National Library
of Canada

Acquisitions and
Bibliographic Services Branch

395 Wellington Street
Ottawa, Ontario
K1A 0N4

Bibliothèque nationale
du Canada

Direction des acquisitions et
des services bibliographiques

395, rue Wellington
Ottawa (Ontario)
K1A 0N4

Your file Votre référence

Our file Notre référence

NOTICE

The quality of this microform is heavily dependent upon the quality of the original thesis submitted for microfilming. Every effort has been made to ensure the highest quality of reproduction possible.

If pages are missing, contact the university which granted the degree.

Some pages may have indistinct print especially if the original pages were typed with a poor typewriter ribbon or if the university sent us an inferior photocopy.

Reproduction in full or in part of this microform is governed by the Canadian Copyright Act, R.S.C. 1970, c. C-30, and subsequent amendments.

AVIS

La qualité de cette microforme dépend grandement de la qualité de la thèse soumise au microfilmage. Nous avons tout fait pour assurer une qualité supérieure de reproduction.

S'il manque des pages, veuillez communiquer avec l'université qui a conféré le grade.

La qualité d'impression de certaines pages peut laisser à désirer, surtout si les pages originales ont été dactylographiées à l'aide d'un ruban usé ou si l'université nous a fait parvenir une photocopie de qualité inférieure.

La reproduction, même partielle, de cette microforme est soumise à la Loi canadienne sur le droit d'auteur, SRC 1970, c. C-30, et ses amendements subséquents.

Canada

An Inductive Analysis of Intramural Ice Hockey Officiating: A Case Study

Wade D. Gilbert
School of Human Kinetics
University of Ottawa

Thesis submitted to the School of Graduate Studies
of the University of Ottawa
in partial fulfillment of the requirements for the degree of
Master of Arts in Sport Studies

ISBN 0-612-07848-5

Canada

UNIVERSITÉ D'OTTAWA
UNIVERSITY OF OTTAWA

Acknowledgements

All of the officials who participated in this study have volunteered a great deal of time and effort to ensure that this project was completed. The researcher wishes to extend his deepest gratitude towards these individuals.

The intra-university program coordinator, Mr. André Gingras, has supported this research from beginning to end, and has always made time to discuss topics related to this project. His keen interest in the project and complete support facilitated the successful completion of this research endeavor.

The actual data collection process was assisted by Stephane Proulx and John Donohue. Another colleague, Gord Bloom, has provided direction throughout the project and was a fundamental partner in the data analysis stages of the project. He acted as a unbiased advisor while reading and re-reading transcripts to validate the formation of categories.

Several colleagues also provided valuable feedback after proof reading copies of the final product. Thanks to their insight, that version of the research paper was not so final. Thank-you Leon Haughian, Pam Seaborn, Stephane Wilcox and Deanne Boyd.

My closest friend, Jenelle Bonadie, was instrumental in providing constant encouragement and support, and stressed the importance of taking pride in my work and striving to complete the project in a professional manner.

The central figure in this research endeavor most definitely was my advisor, Dr. Pierre Trudel, whose encouragement and feedback were limitless. His complete support and belief in my work allowed me to believe in myself and realize my goal.

For my parents, whose constant support and
encouragement allowed me to successfully
complete this chapter of my life.

Foreword

My advisor and I have decided to present the work done in the last two years in a fashion which would allow us to reveal the complete process, while serving the needs of multiple audiences. Due to the various considerations to be taken when presenting the final product, it was decided that a two-part document would best serve everyone's needs.

The first section of the thesis is written in an article format, allowing the researcher to submit this document for publication upon completion of any corrections suggested by the committee. This paper will also have to be slightly condensed to adhere to journal guidelines for article length.

The second part of the thesis is a revised edition of the thesis proposal. This section includes an extensive review of literature and also compares what was proposed with what was actually completed. This second part commences with two pages detailing the revisions which were undertaken following the proposal.

Table of Contents

Table of Contents

An Inductive Analysis of Intramural Ice Hockey Officiating:

A Case Study

Abstract

This project attempted to develop an accurate portrait of one case of intramural ice hockey officiating, because a better understanding of this phenomenon was needed. Various sources of evidence were utilized over a 2 year period, including: semi-structured interviews, stimulated recall interviews, non-participant observation, a systematic observation instrument, document analysis and validation interviews. The depth and completeness of the results was directly attributable to the novel methodology which was used. The findings revealed both congruencies and contrasts to the existing literature on sport officials. This research supported previous findings related to the role of the official, invoking the spirit of the rules, and using discretion. Among the discrepancies, the most striking difference was related to the stress often attributed to sport officiating, which was not revealed in this case. This research revealed the multidimensional nature of intramural ice hockey officiating and also exposed the difference between officiating theory and reality.

An Inductive Analysis of Intramural Ice Hockey Officiating: A Case Study

Intramural athletic leagues play a significant role in the university and college life of the average student (Zeigler, 1979). They provide current students, staff and alumni the opportunity to participate in a wide array of supervised athletic events. Graham (1978) foresaw the significance that intramurals would assume and proclaimed that the changing demographics of the collegiate student population would "result in intramural-recreational programs playing a greater and more important role in the collegiate society" (pp. 17-18). A survey conducted as part of the present project revealed the true significance of intramurals, specifically intramural ice hockey in the Canadian university system (Gilbert, Trudel, & Gingras, submitted for publication). Intramural ice hockey is played by approximately 19,300 individuals, both male and female, from coast to coast. The important role these programs now play in the university environment has increased the need for qualified officials. The success of these intramural programs depends to a large extent upon the quality of the sport officials (Quick, 1982; Toliver, 1984).

Numerous authors have noted that existing research on sport officials is far from complete as there are still many undeveloped areas of inquiry left to be addressed (Biddle, 1992; Espagnac, 1987; Quain & Purdy, 1988). In recent years,

however, a data base has slowly emerged on various dimensions of officiating, which has largely relied on questionnaires and surveys. Characteristics of sport officials have been well documented, such as their roles (Rains, 1984; Smith, 1982; Teipel, Gerisch, & Busse, 1983) and requisites for successful officiating (Alker, Straub, & Leary, 1973; Fratzke, 1975; Quick, 1982; Salmela & O'Leary, 1993; Weinberg & Richardson, 1990). The existing literature has also provided information about the relationship between authoritarian behavior in the personality of sport officials and the amount of power inherent in the role of referees (Aresu, Bucarelli, & Marongiu, 1979; Koslowsky & Maoz, 1988). Perhaps the one feature of this research which has received the greatest attention has been the high levels of stress associated with sport officiating. Various studies have revealed factors which have impaired the officiating process such as a fear of failure, anxiety due to large and emotionally charged crowds, the constant review process, burnout, and stress related to controlling the contest (Goldsmith & Williams, 1992; Phillips, 1985; Staffo, 1983; Taylor, Daniel, Leith, & Burke, 1990; Zoller, 1985).

Although the roles and characteristics of sport officials have been examined, "there appears to be no research that examines the behavior of officials during competition" (Quain & Purdy, 1988, p. 64). It seems there are few empirical studies on what officials do, instead the only related literature available are books

designed to serve as guidelines for officiating (Clegg & Thompson, 1989; Weinberg & Richardson, 1990). Clearly, there are many questions still to be posed regarding sport officials, and the answers will surely enhance the understanding of their complexities and importance in sport. A more inductive approach, in which numerous sources of data collection are used, will provide greater insight into the phenomenon of sport officiating (Mitchell, Leonard, & Schmitt, 1982).

Among the methods which can be utilized, the case study method provides tremendous potential to answer new questions related to sport officials. The case study design, as defined by Yin (1989), was selected as the project was: "An empirical inquiry that: investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (p. 23). In qualitative research, the multiple-method approach has been advocated when attempting to obtain a better understanding of subjects and their environments (Denzin & Lincoln, 1994; Lincoln & Guba, 1985).

Considering the lack of knowledge regarding various aspects of officiating, a case study was proposed with a group of intramural ice hockey officials over a two year period. This descriptive approach was used to provide an initial understanding of the subjects while interacting in their environment. Several

questions were formulated, prior to commencing the study: a) What did these officials consider to be the role of the referee? b) What rationale was provided to explain on-ice behaviors? c) What were the factors which affected the decision-making processes of officials in action? and d) How did their environment affect their primary task of officiating the contest?

Methods

The Case

The Wednesday night intramural body-contact hockey league employed four referees to officiate 12 teams over the course of the hockey season. This league also had a convenor who was present at all games to operate the scoreboard and to conduct administrative duties with both the teams and the officials. Each game was allotted 50 mins. for completion and consisted of three 15 mins. running time periods. Ultimately, the Intra-University Program Coordinator was in charge of overseeing the entire intramural ice hockey program and its staff.

The league utilized the two-man system of ice hockey officiating, whereby two officials equally shared all the responsibilities for controlling the contest. All four officials were certified by the Canadian Amateur Hockey Association (C.A.H.A). Three of the officials previously officiated in the intramural leagues, while the fourth official had not refereed in these leagues but had participated as a player. These four subjects had a combined total of 34 years of officiating

experience (R = 7 - 11). The main reason for selecting a body-contact league is that research has demonstrated a higher incidence of aggressive penalties in this type of league (Boileau, Desharnais, & Larouche, 1986), thereby requiring the officials to make more decisions in the games.

Although physical contact between the players was permitted in the Wednesday night league, specific rules pertaining to fair play and safety were implemented. There were two ways a team could receive points; production points and behavior points. The behavior point system was similar to ones implemented in the Fair Play system used in segments of the Quebec Hockey Federation (Marcotte & Simard, 1993). The effectiveness of such a system has been discussed in detail by Marcotte and Simard, and interested readers should pursue their review. The league has also predetermined certain infractions such as cross-checking and elbowing as major penalties, whereas in most organized hockey leagues these are considered minor penalties.

Sources of Evidence

Intramural ice hockey officials were observed and interviewed throughout the 1993-94 hockey season with the use of selected sources of evidence: a systematic observation instrument, non-participant observation, archival reports, documents, interviews and stimulated recall sessions.

Table 1 presents an overview of the sources of evidence selected for this case study, while Table 2 illustrates with whom these data collection techniques were employed.

Table 1

Sources of Evidence Used During the Two Year Study

Sources of evidence	Description
First year	
Background interview	predetermined questions regarding experience
General interview	questions specific to intramural league, comments on videotape of referees in similar league
Non-participant observation	note-taking in the field, informal conversations
Stimulated recall interviews	elicit reflections on action, subjects comment on own performances immediately following game
SORB	systematic observation instrument used to code from a video, on-ice behaviors of referees
Summary interview	concluding interview with each subject to reflect and comment on past year
Archival records	game report sheets from entire season
Second year	
Background interview	(with league convenor and intramural coordinator)
Validation document	member checking process, serve to validate
Validation interview	member checking process, serve to validate
Non-participant observation	note-taking in field, informal conversations

Table 2

Data Collection Procedures Used with Different Subjects

Sources of evidence	Subjects				
	1	2	3	4	5
Background interview	X	X	X	X	
General interview	X				
Non-participant observation	X		X	X	X
Stimulated recall interviews	X				
SORB	X				
Summary interview	X			X	
Validation interview	X		X	X	

1 Referees (n=4) in first year of study
2 Intra-University Coordinator
3 Wednesday night Convenor 1993-94 (new referee-in-chief, 1994-95)
4 Referee-in-chief 1993-94
5 New referees (n=5) in second year of study

Background and general interviews. Based on a review of literature, a set of questions was developed to obtain relevant information from the officials. The background interview consisted primarily of demographic questions and general officiating philosophies. The general interview - a two part interview - was prepared with questions more specific to the Wednesday night intramural ice hockey league. The first part of the interview allowed the referees to discuss their experiences in and expectations of this league. The second component provided the officials with a preliminary opportunity to comment on an official's behaviors

in a videotaped game. This process allowed both the interviewer and the subject the opportunity to prepare for the stimulated recall interviews.

These two interviews were practiced with a qualified ice hockey official from a similar league, prior to meeting any of the intramural referees. This pilot work provided the researcher with feedback related to the selected questions and also served to improve the researcher's interview skills.

Non-participant observation. The criteria for successfully conducting non-participant observation was adhered to as outlined by numerous researchers (Lincoln & Guba, 1985; Schatzman & Strauss, 1973; Spindler & Spindler, 1992). Notes were recorded by the researcher primarily when the site was visited to videotape games for the stimulated recall interview sessions. The researcher arrived 30 mins. prior to game time and often did not leave the site until one to two hrs. after the selected game for that evening. Note taking was facilitated during the games by an assistant who performed the video recording procedures, thereby allowing the researcher to closely monitor the action and the environment throughout the contest.

The researcher also spent a considerable amount of time at the site in the second year of the study (Fall 1994), to observe and take notes related to what had been talked about in the validation interviews.

Stimulated recall interviews. A review of the literature on stimulated recall interviews (SRI) has demonstrated the usefulness of this technique as a research tool (Gilbert & Trudel, 1994). Based on the main characteristics of SRI, a stimulated recall protocol was then developed. These interviews, pioneered by Bloom (1953), and Kagan, Krathwohl and Miller (1963), are characterized by the following features: (a) interview technique employed to elicit subject's reflections on action, cognitive processes, beliefs, and perceptions, (b) subjects are interviewed following a taped episode while viewing the taped event, (c) cues provided by video and/or audio tape allow subjects to recall thought processes related to specific incidents.

These interviews, conducted between two and four times with each official, were initially unstructured, commencing with a "what's happening" statement. As the purpose of this study was to develop an accurate portrait of intramural ice-hockey officiating, the complete game was replayed for the referee. The researcher controlled the playback but allowed the referee to stop the tape and expand on an event at any point. In preliminary interviews the researcher interjected periodically to stimulate discussion and in subsequent interviews some questions were formulated based on an initial analysis of the first stimulated recall sessions. New questions arose out of the data, either relating to previously undiscussed material mentioned in an interview with another official, or points of

clarification. This procedure was also tested in a trial with a referee from a similar league before the project commenced. The protocol was subsequently discussed with two fellow researchers familiar with the project in an attempt to improve the quality of the interview sessions.

Systematic observation of referees behaviors (SORB). The observation instrument used to code the referees' behaviors during the games was a modified version of the Systematic Observation of Referees' Behaviors coding form (SORB). This interval recording system (6 secs. of observation followed by 6 secs. of coding), was developed by Trudel, Côté, and Sylvestre (in press) to allow a researcher to develop a portrait of an ice hockey referees' behaviors in an actual game situation. Several minor modifications were necessary in the SORB for use in this study as the subjects under observation were officials in the two-man system of officiating. For this reason, categories had to be added to include all the behaviors of the subjects in this study.

The officials wore a wireless microphone and were videotaped, allowing their behaviors to be recorded from the start of the first period until the end of the game. The researcher and a video recording assistant both conducted pilot work with the equipment prior to collecting data for the case study. Two games from a similar city league were recorded while officials wore the wireless microphone. The research site was also visited prior to commencing the study to determine the

ideal placement for the recording equipment. Video was recorded from three different locations and subsequently viewed with two fellow researchers, resulting in the selection of the ultimate recording location at the arena.

Summary and validation interviews. In an attempt to test for factual and interpretative accuracy, and also to provide evidence of credibility (Lincoln & Guba, 1985; Schatzman & Strauss, 1973), a member checking procedure was used upon completion of the first year of the study. A preliminary portrait of the league and its officials was prepared and submitted to the officials for a review of its accuracy. The subjects were instructed to read this validation document and make written comments on it. The right hand margin of this paper was purposely enlarged to provide the officials with space to express their views, which subsequently could be discussed in the validation interviews.

