 345464446463 44
0316 21334 534754855555 45
0317 20235 426674447353 37
0318 22203 545455535665 67
0319 22233 445454635566 65
0320 21223 644666645555 56
0321 21121 656655564345 46
0322 22112 746244846864 53
0323 21433 245644565345 56
0324 21113 633535745554 44
0325 21133 546655444352 56
0326 21225 453655544344 47
0327 21430 445666656455 56
0328 22132 645665545354 45
0329 22132 646664635444 55
0330 21123 445784633352 03
0331 21233 556655666066 66
0332 22233 425567843555 55
0333 21031 404656635556 45
0334 22132 445750634554 40
0335 21112 766466666765 55
0336 21233 547545745353 44
0337 21323 535545645354 46
0338 22204 576666666057 56
0339 21133 644654645485 45
0340 22123 435546644056 55
0341 22332 346566635559 66
0342 22224 546564655554 65
0343 22435 655433445365 55
0344 22132 436554630544 46
0345 22133 445645545554 55
0346 21121 637456653485 63
0347 21525 364764737354 67
0348 21234 555564744344 57
0349 21121 466456555446 74
0350 21434 254654646355 45
0351 21234 644654666366 56
0352 21334 645655666466 66
0353 21110 050454604454 56
0354 21212 460550665466 65
0355 21133 644544734704 54
0356 21224 365455544664 46
0357 21121 445323355543 38
0358 22433 236656656555 57
0359 22435 445766645564 57
0360 22335 237743445352 36
0361 22301 255846656053 47
0362 21435 466665546354 66
0363 21233 424764443543 28
0364 21131 000230585657 02
0365 22234 435454765663 55
0366 21134 326646844340 47
0367 22131 445543643555 55
0368 22131 335735625353 56
0369 22131 423745724253 45
0370 21234 556647856367 77
0371 21335 405055644254 46
0372 22323 465555644354 46

0373	21420	33354563545766
0374	22122	43555663655464
0375	22123	24564454555546
0376	21123	42454253465635
0377	21233	44466663455355
0378	22133	54457664455445
0379	21334	62463224584445
0380	22133	23553246434246
0381	21121	63666464556446
0382	21223	53552365235336
0383	21121	44576604566466
0384	22121	44766664556446
0385	21135	65535474575435
0386	21131	45657774750555
0387	21214	45566555536456
0388	22114	28585575455438
0389	22232	65464374535647
0390	22432	24565664455546
0391	22433	40656364355565
0392	21333	73646667646765
0393	22132	44365564525346
0394	22433	34645563425556
0395	21020	55334433332440
0396	21224	43664772436366
0397	21123	43665454466465
0398	22234	24564664535756
0399	21121	65655674644465
0400	22111	44454264335245
0401	21011	42244263545445
0402	21131	54766584454356
0403	22133	23665552525356
0404	21133	43665543634356
0405	21120	53666463554354
0406	22120	64545664455546
0407	21133	65655665655655
0408	21134	54665473536533
0409	22131	44755664536534
0410	21122	44554554556356
0411	21231	44665453554456
0412	21132	35565453445546
0413	21132	35556564536446
0414	21234	57754566635656
0415	21105	32747486436676
0416	22312	34484364546356
0417	21433	44453464545564
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1694	30224	56545464635356
1695	31334	44675664545457
1696	31035	44665664535447
1697	31103	54555362565345
1698	32425	43565564555646
1699	31235	43575563225435
1700	31134	42664563555456
1701	31324	34564664634767
1702	32435	52686573455366
1703	31425	54064575335445
1704	32330	56565664555456
1705	31320	50565454505445
1706	32221	45664466546557
1707	31224	35564466555547
1708	31121	03605084535050
1710	31121	55565466635555
1711	31434	24676556626457
1712	32334	32576765555475
1713	31325	65565464535457
1714	31415	53665564545656
1715	31122	43556666635446
1716	32133	52734384555576
1717	31405	24465645535556
1718	31234	42773336446577
1719	32223	45665464426647
1720	31335	24466506535547
1721	32330	54555685645456
1722	32224	44665463426365
1723	31123	45665375455456
1724	32334	35566453524456
1725	30430	64665464456757
1726	32330	65585584555356
1727	32333	66500674655560
1728	32333	54666676605660
1729	30325	44455455455446
1730	32303	44455455455456
1731	30234	44457464634547
1732	32435	52645564556566
1733	30433	35565544454346
1734	31434	35565544454356
1735	31234	62556372555356
1736	31434	54686484435446
1737	32331	54666664535656
1738	31305	44565554535546
1739	32315	55666566555565
1740	31325	54575456533537
1741	32121	44565543565446
1742	32122	66642444404354
1743	31224	44565464655656

1744	30122	5256657443635
1745	31123	25575685554548
1746	31123	25575685754548
1747	31425	34665546655667
1748	32131	646456745355 46
1749	31121	52655362345467
1750	31313	44475473654245
1751	32213	34565474455456
1752	30530	25664666655557
1753	31334	53665566535555
1754	31235	44766463535465
1755	32231	43667566556234
1756	32435	24665554555446
1757	32435	34665664555456
1758	31224	25575574525648
1759	31235	44566666635546
1760	31433	40654454635545
1761	32333	43766534735767
1762	30232	54635464555565
1763	32233	43565464554446
1764	32331	44665564455067
1765	31035	65576664555667
1766	31224	44565464435366
1767	32213	64065664555646
1768	31324	46575444555647
1769	30134	43485444426457
1770	31235	44665444535457
1781	32333	23575463425547
1782	31234	24565752654426
1783	32133	23576442356426
1784	32312	53454453456455
1785	31322	44556440406554
1786	31214	45555544565445
1787	32211	45555463406666
1788	31123	45564374235364
1789	31424	44645464546465
1790	32334	63005364555456
1791	31133	63555564653345
1792	32424	54065564445676
1793	31335	34575466465445
1794	31405	24555464556555
1795	30135	32455584606545
1796	31133	45456563735454
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1798	31134	44665464535446
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1829	31122	646456746755556
1830	31132	445754435555546
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1832	31212	536655666055455
1833	31324	446543655565455
1834	31121	346554655565666
1835	31233	544763665554488
1836	32233	466887844562566
1837	31232	435556654354555
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1841	31112	544445654354466
1842	32214	356554634354466
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1862	30225	545556666455555
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1872	32335	545656645664566
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1874	31123	646546645554544
1875	32122	756554666256677
1876	32423	436534633554400
1877	32123	446554644054566
1878	32214	666666654356477
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1931 31131 52766572406445

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