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I am submitting herewith a thesis written by Victor Alexander Martin entitled "Optimal Experience: An Analysis of Flow Among Intramural Officials at the University of Tennessee, Knoxville." I have examined the final electronic copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Recreation and Sport Management.

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Optimal Experience: An Analysis of Flow Among Intramural Officials at the University of
Tennessee, Knoxville

A Thesis Presented for
The Masters of Science
Degree
University of Tennessee, Knoxville

Victor Alexander Martin

August 2011

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ACKNOWLEDGEMENTS

I would like to thank Dr. Steven N. Waller for his guidance over the past two years. I would also like to express gratitude to Dr. Angela J. Wozencroft and Dr. Sylvia A. Trendafilova for serving on my thesis committee.

Lastly, I owe a debt to Mr. Mario Riles for providing officials for interviews. Mike Valentine, Nick Lacy, Tyler Waterfield, Shanna Hutchins, and Sidney Simmons provided vital information for this study, and I have my thanks.

ABSTRACT

The occurrence of flow in a number of leisure and sport activities has been well documented, yet the question of whether sports officials experience flow has not been addressed in the literature. The purpose of the current study was to investigate the occurrence and nature of flow among sport officials, specifically intramural officials. Semi-structured interviews were conducted with six University of Tennessee, Knoxville intramural officials. The interviews were transcribed by an independent transcriptionist; the data were reviewed, coded and analyzed using QDA Miner software. Subsequently, five themes emerged: (1) experience/expertise of crewmates and self; (2) motivation of crewmates and self; (3) pace of contest, (4) factors external to and within the contest; and (5) optimal experience. Significant findings of the study included: (1) more experienced officials are better able to handle game situations and serve as inspiring crewmates; (2) motivated individuals adhere to officiating mechanics, hustle, and show enthusiasm; (3) faster paced games can fluster less experienced officials, while veteran intramural officials handle game pace effectively; and (4) health and fitness, weather, personal troubles, and supervisors are factors external to the contest while fans, player behavior, and individual/crew performance are factors within the contest. In summary, the previously noted findings may have an influence on flow experiences for officials and aid in the management of intramural officiating crews.

Keywords: flow, sports officiating, intramurals, optimal experience

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CHAPTER 1

INTRODUCTION

According to the Bureau of Labor's website, in 2008, approximately 15,600 sport officials worked across multiple sports (Bureau of Labor Statistics, 2009). Given that the profession is expected to have grown ten percent by 2018, nearly 18,700 individuals currently officiate sports in the United States. Sport officials at the high school and collegiate levels undergo certification by state associations and regional collegiate athletic conferences to meet the minimum requirements needed to properly preside over athletic contests. Additional requirements such as probationary periods and experience at lower levels of competition are typically required (Bureau of Labor Statistics, 2009).

The training and selection process for intramurals officials is far less intense. College students with no officiating experience typically serve as the majority of officials for intramural programs. These students may or may not have a serious interest in sports officiating. For serious intramural officials in the sports of flag football and basketball, opportunities such as extramural tournaments exist. At these weekend tournaments, National Intramural-Recreational Sports Association (NIRSA) professionals who have years of officiating experience at various levels rigorously evaluate young intramural officials.

Statement of the Problem

With such a relatively limited number of sports officials, specifically intramural officials, the performance of these select individuals is important to the quality of intramural contests. Paralleling the quest for optimal performance and positive results by serious intramural athletes, highly dedicated intramural officials invest countless hours and financial resources participating

in multiple sports, traveling to extramural tournaments, and studying rules, officiating mechanics, and the art of game management.

However, the performance of intramural officials, similar to that of coaches and players, can vary from contest to contest. Reducing this variability in officiating quality and setting the stage for consistently effective officiating is the goal, and fostering flow experiences is the method of realizing that goal.

Statement of the Purpose

The purpose of this study was to search for the occurrence of flow among intramural officials and, if flow is present, illustrate the nature of this optimal experience with regard to intramural officials.

This investigation involved intramural officials employed at the University of Tennessee at Knoxville. The officials selected to participate possessed varying levels of experience. It can be assumed that officials with more than two years of experience should be highly trained and skilled as a result of the availability of attending extramural tournaments, presiding over numerous intramural contests, and studying the rules and mechanics of officiating. Csikszentmihalyi (1975) discusses how a participant must perceived themselves as highly skilled to meet the demands of subjectively challenging situations.

Significance of the Study

Given the extensive body of research regarding flow experiences in recreational and organized sport, it is surprising that such a dearth of research involving flow among sport officials exists. The performance of officials, as the performance of athletes and coaches, is vital to the quality and excitement of athletic contests. This study contributed much needed

knowledge to the field of optimal experience as well as detail the nature of flow among sports officials.

While adding to the knowledge base of the sport and recreation field is a worthwhile goal, describing how intramural officials achieve flow can possibly help all sport officials discover how to experience flow. In the midst of optimal experience, sport officials will perform at their best, benefiting players, coaches, fans, and sport as a whole.

CHAPTER 2

LITERATURE REVIEW

Sports Officiating

Sport officiating is a pastime enjoyed by many individuals in the United States. Here, in America, numerous associations certify and train sports officials in a variety of sports. For example, the National Federation of High Schools (NFHS) provides certification, training, and evaluation for high school basketball officials and other secondary school officials. The National Intramural Recreational Sports Association (NIRSA) accredits intramural programs at colleges and universities, provides written materials for the training of intramural officials, and sponsors a number of regional and national extramural contests. The American Collegiate Intramural Sports (ACIS) organization also sponsors extramural tournaments at the regional and national level.

Intramural officials work for many reasons from earning extra income to finding elation and personal fulfillment. An individual seeking personal gratification through officiating will likely invest in training, preparation, and equipment.

Successful and competent officials do possess certain qualities. Heitman, Gilley, Kovalski, & Scaffidi, (1991), after studying the performance of fifty-eight secondary basketball officials, found that intelligence and a high degree of personal motivation was strongly connected to successful officiating. Perhaps highly intelligent and personally motivated individuals make better officials.

Burke, Joyner, Pim, and Czech (2000) tested the anxiety of twenty-five basketball officials pre-game, during half-time, and post-game using the Competitive Sport Anxiety

Inventory-2 (CSAI-2; Martens, Vealey, & Burton, 1990) and a modified version of the Sport Competition Anxiety Test (SCAT; Martens et. al., 1990). Results suggested that successful officials can effectively deal with cognitive and somatic anxiety before, during, and after a contest.

Given that officiating is a very mentally intense experience, achieving an ideal mental state is crucial for optimal performance. Flow, a psychological concept formulated by Csikszentmihalyi (1975), may prove useful to basketball officials seeking a high level of performance and a personally fulfilling experience.

Flow

While few in number, earlier works (e.g. Avedon & Sutton-Smith, 1971; Bergler, 1970; Callois, 1958; Ellis, 1973; Kenyon, 1968; Kenyon, 1970), similar to the work of Csikszentmihalyi (1975), sought to understand intrinsically rewarding activities. However, this earlier research was more interested in the social or psychological purpose of these activities (Csikszentmihalyi, 1975).

The idea of flow (Csikszentmihalyi, 1975), while a singular and unique concept, was formulated from pre-existing concepts and ideas concerning intrinsic motivation. First, Groos (1901) and Bühler (1930) discuss the idea of *Funktionlust*, “the pleasurable sensation that an organism experiences when it is functioning according to its physical and sensory potential” (Csikszentmihalyi, 1975, p. 24). In other words, when a person reaches the limits of sensory (i.e. touch, sight, sound, smell, taste) input and physical abilities, they experience a pleasing sensation. Secondly, Hebb (1955) and Berlyne (1960) proposed that experiences must possess a novel quality to be enjoyable. Third, White (1959) and De Charms (1968) emphasize that the

basic issue of any intrinsic activity is whether the person does the act for personal reasons or external pressures. Enjoyment is experienced if the person does the act for intrinsic reasons while the act is seen as work or drudgery if external forces are seen as the cause (Csikszentmihalyi, 1975). To put it simply, “play is activity that one is free to enter and free to leave” (Csikszentmihalyi, 1975, p. 25).

Lastly, the work of Callois (1958), which attempted to classify autotelic (i.e. intrinsically rewarding) activities, greatly influenced the conceptualization of flow. Four basic human needs are met by such activities: competition, the need to control the predictable, to transcend limitations through fantasy, pretense, and disguise; and to transcend limitations through an altered state of consciousness. Play, games, sport, and religious activities satisfy the need for competition. In an attempt to control the unpredictable, astrology, games of chance, and forms of divination were created. The third need, also known as “mimicry,” is satisfied by the theatre, dance, and the arts in general while the fourth and final need is met through intoxicating activities such as mountain climbing and skiing. Most autotelic activities satisfy multiple needs. It is important to note that Callois (1958) also believed that novelty and freedom were essential for enjoyment.

Beyond Boredom and Anxiety. In his book, Csikszentmihalyi (1975) describes the process through which he and his colleagues developed the flow concept. In beginning this process, Csikszentmihalyi (1975) observed individuals who seemed to enjoy activities for no visible reason. These individuals would spend countless hours in their activities, showing signs of enjoyment and pleasure. Csikszentmihalyi (1975) discovered that the motivation lay in the activities themselves, and he wondered if such enjoyment is unique to creative activities, such as

art, or is obtainable in any activity in which certain conditions are satisfied. Pilot interviews were conducted with approximately sixty individuals. Collegiate hockey and soccer players, spelunkers and explorers, an international-renowned mountain climber, a championship handball player, and a world-record holding long distance swimmer were among the sixty participants. From the analysis of the pilot study interviews, a questionnaire and a more structured interview form was developed. With their refined instruments, in a series of studies, Csikszentmihalyi and colleagues (Csikszentmihalyi, 1975) recruited basketball players, chess players, rock climbers, dancers, and composers in order to investigate the nature of autotelic activities. Other individuals were interviewed, but their data was not included for analysis. The results of these analyzes are presented in the following sections.

basketball players. Forty basketball players from two Boston-area championship high school teams were asked to complete a questionnaire rating their reasons for enjoying an activity. The reasons ranged from extrinsic (i.e. competition; prestige, regard, glamour) to intrinsic (i.e. enjoyment of the experience and use of skills, the activity itself: the pattern, the action, the world it provides). While the rock climbers, composers, dancers, male and female chess players rated intrinsic reasons as more important, basketball players rated extrinsic reasons as more important for participating. Csikszentmihalyi (1975) proposed that either the youth and low SES of the interviewees or “the reward structure in which enjoyment comes from measuring oneself against others and from developing one’s skills, rather than from experiencing the activity itself” (p. 18) may account for the distinctive perspective of the basketball players. Basketball players also reported that intrinsically-motivating reasons for participation decreased as their involvement increased in duration and intensity (Csikszentmihalyi, 1975).

chess players. To investigate the activity of chess as an autotelic experience, Csikszentmihalyi and his colleagues (1975) recruited two groups of chess players. The first group was composed of thirty males: nine beginners, eleven intermediate players, and ten outstanding players. The ages ranged from seventeen to sixty-three years, with a mean age of twenty-six years. These individuals were recruited through the Chicago Chess Club and two local colleges. The second group consisted of twenty-three female chess players contacted through the mail. Twelve female players were top rated players, according to the United States Chess Federation. The other eleven female players were lower rated players from the Chicago area. The average age of the female players was thirty-nine years old.