Archival reports. This type of documentation included numerous types of records, which provided the researcher with a stable source of information (Lincoln & Guba, 1985; Yin, 1989). The archival reports used by the intramural league recorded game information such as: number and type of penalties, number of players, goals and assists, and production and behavior points.

Data Analysis Process

Interviews. Analysis of interview transcripts commenced in the first year of the study. All the interviews were transcribed into a microcomputer and printed,

thereby providing the researcher with a hard copy of the discussion. This process was done immediately following the interview allowing the researcher to review the text prior to the next field session.

Weekly meetings were held to discuss and present the findings with two fellow researchers who were familiar with the study. These meetings were used to reduce or eliminate interviewer bias. It was hoped that these individuals would function as an "ange-gardien" (Trudel & Donohue, 1993) or "devil's advocate" (Earls, 1986). It has been shown that a peer or reviewer would provide a form of credibility to the research process by stimulating the researcher to observe the whole picture as opposed to taking a narrow, biased focus. Both of the two individuals with whom the meetings were held have accumulated a great deal of knowledge and experience regarding research and ice hockey.

The interviews with the referees were analyzed through the process of inductive analysis and coding. The first step consisted of dividing the text from the interviews into "meaning units" (Tesch, 1990). Meaning units are pieces of text which contain one idea and may be comprehensible on their own outside of the context of the transcript. The meaning units were subsequently given tags, and by creating tags the researcher "aims to produce a set of concepts which adequately represent the information included in the interview transcripts" (Côté, Salmela, Baria, & Russell, 1993, p. 131).

The next step was to group together tags with similar meanings. These groups of tags formed categories which allowed the text to be reviewed in an organized fashion (Tesch, 1990). Categories were continually formed until a saturation point was attained. Several versions of the categories were developed until a final agreement was arrived at by the research group. The sorting process was facilitated through the use of the HyperQual software application

SORB. Coding of the 12 videotaped games was completed by the researcher together with an assistant. After a period of training, two inter-observer reliability tests were done and a third one was completed after half of the tapes were coded. The test used for reliability was the Scored-Interval method, considered to be the most rigorous method for measuring observer reliability with interval recording (van der Mars, 1989). The level of interobserver agreement on each component of the coding system was over the minimum standard of 80% for all three of the reliability tests. The overall reliability score for all the components over the three tests measured 94.8% (961/1014).

The SORB provides information on the behaviors (e.g., intervene verbally, inform with gestures), together with their objectives (e.g., encourage/advise, signal a penalty), and directions (e.g., partner, all individuals). These results were subsequently presented to the officials in the summary interviews. The combination of both the data from the systematic observation and the qualitative

interviewing proved extremely beneficial when attempting to describe and understand the behaviors of these officials.

Archival reports. Official game reports from all 66 regular season games were analyzed to obtain information on the number of players for each game and the type of penalties given. The coding system used to analyze the infractions was the one suggested by Audette, Trudel, and Bernard, (1994) following a review of literature on the study of aggression in ice hockey.

Results

The two year study produced over 200 pages of interview transcripts, producing a large database of referee knowledge and experiences. Following the data analysis, emergent themes which seemed to particularly characterize the reality of this intramural ice hockey context, were selected for presentation. These themes are presented in conjunction with direct quotations from the interviews, together with data from the other sources of evidence when they were available.

Role of the Referee

The officials indicated that the referee's role was multi-dimensional, even at the intramural level of athletics. The three most commonly cited roles of the referee were: ensuring the safety of the participants, maintaining a flow to the game, and keeping control of the contest. These three themes were readily apparent in the officials' comments.

> Some holding, grabbing and pushing you let go...let them play, they are twenty years old...that is part of the game. (R3)
>
> I'm there so that nobody gets hurt and that people enjoy the game. (Referee-in-Chief 1993-94)

Reasons to Referee

The most common response attributed to their reason for refereeing in this intramural league was the money received for their services. Every referee involved in the project clearly stated that money was the main reason they still refereed. The convenience of being able to work part-time right on the university campus was also cited by two of the officials, with one of the officials stating that it was the best part-time job you could get. Secondary reasons for officiating were also cited, including the exercise and activity aspect of officiating, and the love of hockey.

Discussions with officials concerning the effects of officiating alone also supported the importance of remuneration. On most occasions they did not mind officiating by themselves as it resulted in them receiving both officials' money for those games.

Characteristics of the Intramural League

The largest amount of information which emerged throughout the observation period dealt with characteristics specific to this intramural hockey league. The extensive data related to this category allowed the researcher to

discover the nature of the league as well as the officials' views of the league. Due to the large amount of information collected on the characteristics of the intramural league itself, several sub-categories emerged.

Two-man system of officiating. There are two types of referee systems for ice hockey, the three-man system and the two-man system. The three-man system uses one referee to focus on serious rule infractions leading to penalties, while two linesmen focus on positional infractions of the players such as icings and off-sides. The Wednesday night league, however, utilized a two-man system of officiating whereby the two on-ice officials equally shared all the responsibilities of both referee and linesman. Both the referees and the intramural coordinator stated that there was no need for a third official in this league as the calibre of hockey did not require this and it was also less expensive. Although the use of a two-man system may be less expensive, the officials noted that with this system the importance of teamwork became ever more important.

> In the two-man system both [the officials] are equal and teamwork is essential (R4)

This notion of increased teamwork was also evident in statements made by the intramural coordinator, when questioned about the use of the two-man system.

> The two-man system is very satisfactory for our use and I would even say that it is an advantage because you have two referees who can call the penalties, so you have a better look at what players are doing because some of the penalties occur at the back of the play and with the two-man system you have a better chance for the referee to see what is happening.

Specific rules. This league was governed by the rules set forth by the C.A.H.A., as well as numerous regulations designed by the Sports Services branch of the university administration specifically for this intramural league. One of those specific rules was the predetermination of certain infractions to be called as automatic major penalties (7 mins.). This was slightly different from most organized hockey leagues where it is within the referee's discretion to determine if a penalty is severe enough to be called a major instead of a minor. The following penalties were considered automatic major penalties: boarding, charging, cross-checking, elbowing, kneeing and checking from behind. This characteristic of the league was implemented to prevent serious injuries and promote fair play among the participants.

It soon became apparent with these referees, however, that they were more concerned with the length of the punishment than what the infraction was actually labeled, and would alter their calls accordingly. The important factor to consider, according to the officials, was not if the infraction was an automatic major such as elbowing or cross-checking, but if the violation was worthy of seven mins. as opposed to three.

> Yeah, I've done that before [changed a call]. I'll give him a roughing penalty or something, just because sometimes it is not worth seven minutes but it is checking from behind [a major penalty]. It is the same with elbowing. You can sort of make the call a little different if you don't want to give him a major. I've done that a few times. (R2)

> The team already had a seven minute major, I never felt this penalty was worth another seven minutes. In the intramural league they have made rules where there are more major penalties than in normal minor hockey and that has taken the decisions away from us which myself as a referee don't like, because to make them short-handed for seven minutes twice and on any goal scored they don't come out of the box, it is very difficult, so instead of calling it checking from behind I called it roughing just to make it a minor penalty. (R4)

The convenor of this league supported this finding, and indicated that many of the major penalties were often changed to minors for roughing. This was not done as a blatant disregard for the rules, instead the convenor understood the referees and the context of the game, and dealt with the situation accordingly.

> Sometimes they [referees] would come to me and say 'Three minutes for cross-checking,' but they know that is an automatic major penalty. So I have to change that on the scoresheet, because I know what he really wants to give him, so that is why you got a lot of those roughing penalties. The call might be elbowing, instead I would put roughing. (Intramural Coordinator)

Over the course of the season, the results from analysis of the archival reports indicated that of the 297 minor penalties assessed, 102 (34%) of them were roughing penalties, thus supporting the convenor's statements. Major penalties were assessed with some frequency however, as 40 major penalties were assessed in 66 games (0.61 / game).

Relaxed atmosphere. The consensus among the officials regarding this league was that the players were mainly concerned with having fun and getting out for a skate with their friends. The referees didn't think that the players took the league

too seriously and consequently, they stated that neither did they. An example of this could be noted with regards to recording goals and assists for the players. The officials stated that quite often they did not notice who assisted, and even sometimes who scored a goal, and if they did not record the points correctly no one would really care anyhow.

> At this point I would have normally asked the other referee who had scored, because I wasn't sure, but because it's only intramurals, it doesn't matter. I did get the right team that scored, that is really all that's important. (R4)

This philosophy was congruent with comments made by the intramural coordinator, who stressed that fun and personal satisfaction were more important than individual awards and honours.

> We don't really give awards for the top scorer, top goalie or championship teams, they just play for the fun of playing and they get their own satisfaction for whatever they gain from the game.

The referees also commented on positioning and physical appearance, always contrasting this league to organized minor hockey leagues. There was no pressure to be in the right position at all times for this league, and there was no one present at the arena to monitor the officials in action.

The combination of refereeing two or three games in a row late at night coupled with unevenly matched opponents often resulted in a lack of motivation on the officials' part.

> I have become lazy in some respects as a referee, not hustling. I definitely don't hustle like I used to, but maybe I would if I felt the need to. Here there isn't the need to, no one else does. (R4)

> There is nothing worse for a referee for motivation than a game that finishes 10-0 or 15-1 and those are bad. (Referee-in-Chief, 1993-94)

This disparity of calibre between the teams in this league was confirmed by data from the archival report. Among the 12 teams in the league, the range in goals scored per game varied from a high of 7.8 to a low of 2.6.

One additional characteristic of this league, was the repeated occurrences of one referee missing his games. Every referee who was questioned reported that at some time throughout the course of the regular season, they had to referee one or more games by themselves. Conversely, many of these referees also missed games they were scheduled to officiate. This occurrence was not considered serious to the officials in question.

> I just told him [other referee] I was going to go ahead and he said sure. He was going to be there a minute or so after we started the game, so no big deal. (R2)

> Yes I had to do it by myself a couple of times and in fact the rink attendant came out and refereed with me for a couple of games because the other referee didn't show up. (R4)

On one occasion, the game being played before the one we intended to record was officiated by a single referee. With about three mins. left in the game, a fight broke out and there were roughly six players mixed up in one spot along the boards, pushing and shoving. The referee, who was much smaller than most of the

players, was stuck in the middle trying to protect himself and restore order. The players eventually calmed down, and the game finished without further incident. After the game, the researcher questioned this official in the dressing room. This official revealed that not only did he not mind refereeing by himself, in fact, most often he preferred it because he received twice the amount of money for doing the game.

Another night when the researcher proceeded to the arena to record a game, the arena was deserted until about five mins. before the scheduled start of the game. At that time, players were seen hustling into the dressing rooms, and one of the referees wandering into the site. As a result, this game which was scheduled to commence at 8:00 p.m., did not start until 8:15 p.m., leaving the players with only 35 minutes to complete three periods. The other referee still had not showed up, so one of the rink attendants decided to assist the referee who started the game, and after dressing quickly only arrived out on the ice at 8:20 p.m.

It was not unusual for games to start late or for teams to show up with few skaters. The average number of players per team per game was 9.4, however there were 17 times when teams only showed up to play with seven or fewer players.

One final issue raised in support of the relaxed climate of the intramural league was the opportunity afforded the officials to converse with spectators and friends throughout the game. This unique situation was discussed by all the

referees. Although not every game allowed the officials the chance to partake in this activity, many of the contests allowed the referees to pursue conversations with off-ice individuals. It should be noted that the dimensions of the arena may have contributed to this activity. For example, there was no protective glass around the boards of the ice-surface between the blue-lines, as opposed to most indoor arenas. The officials in a two-man system spend the majority of their time skating slowly along the boards, thereby allowing them to speak freely with individuals close to the boards. Results from SORB supported this as the most prominent behavior recorded was classified as monitoring (55.6% of all behaviors). Monitoring is defined by SORB as: the referee moves slightly or stays at the same place while observing the game action.

> Being over by the side of the boards, I'd keep my eye generally on the play, there isn't much action going on at that point and I'm easily able to relax and talk to one of the guys over the boards. It helps to break the monotony of the games sometimes. (R4)

It should be noted that although some of the referees conversed with spectators while the game progressed, this was not the norm for this group during our observations. Results from SORB indicated that only 4.5% of the verbal behaviors, or 27 out of the 598 intervals, were with spectators. In fact, one official in particular accounted for 89% of the verbal behaviors with spectators in our observation period.

Communication

Between referees. There was very little time for discussion or communication between the officials during the games in this league. The games were running time and there was very little waiting around as players could only change on the fly. Most often the official closest to the puck would retrieve it after a whistle, instead of following guidelines for referee protocol which required the other official to retrieve the puck and deliver it to his partner.

> The only time you actually get to talk to the other referee is between face-offs and in this league a lot of the time you're going to get your own puck. (R1)

The sparse conversation that did occur was typically short exchanges between the officials when they retrieved the puck for each other. An interesting point was raised by several officials in the validation interviews regarding this apparent lack of communication. They indicated that there really was very little communication between officials at all levels of ice hockey.

> There is not much communication in all types of hockey. The only communication that you really need are hand signals that you give as part of refereeing. You can't talk while the game is going on, chances are the other official won't hear you anyway. (R3)

Data from SORB can illustrate the profile of the official's communication. A total of 2631 behaviors were recorded with these officials over 12 games, with 555 (21.1%) of them being classified as verbal behaviors. Only 9.2% of these

verbal behaviors were directed towards their partner, approximately the same percentage of verbal behaviors as directed towards the timekeeper (8.7%).

The lack of communication between the officials in this case could also be attributed to the unique circumstances in which these referees worked. The officials typically worked three 50 min. games in a row with a 10 min. break in-between games. When the referees made it to their second and third games, often they were more interested in getting home as it was late in the evening.

> You pretty much do it all in the first game [talking]. Probably because the game is boring...but now you are just cold and you don't really want to be skating around too much. (R1)

With players. The majority of the verbal communication recorded was between the officials and the players. Results from SORB revealed that 76.6% of the verbal behaviors were directed toward the hockey players. The communication between the officials and the players in this league could generally be classified into one of four categories: (a) talking to a player for assistance on a call, (b) informative verbal behaviors directed towards the players, (c) arguing or discussing an issue with a player, and (d) trying to establish a non-referee relationship with a player.

The officials indicated that the verbal communications they had with players were mostly aimed at informing the players that the referees were closely observing the action. They also said that instead of calling penalties all the time

for minor infractions, they preferred to let the players have more time for playing the game. This was also a way for the officials to communicate to the players what was acceptable behavior on the ice.

> I just do it [yell at the players] to make them aware that I'm watching them, just to get them to calm down without blowing the whistle every two seconds. That would just slow the game down. (R2)

> At that point I yelled at the player, STICK DOWN! He wasn't high-sticking enough that I would want to call a penalty, because I don't want to be calling penalties all the time, but if I yell at him hopefully he will put his stick down, and that will tell other players too that I am watching them. (R4)

One of the interesting findings concerning the communication between the officials and the players was the issue of establishing a non-referee relationship with the players with the intent of using this as an asset later in the game. This finding was revealed by two of the referees, and has provided outsiders a unique inside perspective of what could be considered an officiating strategy yet to be discussed.

> The best thing I think is getting in with the goaltenders, because they give you the puck as many times as the other official does, off saves and covering up the puck. So I always tell them that they made a nice save and things like that. (R3)

> If you've been talking friendly to a guy for two periods, the third period he thinks you should have called something and you don't or vice versa, he'd be less likely to get really angry and take a fit if he knew you as a person, not just a referee. (R4)

Although the previous finding was unexpected, perhaps the most intriguing revelation concerning communication between the officials and the players was

the presence of a very strong language barrier that at times severely limited the officials capability to fulfill their role. This complication could possibly be considered unique to this particular case study, as this intramural league was located in a bilingual (French/English) university. All four of the subjects were Anglophones, while both the convenor and the head referee were bilingual, even though many of the players on the teams were French speaking. In fact, the head referee for the 1994-95 season commented on this issue in the validation interview and suggested that fully 70% of the intramural league was comprised of French speaking players.

> He knew I heard him, he doesn't speak English very well, I don't speak French at all. That can sometimes be a problem. (R3)

> That can actually be quite a problem. As a referee my French is not passable, if someone knows that I'm English and my French is mediocre I can get by if they talk very slowly, but in a hockey game the players are into the game and they speak very quickly and at that point I'll have no idea what they are saying. (R4)

Relationship with Partner

The officials revealed two central points related to establishing a positive on-ice relationship with their partners; familiarity and support. The importance of getting to know their partner's tendencies and particular style of officiating was key to establishing inter-official consistency. The officials knew what their role was on the ice and they were confident that their partner for that game was qualified to perform the task effectively. Three of the four officials have refereed

with each other over the last three years, and this allowed these individuals to become comfortable with each other's officiating styles.

> I know where he will be and I know what he will call and won't call. If I see something going on in the front of the net or in the corner, and he doesn't call it, I'm not going to call it because I probably would agree with him. (R1)

The same small group of officials refereed all the games in this league, and as the last quote illustrates, routines were established and each official had his trademark features.

The issue of support was raised by all the officials. In the two-man system, each of the two referees control one end of the ice. Although both officials are responsible for activities on the entire ice surface, they were very careful not to infringe on their partner's territory.

> You have to trust each other, and when there is a scramble around the net and you are right there by the net and then he [partner] blows the play from the blueline to stop the play, that makes me look bad. (R1)

> I would never make the call if it happened right in front of the guy and he was looking right at it. I'd say to myself, obviously I'm seeing something and he's seeing something else. (R3)

The issue of support and respect was often cited as the reason for not overruling their partner, and generally this was an accepted norm of this group. As one of the referees stated earlier, it would make an official look bad if his partner called the play in their zone. This apparent lack of teamwork was addressed by one official in the validation interview, where he stated that there

were limits to the aforementioned support and respect. The severity of the infraction was a factor when deciding to call a penalty in his partner's zone. Minor infractions such as tripping or interference viewed from a distance could not be called with absolute certainty, whereas a severe infraction of the rules would have to be acted upon.

> I think it also depends on the kind of penalty, like tripping right in front of the guy, I wouldn't call that from way back because maybe he stepped on his stick, but if the guy hauled off and punched him in the head, I would just have to think that the other referee was looking somewhere else or didn't see it, or both, because how can you miss that. That can't be mistaken for something else. (R3)

This situation was cited as an area of conflict and stress for one of the officials, and perhaps others had similar feelings but did not openly state them.

> Sometimes it bugs me because I don't want to be making calls in that guys end when it's happening right in front of him and I think it's a penalty and either he doesn't care or he doesn't see it. I'm in favor of when something happens and you are supposed to do something about it, DO IT! Just step in, do your job and step right back out and let them play hockey again, some guys just let it go. (R4)

Factors Affecting Decision-Making Processes

Over an extended period of time interacting with the officials and reading the transcripts, it became apparent that these officials often refereed much differently from one game to the next. The officials cited several factors which affected how they would referee a particular game or make a certain call. Five factors in particular emerged from the data: (a) schoolwork, (b) a previous call, (c) the

previous game, (d) the type of game being played, and (e) the score of that particular game.

The fact that all of the referees were students with heavy workloads led them to sometimes focus more on an imminent examination or an assignment than the game at hand.

> Sometimes I've been doing assignments just before I come to the rink and I'll be thinking about that. (R2)

> I had 13 courses at school. I didn't have time to be on the ice refereeing the hockey game and not be thinking about school, if even just to think about organizing my time after I got off the ice. (R3)

A previous play or missed call can also remain on the conscience of the official for an extended period of time, possibly interfering with the referee's judgment as well.

> If you do that [miss a call] at the beginning of the game, the whole game you are thinking 'Oh, man that should have been a penalty,' and it's on you for the rest of the game. (R1)

Not only do previously missed calls appear to have a lasting effect on the referees, but also events which occurred as far back as the previous game may have played a factor. Many of the officials indicated that they were often very tired and lethargic by the third game of the night. However, fatigue was not the only factor as arguments with players from previous games affected some officials into the next contest.

Lastly, two related aspects of the games were contributing factors to how the officials would handle a game, those being the score of the game and the pace of the game. Each of the referees indicated that the score of the game influenced their decision-making processes. It was generally agreed upon that fewer penalties would be called in the last several minutes of a close game as opposed to a one-sided victory.

> I admit I don't always know the score, but I always know if the score is close, especially near the end of the game because you don't want to be calling a questionable penalty on a team that is down by a goal with a couple of minutes left. (R4)

The pace of the game also had a definite effect on how the referees approached the contest, with the faster games eliciting more interest and hence more alertness to the happenings of the contest.

> I adjust my style to the type of game I am doing, for sure. If it is a close game you are right on the balls of your feet, head up all the time. You definitely adjust your technique towards the game. (R1)

Discussion

The discussion will focus on two aspects related to the results found in this case study. First, there will be a comparison of the findings to observations made in the second year of the project. This process was selected primarily as a result of the comments made by the officials in the validation interviews. All four of the officials directly involved in the study clearly stated that the results accurately depicted the Wednesday night intramural hockey league. In fact, one official

claimed that the portrayal of the league and the referees was painfully accurate, as it highlighted some aspects that he was not very proud of:

> As a referee in that league, I am supposed to support the league and do my job so therefore it may be a little bit embarrassing to admit to the observations as it doesn't really make us or the organization look too good on the whole, but I would say that it is really right on in terms of accuracy. (R4)

The accuracy of the portrait was supported, however, the validation interview with the referee-in-chief (1993-94) and the league convenor (referee-in-chief 1994-95) motivated the researcher to make further observations in the field. These two individuals reinforced what the other participants had said about the accuracy of last year's observations. They continued to add that a few things have changed in the league in the 1994-95 season, and a return to the site would clearly demonstrate this.

The researcher re-entered the field as a non-participant observer to determine the validity of the statements made by the referee-in-chief and the convenor. The question to answer was, had the attitudes and characteristics of the officials in the Wednesday night hockey league really changed from the previous year? If the answer was yes, what were the reasons for these changes?

Comparison to Second Year

The results from the first year of the study as presented in the validation document, did not always portray the officials in a positive light. Both the head referee and the convenor revealed that they were not satisfied with the conduct of

the officials in the first year of the study, and although our project reinforced their suspicions, they had formed their opinions before they viewed the results.

> Even if you didn't write it out, we knew there was a problem. We are working on it. (Convenor)

> The big problem we had last year is that a lot of the guys were not qualified. They thought they were qualified, they were qualified five years ago, everything has changed in the last five years. (Referee-in-chief, 1993-94)

The key point these two individuals claimed had changed was the overall attitude of the officials towards the league and their job. The change in attitude resulted in fewer complaints, games starting on time, and perfect attendance by the officials.

They provided details on the reasons for the changes in the officials' attitude. First and foremost, only one of the four officials from the first year of the study was still officiating in this league, either because they did not apply or they were rejected based on their performance in the previous year. Secondly, last year the head referee was constrained by the low number of officials who were on staff; only six for the entire intramural league program. This severely hindered the head referee's ability to maintain a satisfactory level of officiating, as there were no replacements for officials even if he wanted to replace someone. This year there was a substantial increase in the number of applicants to work in the intramural ice hockey leagues, and 12 were selected; twice as many as the previous year.

> There is a big difference this year, mostly because I had 27 people put their names in to be referees, so I went through the list and kept the most qualified people. People are fresh and excited and they don't have any idea of what they can get away with, they can't compare to this year. Also, since there are a lot of guys, they only get one or two shifts per week, so they don't want to miss them. If they miss games, they know they can get canned. Last year I only had six referees so they knew they wouldn't get canned because I didn't have anyone to replace them. (Referee-in-chief, 1993-94)

The researcher re-entered the site and observed 12 games over a period of three weeks. The researcher focused on the points that were raised in the validation interviews by the head referee and the convenor, most notably; starting times of games, attendance by officials, and behaviors of the officials.

The officials were generally on-time for the games that were observed in the second year, although there was one occasion when the game was delayed because of an official. The delay was not long, approximately six mins., but this was due primarily to the fact that one official was observed entering the arena at the scheduled start time of the game. A major difference from the previous year was noted in the perfect attendance by all officials over the period of the observation. Every game was officiated with two officials who were hired as part of the intramural referee staff.

There was evidence which supported the suggestion that the officials' attitudes were different this year. There was very little discussion with spectators or friends and the officials appeared focused and in control of the games. This was supported by the low occurrence of arguments or discussions between the

players and the officials. During the observation period, there was only one case of a player vehemently arguing the call of an official. Referees followed official protocol, retrieving pucks for their partners and generally made an effort to establish the necessary position to allow them to view the play.

Informal discussions with players who had participated in the league in both years of the study suggested that there was no noticeable difference in the officiating or it was slightly better. Some of the players noted that it appeared as though the officials were having more fun this year and seemed to put more effort into their jobs. Last year some of the officials seemed to have a negative disposition, and that was not present this year.

Perhaps the most notable aspect which has not changed with the turnover in staff, was the preference of the officials to assess minor penalties as opposed to major ones, even when the infraction dictated the assessment of a major penalty. In fact, major penalties were assessed at an average of 0.17 per game, down from 0.61 per game for the 1993-94 season. All the officials commented on this in the first year of the study, and it appeared to be a point of conflict in the second year as well. The intramural coordinator stressed that these rules have been designed to promote fair play between the teams, and it is imperative that the officials understand these rules and apply them accordingly. This was easy to observe as when a penalty was called the official would skate to the penalty box and signal

the infraction to the timekeeper. The researcher, being familiar with the signals, quickly discerned what the penalty call was and if it should be a major or a minor. This was checked against the amount of time the timekeeper placed on the scoreboard (three mins. for a minor and seven mins. for a major). As noted earlier, only two major penalties were assessed in the 12 games, but at least four cases were noted when the officials signaled elbowing or cross-checking (automatic majors) and the player subsequently received a three min. minor. This caused some conflict between the timekeeper (now also the head referee) and the officials. The researcher observed one official signal elbowing and telling the timekeeper "Three minutes for elbowing." The timekeeper proceeded to put seven mins. on the scoreboard, as elbowing is an automatic major penalty. The official noted the scoreboard before the face-off, and went back to the penalty box and repeated to the timekeeper, "Only three minutes for the elbowing penalty." The timekeeper changed the time and the play re-commenced. Either the players are not aware of the rules or do not seem to care about them, as no one from either team questioned the delay or the change. The issue of assessing major penalties in this league has remained a controversial topic for the officials.

Comparison to Literature

Both similarities and contrasts were found between the statements of these officials and those found in other studies conducted with sport officials. The

responses related to the perceived role of the official in this study were similar to those found in the conclusions made by other researchers which included, maintaining flow in the contest (Nelson, 1984; Rains, 1984; Rudolph, 1992), ensuring the safety of the participants (Smith, 1982; Weinberg & Richardson, 1990), and controlling the game (Askins, Carter, & Wood, 1981; Salmela & O'Leary, 1993).

Congruencies were also noted regarding qualities needed to become a successful official. Studies conducted with various sport officials all revealed the importance that officials placed on experience and certification as prerequisites for a successful officiating career (Askins et al., 1981; Greenlee, 1985; Quick, 1982; Salmela & O'Leary, 1993). This also occurred in this case study.

Numerous researchers have noted how important judgment is for officials, and the difference between the formal rules and the actual operating procedures. Askins and colleagues (1981) illustrated this aspect of sport officiating in their study of basketball officials:

> Frequently, officials interpret the physical contact between players as 'incidental contact' rather than 'charging,' 'blocking' or an 'illegal pick,' especially when the contact is away from the ball and unlikely to affect the outcome of the play. In such instances the official is invoking the spirit of the rule rather than the letter. (p. 92)

This concept of invoking the spirit of the rules has been expressed by officials at various levels and across sports, including ice hockey (Nelson, 1984; Rains, 1984; Rudolph, 1992; Smith, 1982). Many examples of this were also found in this case study.

> They were hitting each other and turning around and giving each other cheap shots all the time and I'd see them but they never really gave enough cheap shots for me to call it. Often they would turn and swing their stick but miss the player or they'd just barely tap them. (R3)

> I yelled at the player, STICK DOWN, because he wasn't high-sticking enough that I would want to call a penalty, because I don't want to be calling penalties all the time. (R4)

A study by Rains (1984) revealed how professional ice hockey officials were expected to use their discretion when making a penalty call and how their decision would affect the remainder of the contest. Participants in this study made comments similar to this when discussing the possibility of calling a major penalty, and often why they chose not to. This was best summarized by the referee-in-chief for the 1994-95 season.

> A major penalty, seven minutes, that is tough for a ref to give, that is a long time to give in a 15 minute running time period. If you call a couple of majors, the other team won't care about the game anymore. It seems as though it has an adverse affect, instead of creating a better attitude on the ice, it seems to worsen it, because the guy sits in there for seven minutes and say his team gets scored on a couple of times in that seven minutes, it is not going to be too pleasant for that team by the time that guy gets out of the box, and you are not exactly on their good side. They kind of take it out for the rest of the game.

It was interesting to note the reasons officials cited for not calling penalties in their partner's end of the ice. They mentioned how there were degrees of infractions, and that minor ones would not warrant an official overriding his partner. Furthermore, the fact that they were at a further distance from the play and were interpreting something that would be viewed differently from the closer perspective of their partner was cited. This facet of officiating was discussed by Askins and colleagues (1981), and was referred to as disattenders. They talked about two types of disattenders, spatial and temporal. They described spatial disattending as representing "a claim to ignorance about the event in question" (p. 95). This is congruent with the responses offered by the officials in this study when questioned about their decision-making processes.

> When he was in this end, there was something right in front of him but it was kind of close so I didn't want to call it right in front of him. (R2)

> The other ref is standing right beside him, I'm not going to call it down there. I think he had the stick there, I think he was checking him, but I couldn't tell if he was hooking him to pull him back. If I make the call, then I make him look like he doesn't know what he is doing. (R3)

Differences from earlier research findings were also evident, such as the officials' reasons for officiating. Studies conducted by both Aresu and colleagues (1979) and Purdy and Snyder (1985) uncovered authoritarian tendencies in the officials, with some of them attributing the feeling of power to their reason for refereeing. None of the officials in this case study mentioned anything remotely

similar to this. More notably, however, was the contrast between the studies conducted by Mitchell and colleagues (1982) and Purdy and Snyder, where a special attraction and an enthusiasm for the sport were the most important reasons for officiating. This case study illustrated that these officials were primarily motivated by the money they earned from officiating, which can be explained in part by the fact that they were all students and relied on this source of income to get through school.