Pilot interviews with chess players revealed that male chess players were involved with the game in a variety of ways. USCF rating, USCF rank of highest opponent, number of tournaments, time spent playing chess, time spent studying chess, club membership, books on chess, and chess magazines were measured to be compared to each other and to discover how forms of involvement and sources of reward are related. The sources of reward are enjoyment of the experience, the activity itself, friendship and companionship, development of skills, measuring self against own ideal, emotional release, competition, and prestige and glamour. The results showed that the skill of the player was positively related to competition only. That is, playing strong opponents decreases satisfaction with the game but increases the reward of measuring oneself against one's won ideal. In addition, competitive rewards are gained from participating in many tournaments, prestige is gained by owning many chess journals, chess can be used as a form of escape given its portability (i.e. able to be played in relative any place at any time), and chess clubs provide a place for the development of friendship and camaraderie. As far

as the primary rewards of the activity, the male chess players listed autotelic rewards as the most important source of enjoyment: “enjoyment of the experience” and “the activity itself.” The female players experienced flow in chess differently. Since the majority of chess players are male, the female players experienced more tension and saw their involvement in the game as more risky. For example, the same devotion and time that a male chess player invested in the game may be seen as pathological if a female chess player did the same. On top of that, female players were more likely to be ridiculed and harassed, sometimes sexually. In contrast, the male players found the environment friendly and relaxing. However, Csikszentmihalyi (1975) noted that successful females may experience a higher sense of accomplishment given the adverse conditions under which they compete.

rock climbers. Thirty rock climbers, five females and twenty-five males, were interviewed in Boulder, Colorado, Chicago, Illinois, and Devil’s Lake, Wisconsin. The mean age of the group was twenty-eight, with ages ranging from nineteen to fifty-three. The educational level ranged from G.E.D. to Ph.D., with the majority at or near the B.A. level. Mean length of experience was five years of technical rock climbing and eight years of general mountaineering, with a range of one to thirty-six years. Activity level varied from once a month to four times a week. Skill ratings were assigned based on the most difficult climb completed and on the reputation of the individuals in the international climbing population. The interviewers were rock climbers themselves.

The climbers were all asked the same questions but were encouraged to freely discuss their experiences. While the climbers did report intrinsic rewards gained from climbing, the researchers were more interested in how climbing provides intrinsic rewards. The results of the

interviews indicated that climbing provided an unlimited range of opportunities of action, allowing for increasing challenges to test increasing skills. Climbing also fosters concentration by forcing a climber to center his attention on a limited stimulus field: the rock face. It engenders feelings of competence and control since the climbers accept the inherent danger of the act and feel that they can limit the risk through mental and physical preparation. Climbers receive unambiguous and immediate feedback through feelings of contentment and fear. Finally, climbing facilitates the merging of action and awareness through the fluid and cyclical process of climbing (i.e. “movement-balance-perception-decision-movement-balance...”) (Csikszentmihalyi, 1975, p. 85)). Finally, climbing allowed the individuals to view the world from a new perspective and comment on the differences between experiences of normative life and climbing (Csikszentmihalyi, 1975).

dancing. Twelve white, middle-class Americans composed the sample for dancing. The average age was approximately twenty-four years, ranging from nineteen to twenty-nine. The average educational level was approximately five years beyond high school, ranging from two years of undergraduate study to three years of graduate study. Participants were observed at parties and selected. The researchers engaged in casual conversations with chosen individuals, to see if the person enjoyed or disliked dancing. Individuals were not included in the study if they professed a dislike of dancing.

Open-ended interviews and questionnaires were administered to the dancers. The open-ended interviews were focused on the participants’ experience of rock dancing. The questionnaire consisted of a list of challenges and a list of skills. The participants were asked to indicate which challenges were important to them and which skills they were capable of

performing. The interviews and questionnaires were examined to determine the presence of flow. Flow was deemed to be present if the individual experienced a greater number of flow elements and considered the challenges and skills of dancing to be equal.

The dancers were categorized as involved or uninvolved. The involved (i.e. participated more often in dancing) dancers experienced the flow elements to a higher intensity than uninvolved dancers. These dancers perceived their surroundings to a lesser degree, thought less about other things, had to exert less effort to concentrate, became less distracted, received more direct feedback, felt more in control of partner relationship, felt more in control of the social situation, less self-consciousness, and experienced more harmony with the environment. However, both groups reported more bodily awareness, less awareness of problems, and perceived time to pass faster than normal. The data concerning the rating of challenges and skills revealed that involved dancers rated challenges and skills related to movement, music, and partner closer to a one-to-one ratio than did the uninvolved dancers. In other words, the involved dancers rated the challenges high and also highly rated their skills to meet those challenges (Csikszentmihalyi, 1975).

surgery. Twenty-one surgeons from the Midwest and Southwest of the United States were interviewed. Nine surgeons were in private practice while twelve surgeons taught in training and research institutions. Expertise ranged from fresh out of medical school to nationally known in difficult specialties. The interviewer was a medical student with graduate psychology experience.

Despite the overwhelming amount of extrinsic rewards available, the surgeons considered the act of surgery itself rewarding. Surgery provides opportunities for action and enjoyment,

with flow being experienced whether operations go well or difficult operations test the skills of the surgeon (however, problematic situations can disrupt flow experiences). It limits one's stimulus field to the operation at hand, through physical and mental pre-operation rituals. Clear goals and feedback enable the surgeon to move seamlessly through each step, adjusting for each foreseeable occurrence. Surgery fosters feeling of competence and control as the surgeon successfully navigates each potentially dangerous situation. While the surgeon transcends his ego boundaries, he does not merge with his environment but with his team and the rhythm of the activity.

Csikszentmihalyi (1975) used the data obtained from the four studies to define the concept of flow in the following way:

In the flow state, action follows upon action according to an internal logic that seems to need no conscious intervention by the actor. He experiences it as a unified flowing from one moment to the next, in which he is in control of his actions, and in which there is little distinction between self and environment, between stimulus and response, or between past, present, and future (p. 36).

In more contemporary works (Jackson & Csikszentmihalyi, 1999), flow is defined as a very positive mental state that exists when a person perceives equilibrium between situational challenges and personal capabilities to meet the challenge. However, this definition, while accurate, fails to truly describe the experience of flow.

Going beyond his general description of the concept, Csikszentmihalyi (1975) discusses the nine characteristics of the flow experience. These characteristics were identified based on the analysis of the wealth of data Csikszentmihalyi and colleagues gained from the numerous

interviews and questionnaires that were administered to the chess players, rock climbers, dancers, and surgeons. The nine characteristics of flow that were identified include: challenge-skill balance, merging of action and awareness, clear goals, unambiguous feedback, total concentration, sense of control, loss of self consciousness, time transformation (time speeds up or slows down), and autotelic experience. It is important to remember that all of the components of flow are interdependent, with each affecting the occurrence of each other. In the following paragraphs, these eight characteristics of flow are defined and explained. These definitions are based in the research conducted by Csikszentmihalyi and his colleagues (1975) as well as by Jackson and her colleagues.

The challenge-skill balance, also known as the CS balance, is a golden rule of flow. The CS balance concerns the perceptions of the athlete in regards to the challenges posed by the situation and their ability to meet those challenges (Jackson & Csikszentmihalyi, 1999). The balance occurs when the individual believes that he or she possesses the prerequisite skills to conquer the challenge, which is more difficult than normal for the person (Jackson & Marsh, 1996). It is important to remember that the subjective interpretation of the individual determines the occurrence of the CS balance, not the possible objective evaluation (Csikszentmihalyi, 1975).

The second characteristic of flow, merging of action and awareness, describes the unity of movement and thought in the individual. This unity is a result of the mind and body working at their limits, yet little effort is expended (Jackson & Csikszentmihalyi, 1999). Self-awareness is lost as involvement becomes so deep that the activity becomes automatic and spontaneous (Jackson & Marsh, 1996).

Clear goals, the third component of the flow experience, direct the attention and actions of the individual, leaving little room for second-guessing and distraction. These goals can be pre-determined or impromptu in nature (Jackson & Marsh, 1996). Knowing what decisions and corresponding actions are necessary each second of an activity is very conducive to a flow experience (Jackson & Csikszentmihalyi, 1999).

A participant receives feedback from internal sources (i.e., mind and body) and external sources (i.e., coach, spectators, teammates, opponents, partners, setting, and equipment) (Csikszentmihalyi & Csikszentmihalyi, 1988). When an individual is experiencing flow, unambiguous feedback, the fourth component, is critical. Being certain that everything is going well, the athlete knows that he or she is on track and on the path to reaching his or her goals (Jackson & Marsh, 1996; Jackson & Csikszentmihalyi, 1999).

Concentration on the task at hand is the fifth characteristic of the flow experience. This dimension describes the total absorption of the participant in the activity. His or her thoughts and focus lie in the moment, not the past or future. Extraneous thoughts are non-existent. This does not imply that the participant is unaware of his or her external environment but that he or she does not see the external environment as a distraction, but as an integral part of the activity (Jackson & Marsh, 1996; Jackson & Csikszentmihalyi, 1999).

A sense of control occurs when an individual is in flow. Pervaded by feelings of invincibility and infallibility, the sixth component of flow instills a great deal of confidence in the person. A sense of control is not possible if the individual does not perceive that he or she possesses the necessary skills to complete the task (Jackson & Csikszentmihalyi, 1999). It is

important to remember that the sense of control is effortless, not requiring any action on the part of the participant (Jackson & Marsh, 1996).

Loss of self-consciousness, the seventh component of flow, simply describes the absence of self-doubt and self-concern. Everyday worries and negative thoughts are excluded from conscious awareness in flow. Since this loss of self-awareness occurs when one is completely absorbed in the activity or task, this component is closely related to the merging of action and awareness (Jackson & Csikszentmihalyi, 1999). However, feedback from the mind and body is not ignored but interpreted differently than normal (Jackson and Marsh, 1996).

During flow, the passage of time can be perceived differently. Transformation of time, the eighth component of the flow experience, is experienced differently. Most descriptions of the flow experience involve the slowing of time in which seconds seem to expand to minutes. Some accounts also describe the acceleration of time, hours passing like minutes (Jackson & Marsh, 1996). According to Jackson and Csikszentmihalyi (1999), this altered sense of time is a result of the total concentration of the flow experience.

The final characteristic of the flow experience, autotelic experience, is an end result of the previous flow components. An autotelic experience is intrinsically rewarding and prompts an individual to pursue the task for the sake of participation alone. External rewards or motivation is not needed. Enjoyment and having fun are evidence of an autotelic experience (Jackson & Marsh, 1996; Jackson and Csikszentmihalyi, 1999).

Csikszentmihalyi (1975) did not investigate the occurrence and nature of Flow among sports officials, specifically intramural officials. Flow, as for the elite athlete and casual player, could be the ideal mental state for an intramural official during his or her games. In order to perform

effectively, officials must not only be in excellent physical conditioning but also able to reach and maintain a high level of concentration, focus, and attention to detail. An official experiencing flow will be thoroughly engaged in the task, experiencing joy and fulfillment. Players, coaches, and the fans will definitely profit.

Flow in Sport

Relationship between peak experience, peak performance, and flow. Peak experience, peak performance, and flow are often used interchangeably when describing optimal experience. However, while these three concepts are related, they are also distinguished from one another.

Peak performance refers to a moment of “superior functioning exceeding an individual’s probable performance quality, or full use of potential in any activity (Forbes, 1989, Privette, 1983)” (Kimiecik & Jackson, 2002, p. 503). Peak performance does not necessarily imply that one is the victor of a competition. The performance may be far above average for that individual but was not the most effective performance that day (Kimiecik & Jackson, 2002). Interestingly, athletes associate positive mental and emotional states with instances of peak performance. In their review of the research on this issue, Kimiecik & Jackson (2002) found no instance in which this relationship was absent.

Garfield and Bennett (1984), when interviewing elite athletes, found that factors such as physical and mental relaxation, confidence, a present-centered focus, being highly energized, extraordinary awareness, feeling in control, and “in the cocoon” characterized the mental state of athletes during peak performance. The athletes also discussed a sense of detachment from external distracters. Loehr (1982) and Cohn (1991) found similar results in their studies.

Jackson and Roberts (1992) found correlational support for the notion that flow and peak performance often occur simultaneously. Qualitative and quantitative (Jackson et. al., 2001) investigations have supported the close relationship between flow and peak performance.