Another aspect which may be contrasted with the existing literature is related to stress and officiating. It has been demonstrated through discussions with all the officials involved in this study that officiating in this intramural league was anything but stressful, and quite often the task was considered extremely boring for lack of action. This contrasted the work by Goldsmith and Williams (1992) with intramural volleyball and football officials. They concluded that the officials had a fear of failure and stress resulted from verbal abuse combined with the fact the officials had to referee their peers. They also hypothesized that this level of stress would be common to officials of all intramural sports. In the present case study, in which the officials also had to officiate their friends and classmates, stress attributed to officiating was minimal at most, and in fact many of the referees actually enjoyed officiating their peers:

> I really don't mind [reffing friends]. Like tonight, everybody is in Human Kinetics or Phys-ed so the next day you joke about it or the days leading up to

> it you talk about it. It is kind of fun, they are just out there to have a good skate and a couple of hits, that is about it. (R1)

Several key elements were absent in this case study, which have been cited as major contributors to stress for officials. The literature has demonstrated that often the most intimidating individuals in attendance for referees are the supervisors (Salmela & O'Leary, 1993; Weinberg & Richardson, 1990; Zoller, 1985). There was no supervision of officials noted in this case, however, the league convenor has now assumed the role of head referee and is present at all the games. Another stressor previously revealed has been large noisy crowds and obnoxious coaches (Taylor et al., 1990). Again these factors were not present in this league, as no teams had coaches and spectators were rarely present.

This case study further revealed aspects of officiating that have not been discussed in the literature to date. The revelation of the numerous factors which affected a referee's decision-making processes and style was most intriguing. Factors such as previous calls and the score of the game have been openly discussed in the media but in this study the officials themselves commented on these issues, allowing the observer a rare glimpse into the psyche of a sport official in action. Furthermore, issues more specific to this study were raised by the officials, including the effects of school demands, officiating multiple games, and a strong language barrier between the officials and many of the players.

Conclusions

A case study method was used in an attempt to explore and describe officiating in one case of intramural ice hockey. In an attempt to obtain a valid portrait, many precautions were taken before and during the study. For example, numerous sources of evidence were used to collect data, pilot studies were done to finalize the question guides and improve the skills needed for interviewing, and a weekly meeting with peers was held to review and improve the data collection process by reducing interviewer bias. Finally, the subjects were asked to validate the report. Based on the comments of the subjects during the validation interview sessions, the results presented after the first year were accurate. However, comments from the referee-in-chief and the convenor indicated that the 1993-94 season was atypical, and that the attitudes of the officials we questioned were a direct reflection on those officials themselves and not the intramural program.

Both the head referee and the convenor stressed that the observations in the first year could be explained by three key issues; a lack of motivation, laziness, and officials who weren't up-to-date in their qualifications. There has been a large turnover in officials for this league, and based on the observations made in the second year, it does appear as though the officials have taken a new attitude into the present season. The league administration was cognizant of the conduct of their officials in the 1993-94 season prior to the presentation of this case study.

The league has striven to improve its level of officiating and several changes have been made for the 1994-95 season.

In fact, the league has made one significant change in their rules and regulations as a result of this study. This in-depth analysis revealed a conflict between the officials and the administration concerning the automatic major penalties. The rule was originally designed to promote fairplay and deter players from committing serious infractions; the context of the game, however, altered the apparent benefits of this rule. Seven mins. for a major penalty had a negative effect on both the players and the officials - who were reluctant to call it because it was too severe in some cases. The league administration has decided to change the length of a major penalty to five mins.

This one sample revealed a great deal of insight into sport officiating, particularly at the intramural level. Generalizations to other officials cannot and should not be made based on the conclusions from this case study, however, the methodology can be used by other researchers and the data can be used for comparison. The case study is a picture of a society at that moment in time, or a snapshot of reality (Guba & Lincoln, 1981). This reality will change over time, as will the researcher's conception of it and there comes a time when the researcher must close the project based on this realization (Schatzman & Strauss, 1973).

In this case, the intramural referees were students officiating as a way to make money. Their student status jeopardized their work at times because they would be thinking about schoolwork while officiating or they wouldn't show up because they were completing a school related assignment. The officials perceived a relaxed atmosphere in the league and, as a result they sometimes deviated from the book by having sloppy behaviors such as resting on the boards and talking to spectators. The communication with players was sparse but was limited by the fact most players spoke French while the referees were English speaking.

The main roles of ensuring the safety of the participants, controlling the game and maintaining a flow to the contest appeared to be antagonistic. Specific rules were designed to promote fairplay, such as automatic major penalties for certain infractions. In theory, the officials had to call these penalties as majors to ensure the safety of the participants but in reality this did not always occur as too many penalties - especially majors - would disrupt the flow of the game and could result in the official losing control of the contest.

Other variables affected the officials' decision-making processes throughout a game. Whenever a possible infraction occurred, other than a purely technical call, the official in a two-person system instantly addressed countless questions: How severe was the infraction? Did it affect the developing play? How much time

was remaining in the game? What was the score of the game? Was my partner closer to the infraction? Did the team already have one or more penalties? The instantaneous processing of this information required an immediate decision; there was no time for reflection. Even in the relaxed atmosphere of intramural ice hockey - where there were no coaches and few spectators - the officiating phenomenon was found to be much more complex than it outwardly appeared.

Because the world of the sport official is an undeveloped area of research, descriptive studies such as this one, must first be conducted to reveal the reality before implementing strategies. This case study has practical implications for individuals responsible for implementing intramural ice hockey programs. Issues related to fair play, factors affecting decision-making processes, and officiating systems have been explored here, allowing intramural coordinators to postulate similar questions with their ice hockey programs and their officials. Considering the important role played by referees, and the multidimensional nature of their task, additional research of both qualitative and quantitative natures could only further our understanding of these figures.

References

Audette, S.M., Trudel, P., & Bernard, D. (1994). L'utilisation d'études d'archives lors d'analyses sur l'aggression au hockey sur glace. CAPHER/ACSEPL Research Supplement: 1(1), 129-139.

Alker, H., Straub, W., & Leary, J. (1973). Achieving consistency: A study of basketball officiating. Journal of Vocational Behavior, 3, 335-343.

Aresu, M., Bucarelli, P., & Marongiu, P. (1979). A preliminary investigation of the authoritarian tendencies in a group of sports referees. International Journal of Sport Psychology, 10, 42-51.

Askins, R. L., Carter, T. J., & Wood, M. (1981). Rule enforcement in a public setting: The case of basketball officiating. Qualitative Sociology, 4(2), 87-101.

Biddle, S. (1992). Attribution research and sport psychology. In R. N. Singer, M. Murphey, & L. K. Tennant (Eds.), Handbook of research on sport psychology (pp. 437-464). New York: Macmillan.

Bloom, B. S. (1953). Thought processes in lectures and discussions. Journal of General Education, 7, 160-169.

Boileau, R., Desharnais, R. & Larouche, R. (1986). La violation des règles au hockey pee-wee: Analyse contextuelle. In Groupe de recherche en sociologie et psychologie sociale de l'activité physique (Ed.), Rapport d'étude sur la mise en

échec au hockey pee-wee (pp. 103-125). Rapport remis à la Régie de la sécurité dans les sports du Québec.

Clegg, R., & Thompson, W. (1989). Modern sports officiating: A practical guide (4th ed.). Dubuque, IA: Wm. C. Brown.

Côté, J., Salmela, J., Baria, A., & Russell, S. (1993). Organizing and interpreting unstructured qualitative data. The Sport Psychologist, 7, 127-137.

Denzin, N. K, & Lincoln, Y. S. (1994). Introduction: Entering the field of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (pp. 1-17). Thousand Oaks, CA: Sage.

Earls, N. (1986). Research design, data collection, and analysis. Journal of Teaching in Physical Education, 6, 40-49.

Espagnac, S. (1987). The knight of the whistle. Olympic Message, 18, 33-37.

Fratzke, M. R. (1975). Personality and biographical traits of superior and average college basketball officials. Research Quarterly, 46(4), 484-488.

Gilbert, W., & Trudel, P. (1994, March). The use of stimulated recall interviews as a data collection technique in physical education and sport environments. Paper presented at the Annual Meeting of L'Association Quebecoise des Scienes de L'Activite Physique, Ottawa, ONT.

Gilbert, W., Trudel, P., & Gingras, A. (1994). Status of Canadian intramural ice hockey programs. Manuscript submitted for publication.

Goldsmith, P. A., & Williams, J. M. (1992). Perceived stressors for football and volleyball officials from three rating levels. Journal of Sport Behavior, 15(2), 106-118.

Graham, P. J. (1978). The changing college student: New directions for the intramural recreation sports program. In T. P. Sattler, P. J. Graham, & D. C. Bailey, (Eds.), Theoretical and operational aspects of intramural sports (pp. 9-18). West Point, NY: Leisure Press.

Greenlee, G. (1985). How to retain officials. Referee, 10(3), 51.

Guba, E. G., & Lincoln, Y. S. (1981). Effective evaluation. San Francisco: Jossey-Bass.

Kagan, N., Krathwohl, D. R., & Miller, R. (1963). Stimulated recall in therapy using videotape: A case study. Journal of Counselling Psychology, 10, 237-243.

Koslowsky, M., & Maoz, O. (1988). Commitment and personality variables as discriminators among sports referees. Journal of Sport and Exercise Psychology, 10, 262-269.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Newbury Park, CA: Sage.

Marcotte, G., & Simard, D. (1993). Fair play: An approach to hockey for the 1990s. In C. R. Castaldi, P. J. Bishop, & E. F. Hoerner (Eds.), Safety in ice hockey: Second volume (pp. 103-108). Philadelphia: American Society for Testing and Materials.

Mitchell, J. S., Leonard, W. M., & Schmitt, R. L. (1982). Sport officials' perceptions of fans, players, and their occupations: A comparative study of baseball and hockey. Journal of Sport Behavior, 5(2), 83-95.

Nelson, B. (1984, November). Secrets of success. Referee, 49-53.

Phillips, C. L. (1985). Sport group behavior and officials' perceptions. International Journal of Sport Psychology, 16, 1-11.

Purdy, D. E., & Snyder, E. E. (1985). A social profile of high school basketball officials. Journal of Sport Behavior, 8(1), 54-65.

Quain, R. J., & Purdy, D. A. (1988). Sport officials: Who are these people? Journal of Applied Research in Coaching and Athletics, 3(1), 60-74.

Quick, J. A. (1982). "Whistling while you work": The intramural official. Journal of the National Intramural-Recreational Sports Association, 6(2), 16-20.

Rains, P. (1984). The production of fairness: Officiating in the National Hockey League. Sociology of Sport Journal, 1, 150-162.

Rudolph, M. (1992). Hooking and holding (Rules 618 & 619). American Hockey Magazine, 13(7), 8,12.

Salmela, J. H., & O'Leary, K. D. (1993). Mental factors of expert professional boxing officials. Unpublished manuscript, University of Ottawa, School of Human Kinetics, Ottawa, Canada.

Schatzman, L., & Strauss, A. (1973). Field research: Strategies for a natural sociology. Englewood Cliffs, NJ: Prentice-Hall.

Smith, C. W. (1982). Performance and negotiations: A case study of a wrestling referee. Qualitative Sociology, 5(1), 33-45.

Spindler, G., & Spindler, L. (1992). Cultural process and ethnography: An anthropological perspecitve. In M. D. LeCompte, W. L. Millroy, & J. Preissle (Eds.), The handbook of qualitative research in education (pp. 53-92). San Diego, CA: Academic Press.

Staffo, D. F. (1983). The coach-referee relationship from an objective viewpoint. Journal of Physical Education, Recreation and Dance, 5, 56-57.

Taylor, A. H., Daniel, J. V., Leith, L., & Burke, R. J. (1990). Perceived stress, psychological burnout and paths to turnover intentions among sport officials. Journal of Applied Sport Psychology, 2, 84-97.

Teipel, D., Gerisch, G., & Busse, M. (1983). Evaluation of aggressive behavior in football. International Journal of Sport Psychology, 14, 228-242.

Tesch, R. (1990). Qualitative research analysis types and software tools. New York: Falmer Press.

Toliver, G. (1984). Training the basketball official for intramurals, and beyond!! Journal of the National Intramural-Recreational Sports Association, 8(2), 42-43.

Trudel, P., Côté, J., & Sylvestre, J. (in press). Observation of ice hockey referees. Journal of Sport Behavior.

Trudel, P., & Donohue, J. (November, 1993). Etude des procedures de collecte et d'analyse de donnees presentees aux lecteurs dans les articles de recherche qualitative. Paper presented at the conference for the North American Society for the Sociology of Sport, Ottawa, Canada.

van der Mars, H. (1989). Observation reliability: Issues and procedures. In P.W. Darst, D.B. Zakrajsek, & V.H. Mancini (Eds.), Analyzing physical education and sport instruction, (pp. 53-80). Champaign, IL: Human Kinetics.

Weinberg, R. S., & Richardson, P. A. (1990). Psychology of officiating. Champaign, IL: Human Kinetics.

Yin, R. K. (1989). Case study research: Design and methods (revised ed.). Newbury Park, CA: Sage.

Zeigler, E. (1979). Issues in North American sport and physical education. Washington: American Alliance for Health, Physical Education, and Recreation.

Zoller, S. (1985). Learning to live with stress. Referee, 5, 48-51.

An Inductive Analysis of Intramural Ice Hockey Officiating: A Case Study

Wade D. Gilbert

A revised research proposal: Chapters I,II,III

University of Ottawa

September 18, 1994

Table of Contents

Appendices

Preface to Revised Thesis Proposal

Several modifications were made to the thesis proposal based on the feedback provided by the evaluators following the presentation of the thesis research project. First, the title of the project has been changed from "An In-Depth Understanding of University Intramural Ice Hockey Officials' Experiences" to "An Inductive Analysis of Intramural Ice Hockey Officiating: A Case Study." This change has been made to more accurately reflect the intentions of the researcher and the results which will be obtained. This conclusion was arrived at after extensive discussion with the thesis advisor who directed me towards literature pertaining to case study research, such as Yin (1989) and Stake (1994). Indeed, this project encompasses more than an understanding of ice-hockey officials' experiences; the researcher has strived to obtain an accurate description of one particular case - the officials in the university intramural ice-hockey league - employing several methods of inquiry.

Several portions of the text were re-arranged, specifically between the Methods section and the Review of Literature section. The description of the selected methods was more appropriate for the Review of Literature chapter and was subsequently moved there based on the evaluators' suggestions.

This research project has been referred to as a case study, representing a slight change from the original research proposal. A review of case study

literature provided to the researcher, subsequent to the proposal, has led both the researcher and the advisor to conclude that this research is within the framework and definitions set forth by case study advocates. This research was concerned with one specific group of individuals in a real-life context and "case study is defined by interest in individual cases" (Stake, 1994, p. 236). Stake has further stated that a case may be considered a single individual or comprise a group of individuals, however, this is irrelevant so long as the researcher focuses on the one case at hand: "The time we spend concentrating our inquiry on the one may be long or short, but while we so concentrate, we are engaged in case study" (p. 236).

Numerous additional literature references were suggested and made available to the researcher by the advisor and the evaluators. This supplementary information proved extremely beneficial and the evaluators are greatly appreciated for their direction here. Several texts of note which were utilized included Case study research: Design and methods (Yin, 1989) and Psychology of officiating (Weinberg & Richardson, 1990).

Lastly, a sub-topic was added to the Review of Literature section, titled Sources of Evidence. This change was based on a suggestion from the advisor and was derived from the case study literature, in particular that of Yin (1989). Yin

has detailed six sources of evidence often utilized in case study research, four of which were used in this project.

An Inductive Analysis of Intramural Ice Hockey Officiating: A Case Study

A growing branch of athletics in North America are university and college intramurals. In Canada there is an organization devoted solely to the purpose of promoting intramural programs in schools of all sizes. The Canadian Intramural Recreation Association (CIRA) is, in fact, one of the largest recreation and sports networks in the country (CIRA, 1994).

Intramural athletics play a significant role in the university life of the average student. Intramural athletic leagues provide both current students, staff and alumni the opportunity to participate in a wide array of supervised athletic events. Graham (1978) foresaw the significance that intramurals would assume and proclaimed that the changing demographics of the collegiate student population would "result in intramural-recreational programs playing a greater and more important role in the collegiate society" (pp. 17-18). The success of these intramural programs depends to a large extent upon the quality of the sport officials who work in these environments (Quick, 1982; Toliver, 1984). The important role these programs now play in the university environment has increased the need for qualified officials, yet this class of sport officials has been largely ignored as research subjects.

The officials' environment, even outside of an intramural setting, has been neglected by researchers (Trudel, Côté, & Sylvestre, 1994). This has been illustrated by Espagnac (1987): "interviews and articles concentrating on this figure, who also has his place in the great sporting family, are few and far between" (p. 35). One way to obtain an initial overview of the everyday tasks and problems these officials encounter, and how they deal with them, would be to observe them in their natural environment over an extended period of time and have them discuss what they are doing.

Significance of the Study

The sport official is critical to the successful execution of any sporting event. Although several studies have examined the behaviors and characteristics of coaches, players and teachers, "there appears to be no research that examines the behavior of officials during competition" (Quain & Purdy, 1988, p. 64). Mitchell, Leonard, and Schmitt (1982) found that a complicated and provocative social maze surrounds the sport official. They stated that inductive research needs to be employed with minor league officials, and through an inductive strategy, "the more salient and hidden views of participants could be detected" (p. 92).

Referees in any sport will encounter pressure from crowds and competitors leading to stress as they must establish control and act as both judge and jury,

with very little time for thought (Teipel, Gerisch, & Busse, 1983). Mitchell et al. (1982) also indicated that the "sport official is required to make *public* judgments of players' performances and these judgments do not always correspond to the judgments that others make" (p. 84). This point refers to the almost constant criticism an official may encounter, as every call made will adversely affect one of the two teams.

Although officiating in any sport is demanding, officials in ice-hockey are forced to operate under conditions unlike any other sporting officials. They must be as physically fit as the players they monitor, they must perform the technically demanding skill of ice skating without flaw, they work in an extremely fast-paced environment, and they must also perform their primary task of controlling the game. The physical demands of ice-hockey officiating have been shown to be extremely strenuous. Wilkins, Peterson, and Quinney (1991) found that the heart rate of a referee is above 70% of maximal capacity for 70% of the game time.

It has also been suggested that perhaps intramural officiating is more strenuous than other forms of officiating because of several unique factors (Goldsmith & Williams, 1992). The referees at the intramural level face the additional task of objectively officiating their friends, classmates and professors.

Many guidelines and clinics have been developed to instruct officials and inform them of their roles, however, no one has ever asked the referees what they

themselves perceive their roles to be. Quain and Purdy (1988) have highlighted the need for more research in the area of sport officials, since little inquiry has surfaced to date. Biddle (1992) likewise stressed this point in the area of sport psychology and has stated that "the psychology of the sports official is also an underdeveloped area of study." (p 454). Clearly, there are many questions still to be posed with sport officials, and the answers will surely enhance our understanding of the complexities surrounding sport officials and the important role they play in sport.

This research project will take a "what's happening" approach in an attempt to develop a portrait of intramural ice-hockey officials in their natural environment. This proposed research is an example of the definition of a case study set forth by Yin (1989), who established three criteria for a case study: "investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used" (p. 23). The purpose of this case study will adhere to the statement made by Stake (1994), in that "study is undertaken because one wants a better understanding of this particular case" (p. 236). The findings from comprehensive observation and interviews with this unique group of officials will be compared and contrasted with the existing literature on both intramural officiating as well as sport officials in general. It is

felt that the selected methods will allow the researcher to obtain a better understanding of the university intramural ice-hockey referees and the league in which they perform their task.

Definitions

For the purpose of this study the following definitions will be used.

CAHA: The acronym for the Canadian Amateur Hockey Association. The association is the governing body of amateur hockey in Canada and has been "designed to promote and foster amateur hockey throughout Canada" (CAHA, 1992, p. 1).

Linesman: The two on-ice officials who work alongside the referee in the three-man system of officiating. The linesmen are responsible for monitoring positional and technical aspects of the game, such as off-sides and face-offs. The linesmen share these duties and they each select one end, or zone, of the ice surface to observe.

Penalty: The CAHA rule book has simply stated that a penalty is "The result of an infraction to the rules" (1993, p. 25).

Referee: The referee will typically be the most experienced official on the ice and "shall assess all penalties as prescribed by the rules for infractions thereof" (CAHA, 1993, p. 63). The referee may skate anywhere on the ice surface as deemed necessary to obtain the optimal view of the situation. This position may be considered more physically demanding as the referee must follow the play of the game from one end of the ice to the other, whereas the linesmen must assume a zone constituting one half of the ice surface.

Sport official: A neutral third party designated "to promote the normal progress of an athletic contest, as it was meant to proceed, with as little interference as possible" (Clegg & Thompson, 1989, p. 4).

Three-man system: This system refers to the typical ice-hockey procedure adhered to by referees. The majority of organized, and all professional and junior leagues, use this system. The three officials consist of one referee and two linesmen.

Two-man system: Situation in which two officials share all the inherent responsibilities of officiating. Both actors assume the role of the referee and the linesman combined, allowing them to make and act on any decision within the ice-hockey official's powers. This system is typically used in recreational hockey leagues as a means of reducing officiating expenses.

University intramural hockey league: The hockey program which "is designed to provide an opportunity to play hockey in a competitive, pleasant and secure atmosphere" (University of Ottawa, 1993, p. 2). The league is open to all students (part-time and full-time), employees and alumni.

Review of Literature

Sport officials are an integral component of any athletic event and researchers have largely used questionnaires and surveys to obtain data regarding a wide array of aspects ranging from basic demographics (Purdy & Snyder, 1985; Quain & Purdy, 1988) to psychological aspects (Alker, Straub, & Leary, 1973; Weinberg & Richardson, 1990) and authoritarian tendencies (Aresu, Bucarelli, & Marongiu, 1979). This literature has provided a basis for more in-depth future research regarding sport officials and their roles, characteristics, behaviors and thoughts. Existing research with sport officials has only just opened the door to their complex environment, and the role that they play in the athletic setting.

Role of the Sport Official

An appropriate starting point would be to explore what is considered to be the role of the sport official. The main task of any official is to regulate competition (Rains, 1984). Referees may be considered analogous to judges or policemen in that they are expected to observe and enforce the stated rules pertaining to that society. Teipel et al. (1983) echoed this sentiment in their definition of an official's role: "The referees conduct an established control or judge function" (p. 230). The judge and jury concept was also revealed in a study of basketball officials by Askins, Carter, and Wood (1981). They concluded through their participant observation methods that "jurors and basketball officials

share a similar task - to develop an interpretation of what 'really' happened" (p. 99).

The concepts of control and order are commonly found in descriptions of a referee's role. Smith (1982) addressed these points when he expressed that "the referee is responsible for maintaining social order in tenuous social situations" (p. 33). The notions of maintaining social order along with the technical aspects have been considered the two main characteristics of officiating (Askins et al., 1981).

Although control is extremely important, officials must not allow themselves to decide the outcome of the game. Smith (1982) has studied wrestling officials and has observed that even though the referee must take an active role in the match, "if the contest is proceeding smoothly the referee should almost become invisible" (p. 44). The notion of becoming invisible or allowing the game to proceed smoothly has also surfaced in a study by Rains (1984). His work with professional ice hockey officials revealed that an important function of the referee is to regulate competition and use discretion. The importance of maintaining the flow of the game has been supported by Rains when he stated that "officials are not expected to call every infraction of the rules; in fact, they are expected *not* to" (p. 152). Maintaining continuity or flow is also mentioned by Rudolph (1992), and furthermore he expressed that the flow of the game should be "a major

concern to officials" (p. 8). This has clearly demonstrated that an officials' role is more complex than simply assessing penalties, although rule comprehension is fundamental.

A thorough understanding of the regulations is considered imperative and the very reason many officials are released is because of their lack of comprehension (Rains, 1984). Rains underscored the serious consequences, although in this case representing the extreme, of an official misinterpreting a rule. One referee's contract was not renewed in the following season simply because he had made a rule misinterpretation which many felt cost a Boston Bruin's player the chance to win the league scoring title in the final game of the season. This last vignette has demonstrated that officiating, particularly at the professional level, may be considered an extremely stressful occupation.

Stress and Officiating

Many factors contribute to make the official's job a unique and stressful one. Phillips (1985) addressed the existence of a fundamental strain between officials and the other parties present at a sporting match. She concluded that the reason for this tension is "because officials view the game objectively while crowds, coaches, and players are emotionally involved" (p. 2). Sport officials at every level have been forced to perform their duties under the critical eyes of parents, friends and supervisors. Staffo (1983) illustrated this when he stated that

"officiating or refereeing, regardless of the sport, is usually a no-win situation" (p. 56). Perhaps the most daunting figures in attendance from the officials perspective are the supervisors (Salmela & O'Leary, 1993; Weinberg & Richardson, 1990). These individuals are constantly evaluating the official to determine their competence and the referees "must deal with the constant review process knowing that there is the possibility they may not be scheduled to a specific league or work at a site following the season solely because of a single performance" (Zoller, 1985, p. 48).

Goldsmith and Williams (1992) determined that there are numerous types of stress factors common to all officials, regardless of the sport. They stated that the "commonalties include: keeping control of the contest, maintaining fairness, feeling pressure to always make the right call, communicating decisions to others, and performing in a public setting" (p. 108). Several studies have tried to study the possible outcomes of working in such a stressful environment. Stress related to officiating has received considerable focus and has underscored the need for stress management training for officials. Taylor, Daniel, Leith, and Burke (1990) studied the effect perceived stress and psychological burnout may have on turnover intentions in officials. Their study examined 529 amateur soccer officials in Ontario and discovered that perceived stress and feelings of burnout

did indeed relate to turnover intentions. They also found that the strongest predictor of burnout was a fear of failure.

This result has been supported by Goldsmith and Williams (1992), Salmela and O'Leary (1993), and Weinberg and Richardson (1990). The fear of failure may directly result from a lack of confidence in conjunction with the outside forces which play on an officials decision-making processes. Performing in front of large, and often hostile audiences, has commonly been cited as the cause for this fear. Taylor and colleagues (1990) have illustrated this point when they stated that "Spectators, coaches and players are often highly judgmental of the referee's performance" (p. 93).

Besides stress attributed to a fear of failure, two other sources of anxiety have been revealed in the literature, those being a fear of inadequacy and a fear of loss of control (Salmela & O'Leary, 1993; Weinberg & Richardson, 1990). This was particularly evident in the study by Salmela and O'Leary in which professional boxing official Chuck Hassett illustrated the importance of establishing control very early in a match because "if you let him get away with it in the first two or three rounds, you can forget the next nine" (p. 14).

With all the aforementioned stress factors related to officiating, a logical question to pose to any referee would be: "Why do you continue to officiate?"

Reasons for Officiating

Several studies have researched the factors which affect the sport official while they work. It has been demonstrated that the position is often a stressful one, and Espagnac (1987), has even commented that officiating is considered "a thankless task, criticism, loneliness - few dream of becoming a referee" (p. 35).

A study by Mitchell et al. (1982) examined professional baseball and ice hockey officials, has provided some insight into why one would want to accept this role. Their research revealed that over 80% of the respondents had a special attraction to the sport itself.

Officiating also provided individuals with a source of income and one would suspect that this influence would be cited by officials as a primary reason for pursuing this occupation. Purdy and Snyders' (1985) study supported this assumption. In their investigation of 689 high school basketball officials in the state of Ohio, the extra income derived from refereeing was listed by 60% of the officials as one of the primary reasons for officiating. The money obtained from officiating was the third most significant reason for becoming an official, cited only behind an overall enthusiasm for sports (88%) and the challenge and excitement (87%).

There was one other interesting result which was obtained in Purdy and Snyder's study, and this is related to authoritarianism. Their research has showed

that 25% of the officials who responded suggested "a motivation lying in a dimension of authoritarianism" (p. 61). This has not traditionally not been discussed openly, although an earlier study by Aresu et al. (1979) focused on the possibility of a group of referees possessing authoritarian tendencies. They examined a total of 50 referees from the three sports of soccer, basketball and table-tennis. The study showed that soccer officials possessed the greatest power of the three types of officials as the rules of soccer provide the referee with the greatest range of discretion. Their analysis of the data obtained from the questionnaires demonstrated that there were indeed authoritarian traits found in sports referees. Furthermore, the results confirmed their hypothesis that there would be a direct "relationship between authoritarianism and the 'quantity' of power inherent in the arbitrator's role" (p. 47), as soccer officials showed the highest values of authoritarianism.

Similar findings resulted from a study undertaken by Koslowsky and Maoz (1988). They used a questionnaire to obtain data related to commitment and personality variables of soccer and track and field officials. Once again, it was found that the more dominant of the two groups of officials were the soccer referees. This would be in line with the logic of Aresu et al. (1979) who claimed that officials in sports where more discretion is allowed will possess higher levels of authoritarian traits.

Sports such as ice hockey, soccer, and North American football may be considered ones in which the referees are encouraged to use their judgment and discretion at all times throughout a match. This point is illustrated in the comments from a college football official interviewed by Nelson (1984): "I could throw a yellow flag on almost every play ... but, of course, that would disrupt a game. So you develop the knack of knowing what to call and what NOT to call" (p. 52).

Although individual differences must be considered, it has been found that generally one officiates because of a love of the game, a desire to maintain close contact with a particular sport and the feeling of power that often comes with the role. The aforementioned factors are not sufficient on their own to allow an individual to become an accepted and successful official. Certain characteristics have been considered desirable or even essential to achieve success in officiating.

Requisites of Successful Officiating

Research has demonstrated that an individual has a greater chance of obtaining success in officiating if certain distinct characteristics are developed. Some of the more commonly cited facets include: confidence, assertiveness, control (Baer, 1991; Smith, 1982; Taylor et al., 1990) concentration (Askins et al., 1981) consistency (Alker et al., 1973; Quain & Purdy, 1988; Quick, 1982; Robb, 1980) judgment, discretion (Butler, 1991; Rains, 1984) self-respect (Davis, 1991)

strong communication skills (Grunska, 1988) and experience (Askins, Carter, & Wood, 1981; Greenlee, 1985). Weinberg and Richardson (1990) have furthermore summarized what they have found to be qualities of good officials in their literature review as the following: consistency, rapport, decisiveness, poise, integrity, judgment, confidence, and enjoyment/motivation.

An early study by Fratzke (1975) investigated the possibility of personality trait differences existing between expert and average college basketball officials. Fratzke did indeed find measurable differences between the two groups. The results demonstrated that superior officials were more self-sufficient, more self-assured, and more self-reliant. Fratzke characterized the expert male basketball official as "temperamentally independent, accustomed to making his own decisions, and taking action into his own hands" (p. 487).