Peak experience can be viewed as an instance of extreme joy and happiness in one's life (Maslow, 1968). Peak experiences, similar to flow, are an infrequent event in the lives of people. When detailing factors or dimensions of peak experience, Maslow (1968) listed total attention, rich perceptions, time-space distortions, perceptions of unity, and feelings of wonderment and awe among an extensive list of factors.. As you can see, a number of the Maslow's (1968) factors parallel some of the flow components discussed by Csikszentmihalyi (1990) and Jackson & Csikszentmihalyi (1999).

Ravizza (1977, 1984) explored peak experience in sport using Maslow's (1968) dimensions. When interpreting his interview data, Raizza (1977, 1984) found that focus leading to deep involvement in the task, perceptions of total control of the self and the environment, and the merging of action and awareness, described as a state of self-transcendence, were the three most common characteristics as described by athletes. Privette and Bundrick (1991) state that the joy and contentment that characterizes peak experience is not necessarily performance related. Fulfillment, significance, and spirituality distinguished peak experience from peak performance. The individual seeks a positive affective experience during a peak experience while a behavioral or outcome focus characterizes a peak performance (Kimiecik & Jackson, 2002).

Jackson (1993) investigated the relationship between flow, peak performance, and peak experience among elite athletes. After defining the concepts, Jackson (1993) asked for the

athletes' perceptions of the relationship. She found little support for the independence of the concepts, discovering that athletes considered both flow and peak experience or flow and peak performance to be working in unison. In some cases, the same event might involve all three constructs.

Despite research findings, it is possible to experience flow, a peak experience, or a peak performance without the presence of another form of optimal experience. Flow may not match the intensity of a peak experience given the nature of the CS balance in flow. Lastly, peak performances may not produce peak experiences and vice versa (Kimiecik & Jackson, 2002).

Evidence of flow in sport. Flow, formulated from the experiences of primarily non-athletes, has been applied to numerous contexts. Sport, with its predefined structure, rules, and challenges, is a unique environment where flow can be more readily experienced than in other venues and situations. Csikszentmihalyi and Nakamura (1989) suggest that a high level of skill is required before a flow experience can take place. The first studies concerning flow in sport were conducted by Jackson (1992, 1995) and Jackson and Roberts (1992).

Jackson (1992) conducted a qualitative investigation of flow experiences among elite figure skaters in order to gain greater knowledge and information about the nature of flow within a sport context. She interviewed sixteen elite figure skaters (i.e. two singles' competitors, six members of skating duets, and eight dance competitors (four pairs of two)). The majority of the sample was female (N = 9). Ages ranged from eighteen to thirty-three years of age, with a mean age of twenty-five years. These individuals, with an average thirteen years of experience, represented eighty percent of national champions from 1985 – 1990. The investigator asked each participant to recall a moment of optimal experience while skating. Afterwards, they

completed a quantitative assessment of the levels of challenges and skills of their experience. The researcher then asked each athlete to describe possible antecedents and disruptors of flow. Finally, Jackson (1992) administered an eleven-item questionnaire adapted from a previous study (Jackson & Roberts, 1992). The items for the questionnaire were borrowed from the work of Csikszentmihalyi (1975) and Csikszentmihalyi & Csikszentmihalyi (1988). Qualitative analysis and quantitative assessments indicated that the experience that the athletes described was indeed a flow experience. Positive mental attitude, positive pre-competitive and competitive affect, maintaining appropriate focus, physical readiness, and partner unity were perceived as factors facilitating a flow experience. Conversely, physical problems/mistakes, an inability to maintain focus, negative mental attitude, and lack of audience response were seen as hindrances to flow experiences. Partner discord was included among physical problems and mistakes. Judging from the results, Jackson (1992) concluded that positive experiences and performances can be attained through flow. Jackson (1992) states that the results may be unique to elite figure skaters and may not apply to other sports. Further research in other sports concerning the antecedents and hindrances of flow is warranted.

In a follow-up study, Jackson (1995) interviewed twenty-eight elite athletes, fourteen males and fourteen females. Four athletes each from track and field, rowing, swimming, cycling, triathlon, rugby, and field hockey comprised the sample. The mean age was twenty-five years, with as range of eighteen to thirty-five years. Seventeen athletes competed individually while the remaining subjects competed on teams. Jackson employed qualitative methodology (e.g., open-ended interviews, inductive content analysis, and procedures to ensure trustworthiness). In her results, Jackson, among many factors that help, prevent, or disrupt flow, found that that team

play and interaction was important. Whether team play and interaction was positive, negative, or problematic determined its effect on flow. Jackson, in her discussion of the results, mentioned that the perceived controllability of flow for athletes may be higher than previously envisioned.

Jackson and Roberts (1992), unlike Jackson (1992, 1995), used a quantitative approach to measuring flow and its facilitators in sport. Two hundred Division I college athletes from a large mid-western university composed the sample. There were 110 males and 90 females, with ages ranging from seventeen to twenty-five with a mean age of approximately nineteen years. The athletes were recruited from the sports of gymnastics, swimming, golf, track and field, cross-country and distance, tennis, and diving. Numerous instruments were used to investigate the relationship between flow and its facilitators. The goal orientation scale and the flow scale were developed for the study and derived from previous works. The goal orientation scale, derived from the work of Nicholls et. al (1985), was a sixteen item-inventory designed to measure mastery and competitive goal orientations. Drawing from the work of Csikszentmihalyi (1975) and others, the flow scale was a ten-item questionnaire measuring the occurrence of flow. Perceived ability was measured on two ten-point Likert scales. One scale asked the athlete to rate their own level of skill and the other scale asked for a self-rating in relation to other athletes in their sport. Five open-ended questions asked for descriptions of the athletes' best and worst performances. Athletes also rated challenges and skills in relation to their best and worst performances. The results of the study revealed that a mastery orientation, goal orientation, high perceived ability, and a perceived balance between challenges and skills in a situation are all highly related to the athletes' experiences of flow and best performances.

Facilitators/disruptors of flow experience. Jackson (1992, 1995, 1996) found evidence of flow in elite sport contexts. Jackson asked elite athletes to describe flow experience facilitators. The athletes named confidence, preparedness and mental plans, optimal arousal levels, high motivation, feeling good during the performance, maintaining an appropriate focus, having optimal environmental and situational conditions, and positive team play and interaction. Factors that impeded or hampered flow were the exact opposites of the flow facilitators (Jackson 1992, 1995).

Jackson and Roberts (1992) found evidence of a relationship between flow and task or ego orientation. Task-oriented individuals are more likely to experience flow given that they are immersed within the task and determine their level of ability according to prior personal performances. An ego-oriented person can experience flow but are less likely given their emphasis on the outcome (i.e., winning and losing). In ego-oriented athletes, comparison of one's performance to the performance of others is evident, leading to loss of focus on the task.

Vea and Pensgaard (2004), when investigating the relationship between perfectionism and flow in young elite athletes, found that most dimensions of perfectionism correlated negatively with flow dimensions, with two surprising positive associations.

Straub (1996) tested the effect of imagery on the frequency of flow experiences. Five college wrestlers participated in a five to ten week imagery program. Four of the five wrestlers reported increased occurrences of flow experiences through self-ratings of challenges and skills. Despite the small sample and other limitations, this study leads one to think that psychological skills training can be a flow facilitator.

Pates and colleagues (e.g. Pates & Maynard, 2000; Pates, Oliver, & Maynard, 2001; Pates, Cummings, & Maynard, 2002; Pates, Karageorghis, Fryer, & Maynard, 2003) studied whether hypnosis and music interventions could positively influence the occurrence of flow states in basketball, golf, and netball players. The authors concluded that hypnosis could increase personal control over flow states and that music may trigger important facilitating emotions for flow experiences.

Wiggins and Freeman (2002), while investigating female collegiate volleyball players, found that facilitative anxiety (i.e. anxiety that an individual views as positive and helpful for performance) was related to high flow scores, both globally and for various dimensions such as unambiguous feedback, concentration, and loss of self-consciousness. Those individuals who perceive their anxiety as debilitating scored lower.

Jackson and Kimiecik (in press) attempted to define an autotelic personality in sport, since it is hypothesized that those with an autotelic personality are better psychologically equipped to experience flow (Csikszentmihalyi, 1975). When defining exactly what factors an autotelic personality encompasses, they used Kimiecik and Stein's (1992) model as basis, which states that dispositional and state psychological factors interact with situational factors in the sport context, determining whether a person can or cannot experience flow. Dispositional factors such as goal orientation (e.g. task/process or ego/outcome orientation), perceived sport ability (i.e. how the athlete rates his or her skill level in relation to a challenge), and competitive trait anxiety (i.e. the "tendency to perceive competitive situations as threatening and to respond to these situations with feelings of apprehension or tension" (Martens, 1977, p. 23)) were taken from Kimiecik and Stein's (1992) model, with intrinsic motivation added as a fourth factor.

Jackson et al. (1998) tested whether these dispositional factors affect elite athlete's flow states. They used dispositional (i.e. the Dispositional Flow Scale (DFS; Jackson et al., 1998; Marsh & Jackson, 1999) and state (i.e. the Flow State Scale (FSS; Jackson & Marsh, 1996) measures, predicting that the dispositional factors would correlate more with the DFS. With the exception of task orientation, the other factors correlated with the DFS as predicted. Jackson et al. (2001) found similar results in that mental and physical skills and perception of self as an overall skilled performer in one's event were positively related to flow.

Russell (2001) found similar antecedent flow factors to Jackson (1995) in a sample of college athletes. Upon inspection of the quantitative results, he stated that gender and sport type had no effect on flow experiences in his sample of college athletes.

Challenges of experiencing flow in elite contexts. While there is evidence to suggest that athletes experience flow, Jackson (1992) found that eight-one percent of the elite figure skaters she interviewed did not experience flow often. Mitchell (1988) blames the extrinsically motivating, highly competitive, and outcome-based nature of contemporary sport as the main barrier to athletes experiencing flow. Intrinsic motivation, a critical mental factor in the autotelic experience, hence flow, is lost as trophies, scholarships, endorsements, and other types of accolades take precedence.

A study by Ryan (1977) found that athletes with scholarships cited more extrinsic reasons for participating and lower enjoyment levels while playing. Ryan (1980) found that this finding differs according to the prominence of the sport. Major sports, such as football and basketball, tend to emphasize winning, leading athletes to view their scholarships as a means to control and harness their talent for that purpose. On the other hand, athletes from "minor" sports such as

wrestling and female teams saw their scholarships as a sign and recognition of their talent and worth. These individuals are more likely to have an intrinsic perspective of their sport (Ryan, 1980).

Mitchell (1988) points out that the presence of judges and officials can cause athletes to perceive a lack of control over the situation. Without feelings of control, it can become more and more difficult for an elite athlete to experience flow.

Csikszentmihalyi (1975, 1990, 1997) hints that a person with an autotelic (i.e., seeking fun and enjoyment in activities) personality may be better equipped to experience flow. This person would be task-oriented (Jackson & Roberts, 1992), perceive their sport ability to be high (Jackson, 1995; Jackson & Roberts, 1992), possess low competitive trait anxiety (Csikszentmihalyi, 1975, 1990; Jackson, 1995), and be highly intrinsically motivated (Jackson, 1995; Csikszentmihalyi, 1990).

Research on flow in surfing (Bennett & Kremer, 2000; Forch, 2004; Wagner, Bier, & Deleveaux) revealed that flow was experienced more in free surfing than in organized competitions. Forch (2004) found that the surfers in the competition disliked the constraints on their surfing, losing a sense of personal control that is crucial to experiencing flow. In contrast, the free-surfing individuals felt totally in control of their situation.

Despite the difficulty of experiencing flow in competitive sport, research has shown that athletes do have optimal experiences during their participation. Psychological skills training, interventions, and feeling that one controls the nature of his participation can possibly counteract the extrinsic barriers to experiencing flow in elite sport.