The fact that individuals perceive the same situation in different ways must also be considered when discussing successful versus average officials. Phillips (1985) has found with high school basketball officials that a difference in perception between different levels of referees existed. Phillips asked 20 officials if they thought there would be differences in how the crowd, coaches, and players would evaluate their officiating ability. The findings demonstrated that "inexperienced officials perceived the behavior of all groups as more negative than did experienced officials" (p. 7).

The role experience plays in officiating has been examined by other researchers as well. Experience in the field, particularly with sport officiating, has been cited as perhaps the most crucial ingredient for successful officials (Greenlee, 1985). Askins et al. (1981), and Quick (1982), have demonstrated that experienced officials view the contest differently than their novice counterparts. Quick illustrated this fact in an overview of intramural officials: "the experienced official as a rule will not be too technical in his calls since to him the spirit of the game should be more important than the formal requirements of the game structure" (p. 19). Experience further allows the official to refer to prior game situations when faced with immediate incidents. Askins et al. noted that one of the basketball officials in their study explained that "the experienced official simply knows what it is he is seeing because he has seen it before" (p. 97).

Although the importance of experience must be considered, perhaps the single most crucial ingredient required to become a successful referee is consistency (Alker et al., 1973; Quain & Purdy, 1988; Rains, 1984; Robb, 1980). In many sports there is often more than one referee and in these situations not only is intrapersonal consistency necessary, but also inter individual consistency. Besides being considered the most crucial element of officiating, consistency is also often considered to be the central performance problem (Alker et al., 1973). Alker and colleagues found with their study of collegiate and professional

basketball officials that the repercussions of inconsistency may be severe. The following statement concerning this inconsistency has been extracted from their study:

> Referees who make inconsistent judgments during a game must incur the disapproval of spectators and coaches alike. Such inconsistencies invite explanations of their decisions in terms of either motivated bias or incompetence. Either accusation, if widely believed, could turn a highly competitive situation into an exercise in uncontrollable aggression, either by the teams, or the spectators, or both. (p. 341)

It has been determined that all of the aforementioned characteristics are requisite for any official, if they wish to become respected and successful referees. Many of the aspects related to officiating which have already been presented may take on a slightly different and more complex meaning for an individual who chooses to referee at the intramural level of athletics.

Intramural Officiating

As previously mentioned, little research has been published relating to the intramural official. This may be considered unusual as intramural officials take on an extremely important role and often determine the success of the intramural program. Toliver (1984) has stressed this point and has suggested that "the success or failure of an intramural sports program rests with the quality of

officiating" (p. 42). The importance of good officiating at the intramural level is critical to the very existence of the program itself. Quick (1982) concluded that "the quality of officiating experienced during an intramural contest often leaves a lasting impression on intramural participants" (p. 16). No research has yet to explore the full range of factors which affect officials in this unique setting, however, one study has found that stress was a constant regardless of the context in which a referee must work.

The published review by Goldsmith and Williams (1992) using questionnaires examined perceived stressors in 99 sports officials from the intramural sports of volleyball and football. Intramural officials were found to have experienced some of the same stressors as non-intramural officials, as well as some unique stressors. The study was compared to a similar one done by Taylor and Daniel (1987) in which soccer officials were examined. Both studies revealed that the most stress was derived from a fear of failure and the least amount of stress from a fear of physical harm. Two other factors which were found to contribute to stress in intramural officials were verbal abuse and pressure of the game. Goldsmith and Williams (1992) have formulated several possible reasons for this additional stress. First, they cited the added pressure inherent in officiating peers. They also referred to evidence from Craven, Hollister, and McMinn (1984) from which they suggested that "intramural officials frequently

complain of frustration, anxiety and burnout from negative confrontations with players and/or coaches" (p. 107).

A significant revelation was unearthed by Mass (1978) regarding intramural officiating. These findings were but a small piece of a large study completed by Mass on student perceptions of their intramural programs. One of the main reasons cited for participating in an intramural program was the opportunity to play in a competitive environment. Mass surveyed 539 college intramural participants and found that 60% of them sought competitive intramural experiences. A high level of athletic competition will result in the need for competent referees to officiate these games. It is interesting to note, however, that when these same subjects were asked to reveal how intramurals could best be improved, the most prevalent response was to improve the quality of officiating. This study demonstrated that more research is needed with intramural officials to determine their perceptions, and if indeed the quality is considered to be poor, and the reasons attributed to this.

It is evident from the lack of available research findings that the intramural official, in particular the intramural ice hockey official, has yet to be examined in any detail. A study of university intramural ice hockey officials was initiated in the fall of 1993 which allowed the familiarization with various forms of qualitative data collection and analysis.

Choice of Sources of Evidence

Yin (1989) suggested that "evidence for case studies comes from six sources: documentation, archival records, interviews, direct observation, participant-observation, and physical artifacts" (p. 84). Yin also indicated that the relevance of these sources will vary from case to case. For this case study, four of the aforementioned sources will be utilized, those being; documents, archival records, interviews and direct observation.

This type of multiple-method approach has been advocated by numerous researchers when attempting to obtain a better understanding of subjects and their environments. Researchers such as Denzin and Lincoln (1994) claimed that the qualitative researcher may be viewed as a bricoleur. Levi-Strauss (1966) defined a bricoleur as a "Jack of all trades or a kind of professional do-it-yourself person" (p. 17). Essentially, Denzin and Lincoln stated that a qualitative researcher should not limit themselves to a specific form of data collection; instead the researcher should employ whatever methods they feel necessary at the time "to get a better fix on the subject matter at hand" (p. 2). Denzin and Lincoln continued to explain that the idea of the researcher as a bricoleur, or Jack of all trades, as being essential for meaningful qualitative data collection, and "the product of the *bricoleur's* labor is a bricolage, a complex, dense, reflexive, collagelike creation that represents the researcher's images, understandings, and

interpretations of the world or phenomenon under analysis" (p. 3). The researcher believes that by utilizing multiple data sources he will be able to successfully observe and record the reality of the subjects in question.

Archival records.

This type of documentation may include numerous types of records, including such sources as: service records, organizational records, maps and charts, lists, survey; data, and personal records (Yin, 1989). Lincoln and Guba (1985) have noted that there are many reasons why these types of documents should be used more often. These reasons include the relative ease of availability, they are considered a stable source of information, they usually contain a great deal of relevant information, and as Lincoln and Guba themselves state, "they are, unlike human respondents, nonreactive" (p. 277).

Yin, however, has issued a word of caution for researchers selecting to use archival records for their case studies. Records which have been produced by other parties and used in the case study may not be totally accurate. It is also imperative for the researcher to consider the context in which the archival records were produced, as Yin notes: "Most archival records were produced for a specific purpose and a specific audience (other than the case study investigation), and these conditions must be fully appreciated in order to interpret the usefulness of any archival records" (p. 88). These types of documents may provide insight for

the researcher, but other factors must be considered when interpreting data of this nature.

Interviews.

Interviews play an essential role in case study research, and they are often considered to be crucial to the success of any case study (Yin, 1989). It is for this reason that several types of interviews will be conducted with the subjects in this case study, including stimulated recall, informal conversational interviews and focused or structured interviews.

Stimulated recall: The use of stimulated recall interviews to capture insight into subject's cognitive processes, or reflection on action, has been rather limited to other fields of research, although there has just recently been a growing trend to employ this technique in the physical education environment (Gilbert & Trudel, 1994). Benjamin Bloom (1953) has most often been credited with developing the stimulated recall technique as a research tool. Bloom originally used the technique in a study which attempted to answer questions about student thoughts during lecture and discussion classes. These classes were audio taped and subsequently played back to the students in post-class interviews and stopped at critical points at which the subjects were asked to describe their thoughts which occurred in the original situation. The first researchers to employ stimulated recall techniques with video appears to be Kagan, Krathwohl and Miller (1963).

They used both video and audio recording to observe interactive sessions involving psychological counselors and their clients.

The method has resulted in vivid descriptions of both teacher's and student's interactive thoughts and perceptions. Many researchers have concluded that their use of stimulated recall interviews have enabled them to collect fascinating data which they would not have been able to retrieve with more traditional data collection techniques (Artzt & Armour-Thomas, 1992; Bay & Bryan, 1991; Edwards & Marland, 1984; Eskelinen, 1991; Martin, 1987; Parker & Gehrke, 1986; Peterson & Swing, 1982; Taves, Hutchinson, & Freeman, 1992; Westerman, 1991). The available literature has demonstrated that stimulated recall interviews have proven to be a useful and important research tool, particularly in the physical education and sport environment.

Informal conversational interviews: This type of unstructured interviewing may be considered desirable in case studies when the researcher must rely on the informant to provide both the questions and the answers at the same time. With unstructured interviewing, "the problem of interest is expected to arise from the respondent's reaction to the broad issue raised by the inquirer" (Guba & Lincoln, 1981, p. 155). The researcher can use this type of interviewing to not only obtain information about the immediate environment, but also as a source of further leads to corroboratory evidence.

The strength and purpose of this type of interviewing has further been outlined in a qualitative interview guide developed by Patton (1987):

> This approach is particularly useful where the evaluator can stay in the situation for some period of time, so that he or she is not dependent upon a single interview to collect all the information needed. Interview questions will change over time, and each interview builds on the preceding ones, expanding information that was picked up previously, moving in new directions, seeking elucidations and elaborations from various participants in their own terms. (p. 110).

This success of this type of interviewing, however, is highly dependent upon the capabilities of the researcher, in particular the interviewers conversational skills.

Focused interview: Focused or structured interviews are suggested when the interviewer knows ahead of time what information is desired for the study. The interviewer may still wander off the pre-determined guide when appropriate situations arise with the informant, assuming a conversational manner (Yin, 1989). The use of an interview guide for some of the interviews was selected based on the benefits derived from the use of this method as stated by Patton (1987):

> The advantage of an interview guide is that it makes sure the interviewer has carefully decided how best to use the limited time available in an interview situation. The interview guide helps make interviewing different people more systematic and comprehensive by delimiting the issues to be discussed in the interview. (p. 111).

As with other types of interviewing, the accuracy of the data relies upon the communication skills of both the interviewer and the respondent.

Direct observation.

Systematic observation: Systematic observation instruments in particular, have been widely utilized to collect data on subject's behaviors in physical education and athletic settings (Darst, Zakrajsek, & Mancini, 1989; Placek & Locke, 1986; Silverman, 1991; Trudel, Côté, & Donohue, 1993). Systematic observation methods have been utilized for many years in various educational domains, but only recently have these techniques been transferred to the physical education and sport environments. This form of data collection has since garnered much attention from researchers in these fields. A recent compilation of some of the existing recording instruments used in these domains has been compiled by Darst, Zakrajsek and Mancini, with a list of over 30 different instruments.

Although systematic observation has played a major role in physical education research, there are several limitations one must be conscious of; the four most significant limitations have been summarized by van der Mars (1989) as follows: (a) it concentrates only on observable events and behaviours, (b) it produces only descriptive information, (c) descriptive data alone cannot give practitioners instructions as to what should be changed in their programs, and (d) results are always contextual.

These limitations do not render this type of data collection useless, in fact a great deal of researchers have noted the limitations and successfully conducted progressive research in the physical education and sport fields (Trudel, Côté, & Donohue, 1993). Trudel et al. revealed that in the field of coaching alone over the last 13 years, a total of 19 articles which have utilized systematic observation techniques have been published.

The observation instrument used in the first part of the study to code the referee's behaviors during the games was a modified version of the Systematic Observation of Referees' Behaviors coding form (SORB). This interval recording system (6 seconds of observation followed by 6 seconds of coding), was developed by Trudel, Côté, and Sylvestre (1994) to allow a researcher to develop a portrait of an ice hockey referee's behaviors in an actual game situation.

Non-participant observation: Another form of direct observation in ethnographic or case study research is known as non-participant observation or note-taking. The importance of being in the field when the action takes place is considered an essential component of this type of research (Spindler & Spindler, 1992). The researcher must absorb as much information as possible from the environment, and the best way to record this data is by making frequent and thorough notes while in the field. This type of data collection is often difficult as the researcher may distracted by numerous stimuli while in the setting, and Morse (1994) suggests that "These notes should be descriptive, and any reflection or conjecture should be note elsewhere, separate from the example" (p. 28).

The use of field notes has been considered advantageous over other forms of data collection in the field, such as mechanical recording, by researchers such as Lincoln and Guba (1985). Some of the more notable advantages of this method include keeping the investigator alert and responsive and eliminating any possibility of mechanical difficulties which are often encountered with recording devices.

Methods

The proposed research is part of a two year case study of a university intramural ice-hockey league and its officials. The purpose of the first year was to collect preliminary data using various sources of evidence such as stimulated recall interviews, archival records, non-participant observation and focused interviews. The data will be analyzed as discussed in the following pages. The second year of the study will allow the researcher to collect supporting evidence about the case, through validation interviews with the informants and additional non-participant observation in the field.

Subjects

In case study research it is imperative to provide background information not only concerning the informants involved but also about the setting. The Wednesday night intramural body-contact hockey league employs eight referees to officiate 12 teams over the course of the season. The league utilizes the two-man system of ice-hockey officiating, as described previously in this paper. The officials are all current university students, with varying degrees of officiating qualifications and experience. The officials who were questioned in the first year of the study all had previous experience officiating in the intramural league, however, not all of them had officiated in this particular body-contact league. The body-contact league was considered much more advanced in the calibre of

play than the non-contact league, also run by the intramural program. The body-contact league is considered much more advanced in the calibre of play of the players. Each game was allotted 50 minutes for completion and usually consisted of three 15 minute running time periods.

Although the league permits physical contact between the players, the league has developed rules specific to this league pertaining to fair play. The league is very concerned about the safety of the players and the officials and therefore has constructed a point system whereby a team may accumulate up to 15 points in a game. There are two ways a team may receive points; production points up to a total of nine points and behavior points up to a total of six points. The systems are broken down as follows:

Production points

winning a period = 2 points, tieing a period = 1 point, winning a game = 3 points, tieing a game = 2 points.

Behavior points

Minor penalties: 0 - 2 = 4 points, 3 = 3 points, 4 = 2 points, 5 = 1 points, >5 = 0 points.

Major penalties: 0 = 2 points, 1 = 1 point, >2 = 0 points.

The league has also predetermined certain infractions such as cross-checking and elbowing as major penalties, whereas in most organized hockey leagues these

are considered minor penalties. As a result of these measures, the league and the officials hope to considerably reduce the amount of rough play in the league.

Instruments

First year.

The visual recording of the ice hockey games was accomplished through the use of a color video cassette recorder (JVC BR-6200U). The video was enhanced by the addition of audio recording. This was achieved through the use of a wireless microphone which the referee wore during the game (TELEX WT-50). The interviews themselves were recorded on 90 minute audio tapes. This was accomplished by using a soundgrabber connected to an audio cassette recorder (SONY TCM-38V).

The interviews were transcribed onto a MacIntosh desktop computer, using the HyperQual qualitative data analysis software application.

Second year.

The researcher in the second year of the study could be classified as a non-participant observer, therefore instruments that will be used will be notepads and a cassette recorder. The informal interviews and the notes will be transcribed onto a MacIntosh desktop computer, specifically into the HyperQual qualitative data analysis software application.

Procedures

First year.