Flow in Non-Elite Sport Contexts

Chalip, Csikszentmihalyi, Kleiber, and Larson (1984) examined the experiences of seventy five male and female students participating in organized sport, informal sport, physical education classes, and other life activities. The researchers used the experience sampling method (ESM) (Csikszentmihalyi & Graef, 1980; Csikszentmihalyi, Larson, & Prescott, 1977) to capture data. The ESM requires each participant to carry an electronic pager and self-report forms. The pager would activate at random times, prompting participants to complete a self-report.

Organized sport, in relation to everyday life, was considered more positive and fulfilling. Sense of control was highest in informal sport and lowest in organized sport while perceived skill was the complete opposite. The relationship between motivation and perception of skill was different among the groups. Physical education participants wanted to perform more as skill increased. The opposite relationship was found for organized sport, and no relationship was found in informal sport. Perhaps the most important finding was that only informal sport participants perceived a balance between perceived challenge and perceived skill. This finding may suggest that informal sport participants may have more control in facilitating flow experiences than elite athletes.

Experience of Flow in Related Activities

Csikszentmihalyi (2008) discusses how physical activity in conjunction with the mind foster flow experiences. Flow experiences are neither purely psychological nor purely physical: Flow is a synergy of mind and body. Sports officiating is an activity which requires a sync between the physical and the mental. Activities such as dance, the martial arts, and musical

performance also require a deep connection between body and mind. These activities also require a continued increase in skill and challenge to remain enjoyable and conducive to flow.

Dance. Kleiner (2009), using symbolic interaction as her framework, conducted in-depth interviews with twenty-three individuals with experience in ballet and modern dance. The dancers, through self-conscious symbolic interaction, perform for an audience during practice, critiquing their movements and physique. As opposed to symbolic practice, performance is unconscious release, describe as being in flow. While the author does not reference Csikszentmihalyi (1990) when discussing the optimal experience of the ballet performers, the description given by the dancers highly parallel flow theory as conceptualized by Csikszentmihalyi (1975). Interestingly, ballet performers without extended periods of training were always self-conscious, reporting a lack of flow experiences during ballet as opposed to other activities (Kleiner, 2009). Experienced intramural officials may experience flow by engaging in symbolic practice through processes such as mental imagery or physical repetition in front of a mirror. On the other hand, less experienced official may be too self-conscious of their physical movement to experience flow.

Martial arts. Attempting to describe how cultural knowledge can be learned through the martial arts, Samudra (2008) used auto-ethnographic techniques (i.e. field notes, personal experiences, and observations) as well as life-history interviews to describe his experiences learning White Crane Silat. Focusing on kinesthetic details, sensory impressions, and somatic narratives, Samudra (2008) describes how “subtle sensations” (p. 671) and “feelings of balance and rootedness” (p. 674) pervaded his experiences and the experiences of fellow practitioners.

The following quote from a European American silat student describes an experience similar to flow theory (Csikszentmihalyi, 1975):

You're in your body and your mind isn't ruling it as much as it's fused and unified. It's not your body: you're one unit, you're one working machine. You can't think too much when you're doing silat or you can't do it. And you have to think while you're doing silat or you really can't do it! . . . You have to use your mind to remember it, but if you think about it too much you can't remember it! (p. 674).

Perhaps intramural officials, through thick participation, experience a flow state as they preside over contests. Conscious thought may interrupt physical immersion and inhibit the occurrence of flow.

Musical performance. Manzano, Theorell, Harmat, & Ullén (2010) chose twenty-one professional pianists to play a self-chosen piece of music. The piece, ranging to three to seven minutes, was played five times while physiological (e.g arterial pulse pressure waveform respiration, head movements, activity from facial muscles) and self-reported state flow measures were recorded. Results indicated that a decreased heart period and blood pressure in addition to increased heart variability, activity of the zygomaticus major muscle, and respiratory depth were highly correlated with a flow experience. An intramural official may report certain physiological indications of a flow experience after the fact. Being consciously aware of these physical sensations may be indicative of a non-flow experience.

Murnighan & Conlon (1991) investigated the dynamics of British string quartets and their level of success. Eighty professional musicians, that were members of twenty string quartets,

were interviewed regarding individual histories and opinions as well as quartet history, politics, and structure. Archival data was also collected to predict quartet success. Successful quartets, as opposed to unsuccessful quartets, had been together longer, reported less anxiety before a concert, had more positivity toward good performance, spent the majority of rehearsal time practicing, had more democratic group politics, and relied less on audiences for feedback regarding their performances (Murnighan & Conlon, 1991).

One interesting finding by Murnighan & Conlon (1991) is that quartet members report abbreviated experiences of flow, unable to “achieve their ultimate goal-to produce transcendent, glorious sound-for an extended period” (p. 167). String quartet members must always be consciously aware of the play of fellow members. This conscious thought may disrupt flow. Perhaps intramural officials will be unable to achieve extended flow experiences as a result of conscious awareness of the actions of their partners.

Given the findings in proposed related activities such as dance, the martial arts, and musical performance, sports officials that experience flow may engage in mental imagery and perform consistently without a high level of physical and mental self-awareness. However, because of a need to be attuned to the actions of their partners, these flow experiences may be abbreviated.

Work Teams

West, Patera, & Carsten (2009) addressed the lack of research regarding positivity at the team level in organizations. The researchers gave 101 teams (308 students divided into three or four person teams) four in-class team projects to complete. A questionnaire was given after the first project, before the final project, and after the final project. The questionnaire measured (a)

previous teammate knowledge, (b) task and outcome interdependency, (c) positive organizational behavior (POB) team capabilities, and (d) team process outcomes (cohesion, conflict, coordination, cooperation, and team satisfaction). Results suggested that team optimism was a strong predictor of team outcomes for newly formed teams while team resilience and team efficacy were more powerful predictors of team outcomes after several team projects.

Perhaps intramural officials, especially when working with unfamiliar partners, should be more positive for the first game of each sport, leading to better cohesion, effective conflict resolution, and high team satisfaction. When more experienced intramural officials officiate together, being able to navigate the difficulties of officiating an intramural contest as well as perceiving the team as having the necessary skills to accomplish this goal may become more important.

Expert Performance in Sport Officiating

Simon & Chase (1973), studying the performance of world-class chess players, suggested that the difference between novice and expert chess players was not mental biology or basic skills and capabilities. The difference lies in experience, with expert chess players having greater recognition of complex chess configurations. When exposed to general chess game situations, the memory of experts was vastly superior to that of novices. However, when randomizing the chess pieces eliminated any meaningful patterns, there was no difference in memory between experts and novices. Simon & Chase (1973) suggested that superior memory performance of experts is limited to domain-specific familiar situations. In other words, an expert's experience is only useful when familiar situations are encountered. Later studies, reviewed by Starkes & Allard (1991), replicated this finding.

After reviewing the body of knowledge on expert performance, Ericsson & Smith (1991) found that Simon & Chase's (1973) theory of expertise could not explain new evidence regarding memory and perception affecting expert performance. Ericsson & Smith (1991) argued that the length of training was important in information processing. As opposed to the training studies lasting only a few hours, experts who train for years and months were able to develop methods to circumvent or increase their limits on information processing. These highly trained experts have significantly improved memory performance and have developed new cognitive mechanisms.

A series of studies (Bard, Fleury, Carrière, & Hallé, 1980; Deakin & Allard, 1992; MacMahon & Ste-Marie, 1990; Plessner & Betsch, 2001; Ste-Marie & Lee, 1991; Ste-Marie, 1999; Ste-Marie, 2000) have investigated expert performance among sport officials. Bard, Fleury, Carrière, & Hallé (1980) studied the visual search patterns of gymnastics judges with eye movement recording and an error detection task. Expert judges focused more on the upper body, had fewer overall fixations, and had fewer mistakes. Deakin & Allard (1992) exposed expert basketball referees to five tests (trivia test, rules tests, hand signals test, recall of schematic plays, and a foul/violation detection test) targeting declarative knowledge and foul detection. Results suggested that experts were superior at identifying foul type and in rule/signal knowledge but were no different from novices on foul detection. MacMahon & Ste-Marie (1990) used a foul detection task and oral accounts to investigate novice and expert rugby referees. Novice and expert referees were similar in foul detection, but experts accessed more episodic and semantic information due to more years of experience. Additional studies, targeting gymnastics judges, found that expert judges were better at noticing joint angle deviation on a selected technique

(Plessner & Betsch, 2001), detecting form errors (Ste-Marie & Lee, 1991), predicting the next element, demonstrating superior declarative knowledge (Ste-Marie, 1999), and focused on the gymnast and engaged in dual tasks for longer periods (Ste-Marie, 2000).

Applying the expert performance literature to intramural officials, more experienced intramural officials should be superior at detecting fouls, knowledge rules, use of signals, and overall familiarity with each intramural sport. However, more experienced intramural officials may or may not have reached expert-level performance.

Summary of Literature Review

Sports officiating is an indispensable aspect of sporting experience in the United States. Sport officials, specifically intramural officials, that are intelligent, intrinsically motivated, and capable of coping with anxiety may have higher chances of success. Given the cognitive nature of officiating, achieving flow would facilitate high levels of enjoyment and performance.

Flow, a concept created by Csikszentmihalyi (1975), was influenced by classical and more contemporary ideas concerning intrinsic motivation. The nine characteristics of flow, discussed by Csikszentmihalyi (1975), were formulated from the study of basketball players, chess players, rock climbers, dancers, and surgeons. Flow was found to occur in elite sport contexts (Jackson, 1992; 1995) with a number of facilitators, disruptors, and obstacles. Flow in non-elite contests was hindered by less obstacles (Chalip, Csikszentmihalyi, Kleiber, & Larson, 1984). Flow experiences in ballet, White Crane Silat, and string quartets were discussed. These activities were considered to be parallels to sports officiating, given the requisite connection between mind and body.

West, Patera, & Carsten (2009) studied work teams and offered possible suggestions for points of emphasis for inexperienced and experienced officials when presiding over contests. Inexperienced officials should be positive while experienced officials should have confidence in their abilities.

Findings from expert performance studies suggest that highly skilled officials are more proficient at detecting fouls, knowledge rules, use of signals, and overall familiarity with each intramural sport. However, this proficiency is not indicative of high expertise.

Research Questions

The following research questions, grounded in the review of literature and the theoretical framework, will be addressed during the present study:

RQ1: Do intramural officials experience flow?

RQ2: Are these flow experiences adequately described by Csikszentmihalyi's (1975) original work, or are these flow experiences novel?

RQ3: If intramural officials report flow experiences, do their individual flow experiences occur in conjunction with the optimal experiences of their partners?

CHAPTER 3

METHODS

IRB Process

Form B was submitted for expedited review to the Internal Review Board (IRB). Upon receiving IRB approval, the study began, and participants were selected.

Sampling

Intramural officials employed by the University of Tennessee, Knoxville Recreational Sports Department were the participants. The participants had from one to four years of experience officiating multiple sports. These officials with this level of experience should have officiated numerous sports, and possibly attended extramural tournaments sponsored by NIRSA or ACIS.

Convenience sampling and network sampling were two methods for eliciting participants. The intramural department was asked to provide a list of officials with more than two years of experience. A maximum of eight officials was asked to participate. If less than six officials did not agree to participate, respondents would have been asked to recommend officials to reach a number between six and eight respondents.

Instrumentation

The semi-structured interview was the method of choice. The researcher leads semi-structured interviews, loosely following an interview schedule and allowing for follow-up and extra questions. Interviews allow a researcher to explore a participant's experiences and interpretations in regards to a particular phenomenon. Being able to access the internal thoughts of the participant is possibly the greatest strength of interviews. The hesitance of the participant

to share personal experiences and opinions and the inability of the research to tap these experiences, due perhaps to insensitivity, inexperience, and time restraints, are two major weaknesses of interviews. Despite these weaknesses, interviews enable the researcher to collect in-depth data regarding lived experiences (Hatch, 2002). The interview schedule, located in Appendix A, will hopefully maximize data generation.

Procedures

The researcher communicated with the intramural program director, Mr. Mario Riles, via e-mail (see Appendix A) to obtain permission to contact officials. Once permission was obtained, Mr. Riles was asked to identify skilled officials with at least two years of experience. The officials were contacted via e-mail with an explanation of the study and a request for their participation.

Respondents were asked to meet at a convenient time at various locations on the campus of the University of Tennessee, Knoxville. Informed consent forms were given to the participant and explained. The letter of informed consent (located in Appendix B) contained information regarding my affiliation with the University of Tennessee, Knoxville, my thesis advisor, the purpose of the study, how knowledge would be generated, and confidentiality. Respondents that did not sign the form were thanked for their time, and the interview did not occur.

Once the informed consent form was signed and the participant was comfortable and ready, I started recording and began with the following statement:

This may be the first time you have been involved in a qualitative study. Hopefully, this experience will be very enlightening for both you and me. The aim of this study is to see if flow, which we will define as the ideal mental state for an athlete during competitions

and practices, can be experienced as a result of group interaction, or crew performance. While I personally believe that flow can be achieved through crew performance, the way in which I think of it may not be applicable to actual situations. That's why I have asked you to participate in this interview. Your experiences may reveal new ideas and perspectives on this concept. Remember that this subject has not received much attention by researchers so you should feel special in that regard. There are no right or wrong answers. It's important that you simply speak about your experiences and concentrate on recalling them as accurately as you can. Are there any questions before we begin?

After the opening statement, the interview schedule, located in Appendix C, was loosely followed, allowing for the participants to take the discussion in relevant and fruitful directions. Follow-up questions were asked as needed. Notes on non-verbal behavior, facial expressions, and other qualities of the interview that were deemed important by the researcher were recorded.

Data Analysis Plan

Interviews were transcribed by a professional transcriber and read multiple times by the researcher before analysis. The transcriptionist signed a letter of confidentiality before transcribing the interviews. QDA Miner software version 3.2.3 was used to perform content analysis. Content analysis yielded coded documents leading to the development of themes.

Development & description of themes. Coding of the documents was completed in accordance with previous literature regarding flow and the performance of officials, research questions of the study, and researcher observations regarding flow and officials. The interview transcripts were reviewed in QDA Miner 3.2.3, and meaningful excerpts were identified and

coded according to their descriptions. These excerpts, once coded, were grouped into themes. These themes were checked to ensure that the excerpts support their selection for discussion.

Validity. Validity in qualitative research, similar to quantitative research, concerns the accuracy of the researcher's interpretation and analysis of the data. Johnson (1999) defines two types of validity unique to qualitative research, descriptive and interpretive. Descriptive validity refers to the "factual accuracy of the account as reported by the researchers" (Johnson, 1999, pg. 161). In other words, descriptive validity asks whether the researcher is telling the truth about what he/she observed. Triangulation meetings, where multiple researchers compare their notes and observations to achieve corroboration (i.e., consensus), will be scheduled to achieve descriptive validity.

Interpretive validity concerns "accurately portraying the meaning attached by participants to what is being studied by the researcher" (Johnson, 1999, p. 162). It means understanding the "viewpoints, thoughts, feelings, intentions, and experiences" (Johnson, 1999, p. 162) of the participants by looking through their eyes, perceiving what they perceive. Participant feedback, or member checking, can help achieve interpretative validity since your interpretations of the participants' experiences are subjected to the approval and criticism of the participants themselves. In addition to member checking, using rich, thick descriptions directly from the participants (i.e., low inference descriptors) also lessen the chance of one misunderstanding the participants' interpretations and personal experiences.

Reliability. While the quantitative viewpoint of reliability does not readily apply to qualitative research, Mason (2002) states that the "accuracy of your research methods and techniques" (p. 39) determines the reliability of a researcher's study. Reliability can "be

expressed in terms of ensuring – and demonstrating to others – that your data generation and analysis have not only been appropriate to the research questions, but also thorough, careful, honest, and accurate...” (Mason, 2002, p. 188). To achieve reliability, the complete study methodology will be described in detail (method, sampling, interview protocol and questions, and data generation procedures). Such a detailed description will support the study’s findings and promote future related research.

CHAPTER 4

RESULTS

This study sought to investigate the occurrence of flow among intramural officials at the University of Tennessee, Knoxville. Analysis of the interview data uncovered five themes: (1) experience/expertise of crewmates and self; (2) motivation of crewmates and level; (3) pace of intramural contest; (4) factors external to and within the contest, and (5) optimal experience.

The terms flow and optimal experience refer to the same concept and are used interchangeably.

Description of Participants

Six intramural officials were interviewed for this study. Table one featured below lists key demographical information regarding each participant. Five of the participants were male undergraduate students with officiating experience ranging from six months to five years.

Table One. Demographics of Study Participants

Participant Pseudonym	Race	Sex	Years of Officiating	Graduate or Undergraduate
A	Black	Male	1	Undergraduate
B	Black	Male	.5	Undergraduate
C	Black	Male	1	Undergraduate
D	White	Male	2	Undergraduate
E	White	Female	4	Undergraduate
F	White	Male	5	Graduate

Themes

Theme 1: experience/expertise of crewmates and self. The level of experience and skill of the entire crew was found to be very influential on individual and crew performance. Exposure to sports during one's lifetime, working with experienced officials, and increasing skill through repetition and number of games were seen as increasing the expertise of the official. Respondent "A," discussing a situation in which he officiates well, highlights how his high degree of familiarity with a sport boosts his officiating.

I feel like I officiate the best when I'm doing football because that's the sport I'm more comfortable with. I've been doing it all my life. So I'm more into the game, I'm more interested in it. I know the rules better.

I feel loose. I feel relaxed. I feel like I have a good concept of what's going on during the games. I know what should happen. What the players should be doing and shouldn't be doing.

"A" considered his lifelong exposure to football and love of football as an important reason for officiating well. His knowledge of the game provides a sense of relaxation and confidence, and, as a result, he performs well while officiating flag football.

To an officiating novice, working with a veteran official provides an opportunity for learning the specifics of the game, allowing the novice to gain valuable positive experience. For example, "A" noted:

I've done basketball and football. Football, _____ helps me better because I think he's done more football than basketball, so he showed me little tricks that help me pay

attention to more parts of the field and still pay attention to my zone and call better calls. And with you when I did basketball, because you've done basketball so much, like you showed me what kind of calls, when to make the calls, when to step back, when to call aggressively, and whatever.

The following comment made by respondent “B” illustrates how a veteran official, through his or her expert handling of the game, can calm and empower the neophyte to officiate without fear:

Most of them have the experience of being there for years. They know what they're doing. They know how to make the right calls. They know when to make the right calls. They pretty much stayed on for a while so they know exactly what they're doing, and I just benefit off of that by just working with them.

Moreover, respondent “A” further illustrates the positive influence of veteran officials with the following comment.

In my first couple of games, they were kind of rough because I was nervous and didn't know what I was doing. But they put us with veteran officials, which gave me more confidence to call the right calls.

Furthermore, “D”, a male with two years of intramural officiating experience, when asked what fosters good officiating in a specific sport, stated the following regarding the value of experience and repetition are key.

You need to see a lot of the same stuff to experience working, working, getting in your rhythm, knowing scenarios, knowing how to handle each situation. With basketball, the

hustle, the seeing everything really helps you get in that mode like you see stuff and you see things better, quicker. So basically just experience definitely helps.

Lots of experience at that particular position. You learn what to look for, how to look at it, what your best position is. You experience it over and over again, the repetition of it, and it allows you to see, to take a step back and see and have that patience to make that call correctly.

In summary, non-officiating experience with a sport, working with an experienced official, and a good amount of officiating experience and repetition are incredibly important for facilitating high performance, possibly leading to flow. These findings similar to two of Csikszentmihaly's (1975) flow components: clear goals and sense of control. Clear goals, according to Csikszentmihalyi (1975), refer to knowing what decisions and corresponding actions apply at any moment. A significant amount of experience in an activity, such as officiating, imparts such knowledge. A sense of control is not possible without the requisite skills and familiarity to complete the task. A lifetime of experience with a sport instills confidence in an intramural official.

Theme 2: motivation of crewmates and self. Motivation was found to be influential on individual officiating performance. The motivation of crewmates and the individual official appeared to be interdependent. That is, the actions of crewmates can strongly impact an official's desire to perform well, and a single official can negatively or positively affect the motivation of his or her partners. Respondent "B", an official with six months of experience, discussed his thoughts on how crewmates can increase or decrease his motivation through their actions:

Basically, just making the right calls and showing me that they know what they're doing, it makes me think that I should get on the same level as them and try to make the right calls and try to actually do better than them. So I guess that goes back to the motivation or the pay raise. Or pay for more money and more hours, because I know if I'm doing better than them, then I'm getting the hours that they would've gotten or just getting more hours in general.

I think work ethic and emotions, wanting to be there. Like if you just go to work and you're not blowing your whistle strong enough, you're just putting your hand out lazily. You're walking down the court lazily, you're not hustling. I guess, it affects everyone else because you constantly have to keep looking at that person move around. It gets around because if nobody has good work ethic, then the whole crew starts suffering from it.

When asked to discuss the effects of poor crew performance on the individual official, multiple respondents saw the crew as an important motivator for him or her. "D" stated that 'it could be a little of both. I see everybody else performing well, I want to perform well.' For example "C" in discussing the impact of crewmate motivation made the following comment:

I think that your partner, however many officials you have with you, can directly affect how you officiate. Yourself, especially with basketball running a three-man crew, that's two other people that everyone has to try to be on the same page. And if they're not hustling, that can affect you and bring you down, as well. You work with a good, strong official, everybody's going to perform well.

"D" continues to discuss how the inexperience and lack of hustle of crewmates can negatively

impact his performance in the following statement:

Any time, it's true for any sport, but especially in basketball, if some of the other officials just aren't hustling, making lazy calls, you see the body language. It can really affect you as an official because then the players, they're not taking them seriously, so they might not take you seriously. So it's hard for you to get in the flow. They start questioning you. It can be tough with other officials that maybe are a little lazy, are not as strong, don't know the rules as well. It can affect your performance, as well, because now everyone's questioning you. It can really affect it.

The performance and motivation of one's crewmates affect one's own motivation and performance. Watching crewmates performing well encourage an official to match their performance, perhaps earning more hours and games. Apathetic officials can negatively impact the motivation and mechanics of the entire crew, leading to poor crew officiating.

In short, motivated officials indirectly encourage their crewmates to perform well and are affected by the actions of their crewmates in a positive or negative manner. Working with motivated and energetic crewmates pushes an official to work harder and concentrate on the task at hand, possibly entering a flow state.

The flow (Csikszentmihalyi, 1975) characteristics unambiguous feedback and concentration on the task at hand sync well with this theme. Unambiguous feedback refers to receiving positive feedback from internal and external sources. An intramural official can enter flow if his or her partners are motivated and performing well. Concentration on the task at hand simply refers to being immersed in the current activity with no thought of previous events or future occurrences. Motivated intramural officials are completely involved in their contests.

Theme 3: pace of game. The speed and flow of the intramural contest can affect the performance of intramural officials positively or negatively. “C” recalled a situation in which the fast pace of basketball was seen as integral to the high level contest. He enjoyed officiating the game because of the high skill and fast pace. The respondent makes the following observation:

Two really, really good teams playing against each other and I was fortunate to work with two other experienced officials during this game, and it's just a totally different experience working on a game like this where it's just so high paced, so high tempo. The skill is up, and so you love being in that position.

Similarly, “E”, a seasoned female official, saw the fast pace as a necessary factor for concentration. She stated that ‘slower paced games cause me to lose my concentration. My attention starts to wonder more. So I think the pace actually helps me.’ Conversely, she thoroughly enjoyed the quickness of a highly competitive match as illustrated in the statement below:

There was a lot of action in the game. There were two very good team playing each other. It wasn't slow. The pace was faster. So you had to pay attention. You had to make faster decisions quickly. So I think that got me more in the zone in order to ref that game well.