Video recording: Twelve intramural ice hockey games were recorded with the above mentioned equipment. An undergraduate student using some of the data for his own research paper operated the video equipment allowing the researcher to observe the game and take field notes which contributed to the formulation of interview questions. The games were recorded in full, commencing with the warm-up and terminating once the official left the ice surface.

Audio recording: One referee in each game wore a wireless microphone which allowed the researcher to listen to game comments while the game proceeded. This also provided additional stimulus for the subjects in the interviews as they were able to both see and hear what they were doing in the game. Both the video assistant and the researcher wore headphones during the game. This ensured that the microphone was functioning properly and allowed the researcher to formulate questions specific to the game for the interview.

Interview process: Three types of interviews were performed with each of the four subjects. The first interview with each referee was a background interview. This session was audio taped and the researcher asked the subject a set of predetermined questions regarding their officiating history and experience

(Appendix A). In the second interview the referee was asked to reply to several more specific questions related to the intramural league, refereeing style, and differences between the two-man and three-man systems of officiating. Following this, the subject was asked to view a videotaped game from another league which also utilized the two-man system, and try to relate their previous responses to an actual game situation. This interview served numerous functions. First it provided the researcher with an additional opportunity to establish rapport with the subject, an aspect considered to be crucial to the successful use of the interview and stimulated recall technique (Bloom, 1953; Calderhead, 1981). Secondly, it allowed both the researcher and the referee to become more comfortable with the instruments and the setting. Lastly, this interview provided the subject with an initial chance to discuss events happening on the videotape.

The third type of interview, stimulated recall interviewing, was used at least two times with each referee. The situation was similar to the general interviews, however now the subjects were asked to comment on their own performances. Research has revealed that the taped event should be observed as close as possible to the completion of the episode (Bloom, 1953; Fernandez-Balboa, 1991). It is for this reason that the interviews took place immediately following the second game of a two game shift for the referee. The use of a meeting room was

obtained from the arena management thereby eliminating travel time to an interview site.

The initial post game interview with each referee commenced with a "what's happening?" statement by the researcher. The purpose here was to let the subject walk the researcher through the game, explaining along the way what they were doing and why. There was no pre-determined questions for this interview and the subject controlled the playback of the tape, stopping it to expand on the situation when they desired. The second and third interviews commenced in much the same manner as the first post-game interview however, the researcher took some predetermined questions into the discussion period. These questions were a direct result of an initial analysis of the background, general and first interviews. The researcher asked the referees to expand on areas which they had previously mentioned but appeared to be lacking in thoroughness.

It was determined late in the season that it would be desirable to conduct a year-end summary interview with each of the four subjects as well as the referee-in-chief. The purpose of these interviews was to present the subjects with the data from the systematic observation and ask them to comment on the findings and their appropriateness. It was also felt that these interviews would allow the subjects to put the past year in perspective and discuss any topics that perhaps were not discussed in the previous interviews. A general interview guideline was

developed based on a review of the earlier interviews (Appendix B). More specific questions were also posed with each of the four subjects which were videotaped, with regards to the findings from the coding of these tapes. An example of the questions for one of the referees may be found in Appendix C. A brief overview describing all the various types of interviews conducted has been provided in Appendix D.

Second year.

Interview process: Two types of interviews will be conducted in the second year of the study. In an attempt to test for factual and interpretative accuracy, and also to provide evidence of credibility (Lincoln & Guba, 1985; Schatzman & Strauss, 1973), a member checking procedure will be used upon completion of the first year of the study. A preliminary portrait of the league and its officials will be prepared and submitted to the officials for a review of its accuracy. The subjects will be instructed to read this validation document and make written comments on it. The right hand margin of this paper will be purposely enlarged to provide the officials with space to express their views, which subsequently will be discussed in the validation interviews. A cover letter has been prepared to accompany the validation document (Appendix E).

The other type of interviewing to be used in the second part of the study, which will constitute the bulk of the data collection, will be informal

conversational interviews. These interviews will take place in the field with the subjects throughout the observation period. The data collected from these informal interview sessions will be supplemented by extensive note taking while observing in the field.

Data Analysis

First year.

Discussion of the analysis of the data collected from the first year of the study will be brief, as this process is ongoing and incomplete. It is hoped, however, that by presenting some of the preliminary findings that the purpose of the second year of the research will become clearer for the readers of this proposal.

Coding of the videotaped games was completed by the researcher together with an undergraduate assistant. The data was retrieved from the videotaped games through the use of the revised version of the SORB. Several minor modifications were necessary in the SORB for use in this study as the subjects under observation were officials in the two-man system of officiating. In the two-man system, two officials share all the responsibilities of a referee in the more traditional three-man system. For this reason, several categories had to be added to include all the behaviors of the subjects in this study (Appendix F). The researcher, together with two colleagues familiar with the study, discussed the

inclusion of the new categories until agreement was reached and all the observed behaviors fit into a category. The determination of these new categories was completed through approximately two hours of coding with the original version of the SORB until saturation was reached.

An audio-cassette which was preprogrammed with cues at six second intervals was used in conjunction with the SORB. All referee behaviors were recorded from the drop of the puck at the start of each period until the horn sounded to end each period. No behaviors were recorded in-between periods, and if two behaviors occurred at the same time the analyst coded the behavior which appeared first on the coding grid.

Inter-observer agreement was assessed at three times throughout the coding process. Three tapes of different games were coded at different times, two before the actual coding commenced and one after half of the tapes were coded. The reliability was checked after each of these three sessions, and progression to the next tape only occurred once the reliability rate was acceptable. The test used for reliability was the Scored-Interval method, considered to be the most rigorous method for measuring observer reliability with interval recording (van der Mars, 1989). The level of inter observer agreement was over the minimum standard of 80% for all three of the reliability tests. The overall reliability score for all the components over the three tests measured 94.8% (961/1014).

The SORB provides information on the behaviors together with their objectives and directions. The results for one of the subjects is provided in Appendix G. These results were subsequently presented to the officials in the summary interviews. All the data was synthesized for one referee in particular which served as a project in a graduate course (APA 531 i) for this researcher. The combination of both the data from the systematic observation and the qualitative interviewing proved extremely beneficial when attempting to describe and understand the behaviors of this official. Preliminary analysis of interview transcripts was also conducted throughout the first year of the study. All the interviews were transcribed into a microcomputer thereby providing the researcher with a hard copy of the discussion. This process was done immediately following the interview allowing the researcher to review the text prior to the next field session. Corbin and Strauss (1990) suggested that "analysis is necessary from the start because it is used to direct the next interview and observations" (p. 6).

Weekly meetings were held to discuss and present the findings with two fellow researchers who were familiar with the study. These meetings were used to reduce or eliminate the interviewer bias that may arise. It was hoped that these individuals would function as what Trudel and Donohue (1993) have termed "ange-gardien." Trudel and Donohue concluded that an assistant or "ange-

gardien" may provide a form of credibility to the research process by stimulating the researcher to observe the whole picture as opposed to taking a narrow, biased focus. The combination of peer examinations, comprehensive field notes, and mechanically recorded data reduced the possible threats to both the reliability and validity of the study (LeCompte & Goetz, 1982).

The interviews with the referees were analyzed through the process of inductive analysis and coding. The first step consisted of dividing the text from the interviews into what Tesch (1990) has called "meaning units." Meaning units are pieces of text which contain one idea and may be comprehensible on their own outside of the context of the transcript. The meaning units were subsequently given tags, and by creating tags the researcher "aims to produce a set of concepts which adequately represent the information included in the interview transcripts" (Côté, Salmela, Baria, & Russell, 1993, p. 131).

The next step was to group together tags with similar meanings. These groups of tags formed categories which allowed the text to be reviewed in an organized fashion (Tesch, 1990). Categories were continually formed until a saturation point was attained. Côté et al. (1993) stated that "saturation is reached when the categorizing of new data fits adequately into the existing organizing system without the emergence of new themes or categories" (p. 132). Several

versions of the categories were developed and the most recent one is illustrated in Appendix H.

Second year.

The data collected in the second year of the study will be checked against the findings from interviews conducted in the initial phase of the study conducted over the past year. It is hypothesized that similarities will arise and a portrait may be developed to describe the officials' behaviors and experiences in this setting. The importance of comparing data from numerous sources in qualitative research has been noted by several authors (Lincoln & Guba, 1985; Marshall & Rossman, 1989; Morse, 1994; Pitman & Maxwell, 1992) and is commonly referred to as triangulation. An initial picture has been obtained from the data recovered in the first year of the study, however, through continual observation and with different methods of data collection a more accurate and valid representation will be obtained. The significant value of data triangulation has been summarized by Pitman and Maxwell (1992) when they stated that "this layering of data across time, informants, events, documents, and so on is an essential validation technique for conclusions and recommendations" (p. 763).

Once all the text has been categorized and a saturation point has been reached, this will allow the researcher to illustrate in conjunction with direct

quotes from the interviews conducted in both years of the study, the reality of the ice hockey referees under observation.

Pilot Testing of Instrumentation and Procedures

The researcher of this proposal has utilized the proposed instruments while actively engaging in the study conducted in the same setting over the 1993-94 intramural hockey season. This has allowed the researcher to become comfortable with the instrumentation and further develop and expand on the methodology to be used in the proposed study. The researcher has developed both considerable trust and rapport with many of the referees in the study, most of whom have indicated that they will be returning for the fall 1994 session. It must also be noted that this research project will directly benefit the intramural ice hockey league through consultation with and presentation of the results to the coordinator of the intramural program at the university. This individual has graciously aided the researcher throughout the initial phase of the project and has expressed his desire to assist in the successful completion of the proposed research for the fall of 1994.

The researcher will also observe referees in a similar league over the summer of 1994 on several occasions, using informal interviews and note taking, in an effort to become more adept at using these techniques before the 1994 intramural season commences in September.

References

Alker, H., Straub, W., & Leary, J. (1973). Achieving consistency: A study of basketball officiating. Journal of Vocational Behavior, 3, 335-343.

Aresu, M., Bucarelli, P., & Marongiu, P. (1979). A preliminary investigation of the authoritarian tendencies in a group of sports referees. International Journal of Sport Psychology, 10, 42-51.

Artzt, A. F., & Armour-Thomas, E. (1992). Development of a cognitive-metacognitive framework for protocol analysis of mathematical problem solving in small groups. Cognition and Instruction, 9(2), 137-175.

Askins, R. L., Carter, T. J., & Wood, M. (1981). Rule enforcement in a public setting: The case of basketball officiating. Qualitative Sociology, 4(2), 87-101.

Baer, A. (1991, April). Properly handling cautions and ejections. Referee, 60, 62.

Bay, M., & Bryan, T. H. (1991). Teacher's reports of their thinking about at-risk learners and others. Exceptionality, 2(3), 127-139.

Biddle, S. (1992). Attribution research and sport psychology. In R. N. Singer, M. Murphey, & L. K. Tennant (Eds.), Handbook of research on sport psychology (pp. 437-464). New York: Macmillan.

Bloom, B. S. (1953). Thought processes in lectures and discussions. Journal of General Education, 7, 160-169.

Butler, M. (1991, May). When and how to use the power of ejection. Referee, 59-60.

Calderhead, J. (1981). Stimulated recall: A method for research on teaching. British Journal of Educational Psychology, 51, 211-217.

Canadian Amateur Hockey Association. (1992). Constitution, by-laws, regulations, history. [Brochure]. Ottawa, ONT: Author.

Canadian Amateur Hockey Association. (1993). Official hockey rules. [Brochure]. Ottawa, ONT: Author.

Canadian Intramural Recreation Association. (1994). A step in the right direction. [Brochure]. Ottawa, ONT: Author.

Clegg, R., & Thompson, W. (1989). Modern sports officiating: A practical guide (4th ed.). Dubuque, IA: Wm. C. Brown.

Corbin, J., & Strauss, A. (1990). Grounded theory research: Procedures, canons, and evaluative criteria. Qualitative Sociology, 13(1), 3-21.

Côté, J., Salmela, J., Baria, A., & Russell, S. (1993). Organizing and interpreting unstructured qualitative data. The Sport Psychologist, 7, 127-137.

Craven, J., Hollister, K., & McMinn, W. (1984). Are your officials going to cope or cop-out? Interpretative aspects of intramural-recreational sports.

Proceedings from the Thirty-fifth Annual Intramural-Recreational Sports Association Conference, 101-118.

Darst, P. W., Zakrajsek, D. B., & Mancini, V. H. (1989). Analyzing physical education and sport instruction (2nd ed.). Champaign, IL: Human Kinetics.

Davis, K. (1991, April). Handling sanctions for unsportmanlike acts. Referee, 71.

Denzin, N. K, & Lincoln, Y. S. (1994). Introduction: Entering the field of qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (pp. 1-17). Thousand Oaks, CA: Sage.

Edwards, J., & Marland, P. (1984). What are students really thinking? Educational Leadership, 42(3), 63-67.

Espagnac, S. (1987). The knight of the whistle. Olympic message, 18, 33-37.

Eskelinen, T. (1991). Guidance counsellor and student perceptions of counselling lessons in Finnish comprehensive school. International Journal for the Advancement of Counselling, 14, 263-271.

Fernandez-Balboa, J. M. (1991). Beliefs, interactive thoughts, and actions of physical education student teachers regarding pupil misbehaviors. Journal of Teaching in Physical Education, 11(1), 59-77.

Fratzke, M. R. (1975). Personality and biographical traits of superior and average college basketball officials. Research Quarterly, 46(4), 484-488.

Gilbert, W., & Trudel, P. (1994, March). The use of stimulated recall interviews as a data collection technique in physical education and sport environments. Paper presented at the Annual Meeting of L'Association Quebecoise des Scienes de L'Activite Physique, Ottawa, ONT.

Goldsmith, P. A., & Williams, J. M. (1992). Perceived stressors for football and volleyball officials from three rating levels. Journal of Sport Behavior, 15(2), 106-118.

Graham, P. J. (1978). The changing college student: New directions for the intramural recreation sports program. In T. P. Sattler, P. J. Graham, & D. C. Bailey, (Eds.), Theoretical and operational aspects of intramural sports (pp. 9-18). West Point, NY: Leisure Press.

Greenlee, G. (1985). How to retain officials. Referee, 10(3), 51.

Grunska, J. (1988, September). Officiating behavior: Personal touches. Referee, 43,46.

Guba, E. G., & Lincoln, Y. S. (1981). Effective evaluation. San Francisco: Jossey-Bass.

Kagan, N., Krathwohl, D. R., & Miller, R. (1963). Stimulated recall in therapy using videotape: A case study. Journal of Counselling Psychology, 10, 237-243.

Koslowsky, M., & Maoz, O. (1988). Commitment and personality variables as discriminators among sports referees. Journal of Sport and Exercise Psychology, 10, 262-269.

LeCompte, M. D., & Goetz, J. P. (1982). Problems of reliability and validity in ethnographic research. Review of Educational Research, 52(1), 31-60.

Levi-Strauss, C. (1966). The savage mind (2nd ed.). Chicago: University of Chicago Press.

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Newbury Park, CA: Sage.

Marshall, C., & Rossman, G. B. (1989). Designing qualitative research. Newbury Park, CA: Sage.

Martin, D. V. (1987). Use of stimulated recall in videotape analysis of student teacher performance. Action in Teacher Education, 9(3), 71-83.

Mass, G. (1978). Student perceptions of the intramural program. In T. P. Sattler, P. J. Graham, & D. C. Bailey, (Eds.), Theoretical and operational aspects of intramural sports (pp. 173-180). West Point, NY: Leisure Press.