The pace of the game created a sense of enjoyment and facilitated high performance for these officials. Working with experienced officials and watching two great teams compete at high level complemented the high pace. The pace also demanded a high level of skill which helped that official concentrate. Without the high pace, the game may not have been as

memorable and captivating. Conversely, “C”, a male with one year of experience, saw the fast pace of basketball as negatively affecting officiating quality.

The pace doesn't... the pace doesn't... make an official better or worse. And if it's fast paced, usually, from what I've seen, including myself, officials tend to do worse because things are happening too quick. They don't know what to do. They get flustered... not necessarily frustrated... just in a daze. They get lost in the game. ... it has an impact.

Moreover, interviewee “C” recalls another situation in which the pace of the game negatively affected crew performance. Respondent “C” states:

I was actually a part of this crew. We... I was a rookie. The other guy was a rookie. The other guy wasn't a rookie, but he was in his second year, but they weren't fully into the game at that point. We were just... because we were new to the basketball scene that officiating basketball... how fast that pace was. I know for me... I was just blown away by how quickly calls had to be made.

A novice intramural basketball official or crew may be highly intimidated by the speed of basketball and other fast paced sports, becoming overwhelmed and committing numerous mistakes. On the other hand, an experienced intramural official may desire a fast paced game, equating speed of the game with a quality contest.

Csikszentmihalyi's (1975) flow components, challenge–skill balance and concentration on the task at hand, apply to the pace of the contest. According to the respondents, a novice intramural official finds challenge of officiating a high-speed contest beyond their skill set. On the other hand, experienced intramural officials, possessing a perceived high level of skill, felt that a fast-paced contest was a worthy challenge and necessary for total concentration.

Theme 4: factors external to and within the contest. Numerous factors in the non-contest and contest environment affect the performance of intramural officials, possibly hindering flow occurrences. Officials mentioned several factors that can affect officiating with the following statement:

Factors outside of the contest definitely affect officiating performance. When asked to discuss factors that affect performance of an official beyond crew actions, the officials mention the weather, nightly managers, and practicing a healthy lifestyle of exercise and dieting. “D” discusses how inclement weather affects crew motivation and individual motivation.

There are times, especially in outdoor sports, officiating soccer or softball outside, it's cold or rainy, something like that. You can tell when people don't wanna be there. You see that, and so it brings you down.

The other thing that can affect you is the weather. I'm not going to lie and say when it rains I want to be out there. It affects my performance, I don't want to be there, not out in the rain.

Respondent “A”, while discussing factors affecting officiating, pointed to the importance of effective managers, believed that “as far as managers go, when you have a good manager on that's been doing it a few years and they know what they're doing, they can usually give you feedback on how you're doing and what you could do better to improve.” Effective managers offer constructive feedback and provide guidance that fosters effective performance. “E” discusses the role of physical fitness and a healthy diet in officiating in the following comment:

I think cardiovascularly you have to be extremely in shape. Be able to run a mile in at least ten minutes. I would hope you would be able to do that as an official. I think the

diet would be eating healthy foods not junk food, not hitting up MacDonald's or Burger King. Eating nutritious ... Having a nutritious diet.

Additionally, "A" mentioned 'if you have an "oh I'm happy to be here,"' attitude and 'don't carry your life onto the court,' you can focus on the game. In other words, the ability to compartmentalize personal troubles from officiating is vital for intramural officials.

The weather can create a pleasant or unpleasant playing environment for the players and officials. Inclement weather greatly reduces an official's desire to work. The nightly supervisors, or managers, help improve performance by offering constructive feedback and giving areas of improvement for the next half or game. Physical exercise and consistently eating healthy foods is important for optimal officiating performance. Forgetting one's personal troubles while officiating can create a positive mood when officiating.

Factors within the contest that impact individual and crew officiating consist of player behavior, overzealous crewmates, and fan behavior. "B", when asked about poor crew performance, discussed how inappropriate player behavior created an uncomfortable situation.

Times when I felt the crew was performing poorly are like when everything isn't going smoothly, everything is just hostile environment and everything. People were being hostile, players were complaining about calls that weren't being made. We had to give out technicals, multiple technicals. Two technicals, one for each team or two on the same team. Or two to the same player maybe or players are always going to the sideline throwing jerseys around, getting upset and stuff because they didn't get the call that they wanted.

Informant “F”, a graduate student with over five years of intramural experience, also pointed to the affect of player behavior as well as spectator actions on officiating performance. He believed that ‘outside of the official itself, it could be like I already mentioned, other players getting very talkative with the officials. They don't like the calls. They don't like that kind of thing. Players by far can affect your performance more than anything else.’ “E” thought that fans ‘have a huge influence on how you officiate,’ especially ‘if you have an irate fan or irate spectator who is yelling at you the whole game. It’s kinda hard to focus on the game if you think about that person.’ Argumentative players and angry spectators can disrupt an official’s and crew’s focus.

Respondent “C” discussed how overzealous crewmates could affect individual performance. Overly enthusiastic officials that monitor the coverage areas of crewmates, neglecting their own duties, can hamper overall crew performance as noted by “C”:

I guess sometimes when a crew, when I'm reffing basketball, and I'm around a referee that wants to make every call that they can and they're watching my zone and they'll make a foul call and say maybe it's not a foul or I didn't see an error and nobody else saw anything and it wasn't their zone to see it, I guess sometimes I think hey, the refs are overdoing their job. I'll probably look down on them and I won't communicate well with them because I don't want to have to communicate that you should watch your own zone.

To summarize, factors such as weather, supervisors, health and fitness, and personal troubles are external to the contest while player behavior, individual/crew performance, and fans are factors within the contest. Pleasant weather, helpful supervisors, being in good physical shape, separating one’s personal life from officiating, positive player and fan behaviors, and

effective performances at the individual and crew levels can set the stage for possible flow experiences.

The flow components unambiguous feedback, concentration on the task at hand, and loss of self-consciousness are flow components related to this theme. Receiving positive or negative feedback from players, supervisors, fans, and crewmates affect whether an intramural official experiences flow. An intramural official must concentrate on the contest, ignoring all non-contest related activities and thoughts, to experience flow. On a related note, in order to focus on the contest, an intramural official must lack self-awareness, forgetting personal troubles and future events, to perform well and enter a flow state.

Theme 5: optimal experience. Intramural officials were found to experience flow during intramural contests. Motivated, skilled officials in an appropriately paced game with a flow-conducive environment described situations that transcended the majority of experiences. Interviewee “C” describes such an experience with the comment featured below:

There was an instance where we had two highly competitive teams that weren't frats, but they played hard every second of that game. There were, you know, lots of contact, lots of fouls, a couple of travels, missed passes... there was a lot happening in that game. You know... the players were frustrated that there were so many foul calls, but, you know, they understood that they fouled so that was helpful... We saw all of the fouls, making the right calls, called a couple of charges. We weren't... there wasn't anything that we didn't see happen during that game...

Respondent “C” recalls how he and his crewmates during that flag football contest saw everything happening in the game, not missing any calls or action. The players asked

appropriate questions regarding calls and rulings and found officials' responses acceptable.

Respondent "C" and his partners felt confident in their decisions and explanations. The pace was also appropriately slower for the crew, leading to concentration and loss of self-awareness.

Next, informant "D" describes his flow experience:

Two really, really good teams playing against each other and I was fortunate to work with two other experienced officials during this game, and it's just a totally different experience working on a game like this where it's just so high paced, so high tempo. The skill is up, and so you love being in that position. Two teams that are good by themselves and have a little fire between them. You thrive on that and want to have those kind of games where the teams are up, you're up, you want to hustle and make the correct calls and drive the competition up. It's a close game and you're watching and making every call and it's the best feeling to throw your hand up for that three that wins the game. You want to be on the court for that. It's a great experience.

When asked to discuss the officiating mechanics and personal mindset during that experience, respondent "D" describes his heightened state of mental awareness during that time.

My mindset is just on edge. Ten seconds to go, you're watching, you're focused, you're on top of everything and you're looking around and it's a great feeling to see everybody else is on top of everything. You're checking to make sure and everybody's in the right place and everything's working just how it should be. Your mind is working. You know what's going on, just totally focused on everything at hand.

The level of player skill and fast pace of the game motivated this official. He wanted to match the player skill with excellent officiating, focusing on the physical and mental demands. He can

recall seeing his crewmates also performing on a high level. The exhilaration of the moment is evident in his statement.

Optimal experience for an official is very similar to Csikszentmihalyi's (1975) conception of flow. During the optimal experiences of respondents "C" and "D," the flow characteristics clear goals, concentration on the task at hand, sense of control, unambiguous feedback, loss of self-consciousness, and the challenge-skill balance are at play. These officials perceived that possessed the necessary skills to meet the challenge, felt in total control of the game, immersed themselves in the contest, and clearly knew what actions were required by themselves and their crewmates.

CHAPTER 5

DISCUSSION

The purpose of this study was to search for the occurrence of flow among intramural officials and, if flow is present, illustrate the nature of this optimal experience with regard to intramural officials. To fulfill this purpose, this study sought to address three research questions. The first research question asked if intramural officials experience flow. This study found that intramural officials at the University of Tennessee, Knoxville considered some of their experiences to resemble flow. Flow for experienced, highly motivated intramural officials would occur during appropriately paced contests in which extra-contest and intra-contest factors are conducive to flow and peak performance.

Expertise is tied to experience. Therefore, more experienced officials should possess the necessary skill and confidence in those skills to meet demanding situations. Csikszentmihalyi and Nakamura (1989) suggested that a high level of expertise was mandatory for a flow experience.

According to the study respondents, motivated officials, drawing inspiration from the actions of their crewmates, exert effort to perform well, setting the stage for flow or a peak experience. Flow occurs when a high level of motivation is present (Csikszentmihalyi, 1975). To enter a flow state, a sports official must be motivated intrinsically or extrinsically by the performance of his or her partners. Studies investigating flow among elite athletes (Jackson & Roberts, 1992; Jackson, 1993) found that flow, peak experience, and peak performance occurred simultaneously in sport contexts. Ravizza (1977, 1984) found that deep task involvement,

perceived control of the self and environment, and the merging of action and awareness as common characteristics of athletes' peak experience. Intramural officials mentioned these characteristics during their positive performances and most memorable moments. It is possible that these intramural officials had a peak experience, but peak experience has been found to be inseparable from flow in sports (Jackson et. al., 2001).

The pace of the contest greatly affected individual and crew officiating. Experienced officials desired faster paced games while novice officials were flustered by a fast paced game. The challenge-skill balance offered by Csikszentmihalyi (1975) could also explain this finding. Experienced officials perceived their skills as high and demand a challenge contest, which are typically fast paced. On the other hand, inexperienced officials, due to perceived low officiating skill, may require a less demanding and slower contest. One reason for this finding may be that officiating often requires split-second decisions, processing numerous rules and the actions of the players, resulting in many irreversible decisions. Simon and Chase (1973) found that more experienced chess players had superior memory of general chess situations. An experienced intramural official has numerous situations and memories to draw upon when presiding over contests while a novice has no officiating history on which to rely. As a result of years of officiating, these experienced officials are superior at detecting fouls, knowledge rules, use of signals, and overall familiarity with each intramural sport, similar to the findings by researchers in the expert performance field (Bard, Fleury, Carrière, & Hallé, 1980; Deakin & Allard, 1992; MacMahon & Ste-Marie, 1990; Plessner & Betsch, 2001; Ste-Marie & Lee, 1991; Ste-Marie, 1999; Ste-Marie, 2000). This wealth of knowledge and developed skills could explain why the pace of the contest does not affect experienced intramural officials.

Lastly, factor external to and within the contest affect flow occurrence. Similar to elite and non-elite athletes, intramural officials have lives outside of recreational sports, and subjectively more important issues, such as school, dating, and financial matters, may serve as distractions. Players and fans are integral parts of contest and largely determine the environment of a contest. Jackson (1992) found that an unresponsive audience hindered the flow of experiences of elite athletes. An official cannot completely control or account for the actions of players and spectators. Physically fit officials can easily match the pace of players and maintain concentration throughout the contest. Jackson (1992) found that physical readiness was conducive to flow among elite figure skaters. Conversely, lack of physical readiness was an obstacle to achieving flow. The behavior of overzealous crewmates can be an insurmountable obstacle to experiencing flow. When presiding over a contest, an official is said to have only two (or three) friends on the playing field or court: his crewmates. When an official consistently violates the duties of his partners, his crewmates are distracted and cannot perform optimally. The findings of Jackson (1992, 1995) are similar in nature. Jackson (1992), during her investigation of elite figure skaters, found that partner unity was an important flow facilitator while partner discord prevented flow occurrence. Moreover, Jackson (1995) found that the nature of team interaction impacted whether an athlete experienced flow. As a result, overall crew performance suffers, and the contest may become uncontrollable.

The second research question sought to find similarities or differences between Csikszentmihalyi's (1975) original concept of flow and the flow experiences of intramural officials. The results indicated that intramural officials at the University of Tennessee at Knoxville described their flow experiences similarly to Csikszentmihalyi (1975). The officials

mentioned intense concentration during their flow experiences. During these experiences, the merging of action and awareness and loss of self-consciousness were other flow characteristics discussed. Csikszentmihalyi (1975) found that concentration on the task at hand, the merging of action and awareness, and the loss of self-consciousness, along with six other characteristics, described the flow experiences of basketball players, chess players, rock climbers, dancers, and surgeons. The officials described being in the right positions in relation to their crewmates without effort and perceived that no important calls were overlooked. Clear goals, unambiguous feedback, and a sense of control, flow characteristics discussed by Csikszentmihalyi (1975), can offer explanations. The officials were aware of proper court positioning as a result of training, received non-verbal feedback from partners, and felt in complete control of the contest, addressing important calls. While the challenge-skill balance was not explicitly discussed, the officials seemed to believe that they possessed the necessary skill to meet that specific challenge. The work of Jackson and Csikszentmihalyi (1999) supports this statement. They point out that flow occurs when an individual perceives a balance between the challenges posed by the activity and their ability to meet these challenges.

It is important to reiterate that the nine components of flow are interdependent (Csikszentmihalyi, 1975) and an amount of overlap exists between some of the component (Jackson & Csikszentmihalyi, 1999). While certain components describe the flow experience similarly, discrete differences do exist. For example, while the loss of self-consciousness and merging of action and awareness are closely related, the loss of self-consciousness refers to the absence of negative thought, self-doubt, and self concern while the merging of action and awareness discusses the unity of physical movement and mental effort.

The third research question was dependent on intramural officials experiencing flow. Since this study found that intramural officials at the University of Tennessee, Knoxville experienced flow, the question of whether these individual flow experiences occurred simultaneously can be addressed. The actions of the crew definitely affect performance and overall mindset of the individual official. Working with motivated and experienced officials helps one relax, focus on performing at a high level, and enjoying the moment, possibly leading to a flow occurrence. On the other hand, apathetic or inexperienced partners can negatively impact motivation and cause the individual official undue stress. While crew performance can inhibit or foster flow occurrences, the simultaneous occurrence of individual flow experiences cannot be supported by the results of this study. Understandably, the officials were unable to accurately describe the mental state of their crewmates. Csikszentmihalyi (1975) discusses how the realization that one has experienced flow occurs after the experience has ended. Being a mental state, it stands to reason that only the individual can provide insight regarding his or her mental state during that period. Discerning the thought processes and overall mental state of an individual from casual observation is a difficult task. Perhaps future studies can interview crews to discover if these sport officials experienced flow at the same time during a contest.

Implications for Improved Performance and Managing Officials

Sport officials, in the quest for improved performance, should seek opportunities to develop and practice skills, specifically sport-specific mechanics, rule application, judgment, and management of the flow of the game. As an official gains more expertise, appropriately challenging assignments should be sought.

In order to experience flow and increase the chance for peak performance, sports officials should practice mental techniques such as imagery, goal setting, and progressive relaxation. Developing mental skills will enable an official to maintain a calm and positive mental environment during contests, setting the stage for flow.

Assigners and managers of officials should carefully consider the strengths and weaknesses of each official when determining the crews for athletic contests. For example, in collegiate basketball, a highly experienced official, with a history of officiating conference championship games and NCAA tournament games, may not be assigned to a contest because of a bad history with the coach or an inability to handle the pressure of the situation. Each athletic contest is unique and offers different challenges. The expertise and personality of sports officials should be considered when deciding crew makeup. On a related note, crew balance should be achieved by pairing novice officials with veteran officials whenever possible.

Sports officials should seek to experience flow in all of their athletic contests. Flow, an ideal mental state, generally occurs in tandem with peak performance in sport contexts. Highly skilled officials with a history of effective high performing at optimal levels are desired by players, coaches, assigners and managers of officials, and the officials themselves.

Limitations

This study has three limitations of note. First, the study sampling frame was intentionally limited to intramural officials. The experiences of other sports officials, such as secondary, collegiate, and professional sport officials of various sports, will not be addressed by this study. Secondly, the nature of qualitative research such as the small sample size and not seeking to generalize to the larger population limits the application of this study's findings to officials that

share qualities with the study respondents. Only intramural officials from a single university in the state of Tennessee were interviewed. Third, the single interview method may have intimidated the respondents, possibly limiting the amount of valuable information, and insight into the occurrence of flow in officials.

A Conceptual Model for Flow in Intramural Officiating

Based on the findings of the current study, a model of flow specific to intramural officiating can be offered. Figure 1 graphically depicts this model. Experience/expertise of crewmates and self, motivation of crewmates and self, the pace of the contest, and extra-contest and intra-contest factors determined whether intramural officials entered a flow state. For an official to have an optimal experience, a number of factors must be present. First, both he/she and his or her crewmates must have a significant level of experience with the sport and possess requisite expertise in officiating that sport. This experience may be weeks or years. The intramural official determines when a significant amount of expertise has been reached. Second, the official and his crew must be highly motivated in a positive manner to enter a flow state. It is important to note that the motivation of the individual official and his or her crewmates are interdependent, requiring that all official have a desire to be present. Third, the contest must be appropriately paced for the official's perceived skill level. The official's perception of the relationship between his or her skill and the pace of the contest is key. Finally, intramural officials need to be physically fit and effectively interact with players, spectators, and crewmates. Pleasant weather and helpful managers are also necessary for an optimal experience.

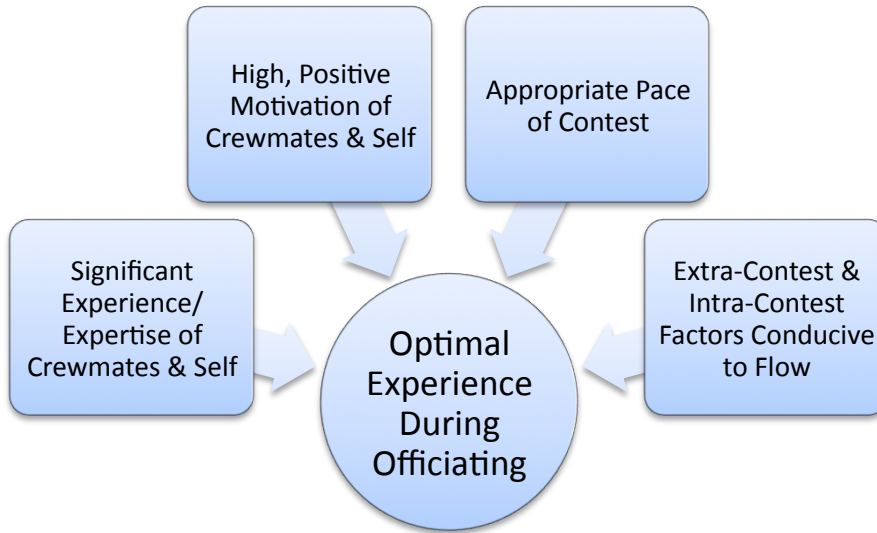


Figure 1. A Model for Flow Among Intramural Officials

The model of flow in intramural officiating is similar to Csikszentmihalyi's (1975) original model. Evidence for six of the nine flow characteristics were found in the study: clear goals, concentration on the task at hand, sense of control, unambiguous feedback, loss of self-consciousness, and the challenge-skill balance. Figure 2 illustrates this point. In the current study, no evidence was found for the merging of action and awareness, time transformation, and autotelic experience.

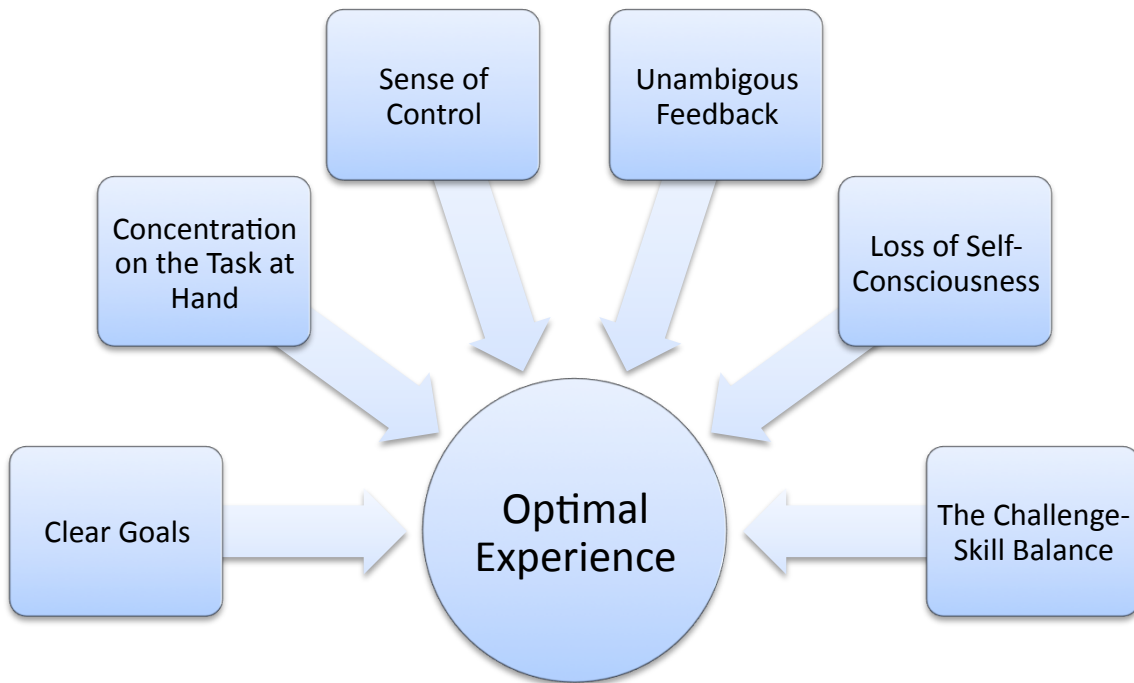


Figure 2. Relevant Flow (Csikszentmihalyi, 1975) Characteristics to Optimal Experience in Officiating

Directions for Future Research

Future studies should investigate flow among sport officials at various levels and what factors foster or inhibit optimal experience. Professional, collegiate, and secondary school sports officials should be asked about flow to hopefully validate the results of this study and to provide new insight of the occurrence of flow among sports officials. Other forms of qualitative inquiry (focus groups, participant observation dairies, observations, etc) and quantitative methodology (i.e. surveys, observations) could approach the phenomenon differently, creating small, invaluable pieces of the whole picture. Lastly, mixed method approaches could provide multiple, interdependent findings from a number of tools. Emergent methods such as conversation analysis and neural networks can also be employed.