Mitchell, J. S., Leonard, W. M., & Schmitt, R. L. (1982). Sport officials' perceptions of fans, players, and their occupations: A comparative study of baseball and hockey. Journal of Sport Behavior, 5(2), 83-95.

Morse, J. M. (1994). Emerging from the data: The cognitive processes of analysis in qualitative inquiry. In J. M. Morse (Ed.), Critical issues in qualitative research methods (pp. 23-43). Thousand Oaks, CA: Sage.

Nelson, B. (1984, November). Secrets of success. Referee, 49-53.

Parker, W. C., & Gehrke, N. J. (1986). Learning activities and teachers' decision making: Some grounded hypotheses. American Educational Research Journal, 23(2), 227-242.

Patton, M. (1987). How to use qualitative methods in evaluation. Thousand Oaks, CA: Sage.

Peterson, P. L., & Swing, S. R. (1982). Beyond time on task: Students' reports on their thought processes during classroom instruction. Elementary School Journal, 82(5), 481-491.

Phillips, C. L. (1985). Sport group behavior and officials' perceptions. International Journal of Sport Psychology, 16, 1-11.

Pitman, M. A., & Maxwell, J. A. (1992). Qualitative approaches to evaluation: Models and methods. In J. M. Morse (Ed.), Critical issues in qualitative research methods (pp. 729-770). Thousand Oaks, CA: Sage.

Placek, J. H., & Locke, L. F. (1986). Research on teaching physical education: New knowledge and cautious optimism. Journal of Teacher Education, 37(4), 24-28.

Purdy, D. E., & Snyder, E. E. (1985). A social profile of high school basketball officials. Journal of Sport Behavior, 8(1), 54-65.

Quain, R. J., & Purdy, D. A. (1988). Sport officials: Who are these people? Journal of Applied Research in Coaching and Athletics, 3(1), 60-74.

Quick, J. A. (1982). "Whistling while you work": The intramural official. Journal of the National Intramural-Recreational Sports Association, 6(2), 16-20.

Rains, P. (1984). The production of fairness: Officiating in the National Hockey League. Sociology of Sport Journal, 1, 150-162.

Robb, D. (1980). Judgement. Hockey Scope, 2(3), 23.

Rudolph, M. (1992). Hooking and holding (Rules 618 & 619). American Hockey Magazine, 13(7), 8,12.

Salmela, J. H., & O'Leary, K. D. (1993). Mental factors of expert professional boxing officials. Unpublished manuscript, University of Ottawa, School of Human Kinetics, Ottawa, Canada.

Schatzman, L., & Strauss, A. (1973). Field research: Strategies for a natural sociology. Englewood Cliffs, NJ: Prentice-Hall.

Silverman, S. (1991). Research on teaching in physical education. Research Quarterly for Exercise and Sport, 62(4), 352-364.

Smith, C. W. (1982). Performance and negotiations: A case study of a wrestling referee. Qualitative Sociology, 5(1), 33-45.

Spindler, G., & Spindler, L. (1992). Cultural process and ethnography: An anthropological perspecitve. In M. D. LeCompte, W. L. Millroy, & J. Preissle (Eds.), The handbook of qualitative research in education (pp. 53-92). San Diego, CA: Academic Press.

Staffo, D. F. (1983). The coach-referee relationship from an objective viewpoint. Journal of Physical Education, Recreation and Dance, 5, 56-57.

Stake, R. E. (1994). Case studies. In N. K. Denzin & Y. S. Lincoln (Eds.), Handbook of qualitative research (pp. 236-247). Thousand Oaks, CA: Sage.

Taves, R. A. H., Hutchinson, N. L., & Freeman, J. G. (1992). The effect of cognitive instruction in the development of employment interview skills in adolescents with learning disabilities. Canadian Journal of Counselling, 26(2), 87-95.

Taylor, A. H., Daniel, J. V. (1987). Sources of stress in soccer officiating: An empirical study. First World congress of science and football, (pp. 538-544). Liverpool, England.

Taylor, A. H., Daniel, J. V., Leith, L., & Burke, R. J. (1990). Perceived stress, psychological burnout and paths to turnover intentions among sport officials. Journal of Applied Sport Psychology, 2, 84-97.

Teipel, D., Gerisch, G., & Busse, M. (1983). Evaluation of aggressive behavior in football. International Journal of Sport Psychology, 14, 228-242.

Tesch, R. (1990). Qualitative research analysis types and software tools. New York: Falmer Press.

Toliver, G. (1984). Training the basketball official for intramurals, and beyond!! Journal of the National Intramural-Recreational Sports Association, 8(2), 42-43.

Trudel, P., & Donohue, J. (November, 1993). Etude des procedures de collecte et d'analyse de donnees presentees aux lecteurs dans les articles de recherche qualitative. Paper presented at the conference for the North American Society for the Sociology of Sport, Ottawa, Canada.

Trudel, P., Côté, J., & Donohue, J. (1993). Direct observation of coaches' behaviors during training and competition: A literature review. In S. Serpa, J. Alves, V. Ferreira, & A. Paula-Brito, (Eds.), Proceedings of the VIII World Congress of Sport Psychology (pp. 316-319). Lisbon, Portugal.

Trudel, P., Côté, J., & Sylvestre, J. (1994). Observation of ice hockey referees. Manuscript submitted for publication.

University of Ottawa Sports Services. (1993). Intramural Hockey. [Brochure]. Ottawa, ONT: Author.

van der Mars, H. (1989a). Observation reliability: Issues and procedures. In P.W. Darst, D.B. Zakrajsek, & V.H. Mancini (Eds.), Analyzing physical education and sport instruction, (pp. 53-80). Champaign, IL: Human Kinetics.

van der Mars, H. (1989b). Systematic observation: An introduction. In P. W. Darst, D. B. Zakrajsek, & V. H. Mancini (Eds.), Analyzing physical education and sport instruction, (pp. 3-17). Champaign, IL: Human Kinetics.

Westerman, D. A. (1991). Expert and novice teacher decision making. Journal of Teacher Education, 42(4), 292-305.

Weinberg, R. S., & Richardson, P. A. (1990). Psychology of officiating. Champaign, IL: Human Kinetics.

Wilkins, H. A., Peterson, S.R., & Quinney, H. A. (1991). Time-motion analysis of and heart rate responses to amateur ice hockey officiating. Canadian Journal of Sport Sciences, 16(4), 302-307.

Yin, R. K. (1989). Case study research: Design and methods (revised ed.). Newbury Park, CA: Sage.

Zoller, S. (1985). Learning to live with stress. Referee, 5, 48-51.

Appendix A

Background/General Interview Guide

1. Could you please discuss your general hockey experience as a player? As a referee? Do you have any certification?
2. What made you decide to get into refereeing?
3. Do you have any experience refereeing in this intramural league?
4. Have you ever played in this intramural league?
5. How did you get this job for the intramural league?
6. What are your main reasons for refereeing?
7. What is the role of the referee? Is that role any different in this league?
8. What is your perception, based on your knowledge and experience, of the intramural league and it's players?
9. What do you think the players think about the league? About the referees?
10. Do you have a certain style of refereeing? Do you referee every game the same way?
11. Could you discuss the differences between the three-man and the two-man system of refereeing? Do you have a preference?

FOLLOWING QUESTIONS ASKED IF REFEREE HAS REFFED IN THE LEAGUE BEFORE

12. Could you tell me what a typical night at the intramural league would be like?
13. How soon before a game do you get to the rink?
14. What are your responsibilities as a referee in this league?
15. Could you discuss any rules that may be specific to this league?

Appendix B

Summary Interview Guide

Part A - general overview of year

1. How do you feel about the way the league went this past year?

2. Was it what you expected based on your experience in the league before?

3. Was it difficult for you to officiate in the league this year, i.e. where the games difficult to referee? Any suspensions?

4. How do you feel about your performance over the past year?

5. You said in an earlier interview that your role as a referee in this league was to (check back to general interview for each referee). Do you feel that you accomplished this?

6. Do you feel you had the experience and knowledge to adequately handle all the situations which arose?

7. Would you need more training if you were to do this again next year?

8. Did you miss any games you were scheduled to referee? If yes, why?

9. Did you have to referee any games by yourself?

10. How did you feel about having to do this? Did that make your job harder?

11. Do you think there is any particular area which could be improved or changed for next year based on your experience from this season?

12. Will you do this job again next year? Why?

Appendix C

Summary Interview (Subject A)

Part B
Behaviors:

1. The most predominant behavior which was recorded in the intervals was monitoring (47.7%), does that surprise you?

2. Another category which was recorded a lot was verbal behaviors (29%), could you explain why you think this occurred?

3. Hard skating was recorded in 1.5% of the intervals, could you discuss why you think we found this?

Objectives:

4. The most predominant objective of your verbal behaviors was on average socializing (28.6%), could you comment on this?

5. Do you feel this high level of verbal socializing took away from your effectiveness as a referee for this league?

6. What was your reason for socializing during the games?

7. Only 3.3% of the verbal behaviors were discussion or arguments. Was this typical of the entire year or just the three games we observed?

8. What do you think the reason is for finding this percentage?

9. 25.3% of the verbal behaviors were encourage or advising for the players. Do you think this is high or low? Why?

Direction:

10. With regards to the socializing, 13.2% of these behaviors were with spectators. Could you discuss this finding in more detail?

11. It was interesting to find that only 4.9% of the verbal behaviors were with your partner. Could you explain why you think this happened?

Appendix D

Summary of Interviews

BACKGROUND INTERVIEW

- preliminary interview with each subject

- use a set of predetermined questions regarding officiating experience

GENERAL INTERVIEW

- one time interview with each subject

- two part interview A) questions more specific to intramural league

B) comment on videotape

- view videotape of league similar to the intramural league

- interview will serve several functions:

1. establish rapport and trust with subject

2. allow participants to become more comfortable with interview process

POST-GAME INTERVIEW

- stimulated recall interviews used to elicit reflections on action

- subjects now comment on their own performances

- take place immediately following the taped game

- initially take a "what's happening" approach

SUMMARY INTERVIEW

- concluding interview with each subject to reflect and comment on past year

Appendix E

Cover Letter for Validation Interview Document

Case Study of University Intramural Ice Hockey Officials

September 1, 1994

Attention: _____

Thanks to your participation in the first year of the study, a preliminary report describing the Wednesday night university intramural body-contact hockey league and the referees has been prepared. We would ask you to read through this draft in it's entirety to get a feel for the paper. After you have completed this, we would ask you to return to the start of the document and make any comments you may have regarding the accuracy of the statements made regarding either the officials or the league. The right margin of each page has been purposely enlarged to allow you to express your sentiments beside any particular aspect of the report that you feel warrants a comment. You will be asked to elaborate on any comments in a brief follow-up interview. We encourage you to indicate in the margin if what has been written is in fact an accurate portrait of this league and the officials based on your involvement in it.

We personally guarantee you that this information will be kept confidential and look forward to reading your comments. Your continued assistance in this research endeavor is greatly appreciated.

Wade Gilbert (Project coordinator) Pierre Trudel (Research advisor)

Appendix F

Modified Version of SORB

SYSTEMATIC OBSERVATION OF REFEREE'S BEHAVIORS (SORB)

Name of the referee ____________________ Date of observation ____________

Teams ______________ VS ______________ Level ________ PERIOD 1 2 3

Sheet: A B C

1) BEHAVIORS (Beh)		2) OBJECTIVES (Obj)		3) DIRECTION (Dir)	
intervene verbally	(V)	encourage/advise	(EN)	player(s)	(P)
inform with gestures	(G)	discuss/argue	(DI)	coach(es)	(C)
skate and monitor	(S)	collect information	(IN)	* partner	(PA)
monitor	(M)	signal a penality	(PE)	minor official(s)	(MO)
* Retrieve / position	(R)	* signal technical call	(TC)	spectators(s)	(S)
wait	(W)	confirm or reject a goal	(GO)	all individuals	(AI)
other	(O)	stop the game action	(ST)	not directed	(ND)
uncodable	(UC)	monitor player changes	(MP)		
		* socialise	(SO)		
		other	(OT)		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BEHAVIORS															
OBJECTIVES															
DIRECTIONS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BEHAVIORS															
OBJECTIVES															
DIRECTIONS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BEHAVIORS															
OBJECTIVES															
DIRECTIONS															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
BEHAVIORS															
OBJECTIVES															
DIRECTIONS															

Appendix 6

Results from SORB (Subject A)

Game Difficulty and Breakdown of Each Referee Behavior

Game	Referee Evalution* VD	D	S	E	VE	Referees' behaviors V %	G %	S %	M %	R %	W %	O %	UC %
1					VE	27.7	0.5	1.4	48.2	12.7	7.7	1.8	0.0
2				E		27.1	0.5	0.0	50.0	14.9	6.4	1.1	0.0
3		D				31.9	0.5	2.9	45.2	11.4	6.2	1.9	0.0
Means						29.0	0.5	1.5	47.7	12.9	6.8	1.6	0.0

*VD = very difficult; D = difficult; S = same as usual; E = easy; VE = very easy

Appendix G

Results from SORB (Subject A)

Objectives of Verbal Behaviors and Gestures, Three Game Averages

Objectives	Count	Percent
1. Encourage/advise	46	25.3%
2. Discuss/argue	6	3.3%
3. Collect information	2	1.1%
4. Signal a penalty	3	1.6%
5. Signal a technical call	26	14.3%
6. Confirm/reject a goal	15	8.2%
7. Stop the game action	16	8.8%
8. Monitor player changes	2	1.1%
9. Socialize	52	28.6%
10. Other	14	7.7%

Direction of Verbal Behaviors and Gestures, Three Game Averages

Direction	Count	Percent
1. Player(s)	81	44.5%
2. Coach(es)	0	0.0%
3. Partner	9	4.9%
4. Minor official	10	5.5%
5. Spectator(s)	24	13.2%
6. All individuals	52	28.6%
7. Not directed	6	3.3%

Appendix H

1993-94 INTRAMURAL REFEREE PROJECT
SUGGESTED CATEGORIES

(Fifth draft) March 20, 1994

1. Reasons to referee

2. Role of the referee
   a) theory perspective
   b) action perspective

3. Experience/Background in general as a:
   a) referee
   b) player
   c) coach

4. Experience/Background specific to the Wed. night intramural league as a:
   a) referee
   b) player

5. Pre-game preparation
   a) mental preparation
   b) other

6. Concentration/focus

7. Communication:
   a) between referees
      i) off action
      ii) in action / teamwork
   b) with players
      i) instructional
      ii) for assistance (i.e. who scored, deflections, etc...)
      iii) language barrier
      iv) argue/discuss
   c) with minor officials

Category list (cont...)

8. Characteristics of the intramural league
    a) 2 man system
    b) specific rules, penalties
    c) organization (statistics, administration)
    d) contact vs. non-contact
    f) relaxed atmosphere
    e) general

9. Relationship with players
    a) characteristics of the players
        i) attitude towards officials and the league
        ii) level of play, caliber
    b) reffing friends

10. Relationship with partner
    a) support
    b) respect/adapt to partner
    c) observe/monitor/assess

11. Factors affecting the style of the referee
    a) type of game
    b) carry-over from previous game
    c) school, exams
    d) score of game
    e) previous call

12. Decision making
    a) penalties (minors and majors)
        i) outcome of calling a penalty
        ii) severity of infraction (continuum)
    b) fighting
    c) technical calls (icing, off-side, etc..)

13. Positioning

14. Qualities needed for officiating