While validating the results of this study is a worthwhile endeavor, future research can address biomechanical aspects of officials in flow. For example, does an official in flow run, breathe, or have crisper signals than an official not experiencing flow? Are there methods of running, giving signals, or moving to a new position during half-court rotations that facilitate optimal performance? The current study was not able to capture data on physical sensations and movement. This research could offer information on physical drills for officials and biomechanical skills that effective officials should develop.

A second suggestion for subsequent research on sports officiating is the effects of mental techniques such as imagery, goal setting, and progressive relaxation on the mental state officials. These studies could provide information about the cognitive processes of officials before, during, and after the contest. The notion of crew flow should be studied. Walker (2010) discussed solitary flow, co-active flow, and interactive flow. Interactive flow occurs when one participates in an enjoyable activity with others. Crew flow may be a collection of coinciding individual flow experiences or a group-level phenomenon, specifically interactive flow. Such a study would not only add valuable knowledge to the flow literature but also guide assigners in assembling stellar and effective crews.

Third, the current study investigated intramural officials who presided over team sports in crews of two to four officials. The University of Tennessee, Knoxville intramural sports program, similar to the majority of intramural programs across the nation, does not assign officials to individual sports. Future studies should investigate how intramural officials presiding over individual sports such as racquetball, tennis, track and field, and wrestling experience flow. Finally, previous research (Jackson & Roberts, 1992; Jackson, 1993) found

that peak performance and flow often occurred simultaneously. A future study should investigate if flow is a marker of expert performance for a sport official. This study would detail how sports officials gain expertise and if such expertise is required for a flow experience.

CHAPTER 6

CONCLUSIONS

This study regarding flow among intramural officials contributes to the wealth of research of flow in elite and non-elite sport contexts. While flow has been investigated among athletes, sport officials have not received such attention until now. Discovering how sport officials can achieve flow can only improve sports as a whole. When sport officials can learn to develop and maintain optimal, positive mental states conducive to flow, performance will be consistently high and effective for the majority of contests.

The central finding of the study is experienced, motivated officials presiding over appropriately paced contests and controlling the influence of extra-contest and intra-contest factors experienced flow. It is important to note that this conclusion is highly dependent on the subjective judgment of the official. Officials who perceive equity between the situational challenge and their own skills can experience flow. Regardless of the objective facts of the contest, officials can enter flow states.

From conducting this study, I found that attempting to elicit descriptions of flow experiences is difficult. All of my respondents had no prior exposure to Csikszentmihalyi (1975)'s concept or any of the more recent discussions of flow in sport and other contexts. While I believe that the study respondents understood my explanation of the concept, the majority found it difficult to describe or recall such an experience. This fact may be a result of lack of flow experiences during officiating for various reasons, unfamiliarity with the flow concept, or a poorly constructed interview schedule. Precise measurement tools such as

interview schedules, surveys, and observations should be carefully selected or constructed in future studies that investigate flow in sports officiating.

The results of this study have profound implications for the enjoyment of officiating, the quality of an official's work life, and, as previously stated, the management and assignment of high performing officials in recreational and elite sport contests. Flow occurs when one enters an activity solely for personal fulfillment and joy. Sport officials in flow, similarly to elite athletes, should perform at their best, facilitating high-level play from athletes and encouraging coaches to focus on directing their players on the court. Secondly, the life of an official can very stressful, from presiding over numerous contests within a short period of time to dealing with players, coaches, fans, and fellow officials. For many collegiate officials, sport officiating is a secondary source of income, requiring a primary occupation. These collegiate officials seek flexible occupations that allow for the necessary travel time, attendance of training sessions, and participation in other relevant activities. Flow is a state defined by feeling of joy, happiness, and fulfillment. In addition to performing at a consistently high level, a sport official in flow should be less stressed and motivated to endure the trials of sports officiating for the sake of enjoying their moment on the court/field. Finally, as previously stated, assigners and managers of officials should carefully place sport officials in flow-conducive contests. This action would require in-depth knowledge of the official's personality, work history, strengths and weaknesses, and history of flow occurrences. Personality assessments, stringent evaluation protocols, and tests of flow disposition need to be administered to sport officials so assigners and managers have the requisite knowledge to effectively construct officials crews for each contest.

It is very important that the academic study of sport officiating, specifically flow among sports official, continue. Neglecting to investigate how to facilitate sport official flow will deprive officials and assigners of an invaluable tool. Sport officials in flow will perform at a high level, and facilitating flow on a consistent basis should be the goal of officials, assigners, and academic researchers. As previously discussed, sport officials seeking flow will cope with stress effectively, leading to longer and more joyous careers.

Finally, as previously discussed, flow in officiating should be studied from an interdisciplinary standpoint. According to Csikszentmihalyi (2008), flow is a sync between the mind and body. Therefore, flow should be studied from multiple disciplines that can address the mental and physical aspects of this phenomenon. Sport psychology offers mental techniques that can create positive mental environments that are conducive to flow. Training sports officials in imagery, goal setting, and progressive relaxation while administering pretest and posttest interviews or surveys would additional information on how to effectively foster flow. The field of biomechanics can offer information on how officials in flow run, give signals, and otherwise execute the physical movements necessary for effective performance. Other disciplines such as the sociology of work and occupational psychology can provide valuable information on effectively managing officials to cultivate optimal experiences on a regular basis.

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APPENDICES

Appendix A

Approval from Mr. Mario Riles, Intramural Program Director

RE: Focus Groups

Riles, Mario Charles [mriles@utk.edu]

Sent: Tuesday, April 26, 2011 1:56 PM**To:** Martin, Victor Alexander

Victor, you have my approval.

Mario C. Riles, M.Ed

Intramural Coordinator

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From: Martin, Victor Alexander [mailto:vmartin8@utk.edu]**Sent:** Tuesday, April 26, 2011 9:19 AM**To:** Riles, Mario Charles**Cc:** Waller, Steven N**Subject:** Focus Groups

Hey, Mario:

Like we discussed yesterday, I need written permission to ask intramural officials to participate in focus groups for my thesis research. The topic of my thesis is finding the occurrence or lack of occurrence of flow among intramural officials.

Flow is the ideal mental state for athletes, recreational enthusiasts, and others. Flow is basically becoming one with the activity and losing all sense of self-conscious.

To my knowledge, no studies have attempted to investigate flow among sports officials. I want to interview eight to twelve via two focus groups intramural officials to see if any of them have experienced flow. I want a good mix of veterans and novice officials if possible.

If you approve of this, please reply to this e-mail. If you have any questions about the study prior to approval, please let me know.

Victor A. Martin, M.S.S.S.

Graduate Teaching Associate

Department of Kinesiology, Recreation, and Sport Studies

University of Tennessee at Knoxville

1914 Andy Holt Avenue

Knoxville, TN 37996

E-mail: vmartin8@utk.edu

Appendix B

INFORMED CONSENT STATEMENT

Optimal Experience: An Analysis of Flow Among Intramural Sports Officials

INTRODUCTION

You have been invited to participate in a study regarding the occurrence of flow among intramural sports officials. The main objective of this study is to discover if officials experience flow. If officials do indeed experience flow, then we attempt to achieve the secondary objective of describing the nature of the experience.

INFORMATION ABOUT PARTICIPANTS' INVOLVEMENT IN THE STUDY

This group interview should take approximately forty-five minutes to an hour. I will ask a series of questions, and I will allow you ample time to answer. You are encouraged to offer any information you deem relevant. Everyone within the group will obviously hear each of your experiences/responses; however, everyone will be instructed not to discuss the dialogue of this focus group with anyone else. The group discussion will be audio-recorded and transcribed by me. The transcript will be shared with only my project advisor, Dr. Steven Waller. During the formal presentation of my data, your name or identity will not be associated with your specific experiences/responses as the group will be treated as a whole in the analysis. Digital copies and transcripts will be stored securely in a locked safe until the study is completed, and then they will be destroyed.

RISKS

There is minimal risk involved in this study. Potential embarrassment and strong peer pressure are two risks involved in this study.

BENEFITS

By participating in this study, you will gain valuable knowledge regarding your own officiating experienced and how to facilitate higher degrees of performance. The body of knowledge regarding flow will increase because of this study.

CONFIDENTIALITY

The information in the study records will be kept confidential. Data will be stored securely and will be made available only to persons conducting the study unless you specifically give permission in writing to do otherwise. No reference will be made in oral or written reports which could link you to the study.

_____ Participant's initials
COMPENSATION

There is no monetary compensation involved in this study. Participants that take part in the study will be provided pizza during the group interview.

EMERGENCY MEDICAL TREATMENT

The University of Tennessee does not “automatically” reimburse subjects for medical claims or other compensation. If physical injury is suffered in the course of research, or for more information, please notify the investigator in charge (Victor A Martin, 205-222-5381).

CONTACT INFORMATION

If you have questions at any time about the study or the procedures, (or you experience adverse effects as a result of participating in this study,) you may contact the researcher, Victor A Martin, at 1400 Andy Holt Avenue Room 366 Knoxville, TN 37919. My mobile number is 205-222-5381. If you have questions about your rights as a participant, contact the Office of Research Compliance Officer at (865) 974-3466.

PARTICIPATION

Your participation is completely voluntary, and you may withdraw from the focus group at any time or refuse to describe any experiences that may make you feel uncomfortable or embarrassed. You will not be asked to answer any questions or perform any tasks that expose you to risks that may affect your position or membership within a certain group. If you choose to withdraw, data that you have provided will be returned to you or destroyed if you wish.

CONSENT

I have read the above information. I have received a copy of this form. I agree to participate in this study.

Participant's signature _____ Date _____

Investigator's signature _____ Date _____

Appendix C

Questions for Semi-Structured Interview

1. Describe a situation in which you officiated well.
2. Tell me about what helped/facilitated your performance.
3. How did your partners impact your individual performance?
 - a. Discuss what you were thinking at that time.
4. Tell me about times where you felt that the crew was performing well.
 - a. Describe what was happening when the crew was performing well.
5. Tell me about times where you felt that each member of the crew was performing poorly.
 - a. Discuss possible reasons for the crew performing poorly.
6. Tell me about times where you were not performing well individually but the crew officiated an excellent game
 - a. Describe the situation.
7. Discuss instances in which crew performance caused you and your teammates to perform well individually.
 - a. Talk about the crew during those instances.
8. Discuss instances in which crew performance caused you and your teammates to perform poorly.
 - a. Describe what was going on during those instances.
9. Describe memorable experiences of stellar crew officiating that appear to be different somehow from other experiences.
 - a. Describe the conditions surrounding these experiences.
10. Other than your partners, what other factors affect the performance of the officiating crew?
11. Is there anything else you can tell me concerning how you or the crew comes to perform well?

VITA

Victor A. Martin was born in Mobile, Alabama to the parents of Victor O. and Charlene Martin. He is the eldest of two sons; Sean Martin being his younger brother. He attended Bessie C. Farmville and John W. Will elementary schools, Phillips Preparatory School, and finished his pre-college education at John. L. LeFlore High School in Mobile, Alabama. After receiving his diploma, Victor attended the University of Alabama at Birmingham for his undergraduate study in sociology. Victor was a member of the University Honors Program and was inducted into Alpha Kappa Delta, the sociological honor society; the honor society of Phi Kappa Phi, the Golden Key International Honor Society, and the National Society for Collegiate Scholars. Victor obtained a Bachelors of Arts in Sociology with a minor in psychology in May 2004. Subsequently, Victor attended Miami University, earning a Masters of Science in Sport Studies in August 2006. During his two years in Oxford, Ohio, he taught physical activities classes as graduate teaching assistant and volunteered with Miami University of Ohio's Men's Basketball team. Three years later, Victor attended the University of Tennessee, Knoxville, earning a second Masters of Science degree in Recreation and Sport Management in August 2011. He is finishing his education at the University of Tennessee, Knoxville, pursuing a doctoral degree in Kinesiology and Sport Studies with a concentration in Sport Studies and a specialization in Sport Management.