Abstract

EXAMINING THE RELATIONSHIP BETWEEN INTRAMURAL SPORTS

PARTICIPATION AND SENSE OF COMMUNITY AMONG COLLEGE STUDENTS

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The purpose of this study was to determine if there were statistically significant relationships between intramural sports participation and sense of community among college students. A convenience sample was used, comprised of intramural sports participants from a university in the southeastern United States. Participants completed a questionnaire consisting of demographic questions and the Sense of Community Index-2 (SCI-2) (Chavis, Lee & Acosta, 2008) to rate their level of sense of community experienced through participation in intramural sports. The SCI-2 consists of four subscales, pertaining to the contributing elements of sense of community: membership, influence, integration and fulfillment of needs, and shared emotional connection (McMillan & Chavis, 1986). Questionnaires were distributed once and administered online, and all responses were confidential. Multiple regressions, analysis of variance and t-tests were used test for significant relationships between sense of community and respondents' (a) length of intramural sports participation and (b) frequency of intramural sports participation. Results indicated that increased length of participation was strongly associated with a greater sense of community among participants. Study findings could be used to develop effective marketing plans to attract student participants, while also providing the framework that programmers need to support their intramural program's existence to campus administrators.

EXAMINING THE RELATIONSHIP BETWEEN INTRAMURAL SPORTS

PARTICIPATION AND SENSE OF COMMUNITY AMONG COLLEGE STUDENTS

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CHAPTER I: INTRODUCTION

Co-curricular Learning Environments

A significant shift has occurred on college campuses, with regards to student learning and development. Historically speaking, a well-educated person was one who was fortunate enough to complete secondary school. Gradually, this baseline was discarded and replaced with a much higher standard, as substantially greater numbers of people began attending post-secondary institutions (Veysey, 1981). The focus was solely upon academic success, by way of grades attained and overall class standing (Rudolph & Thelin, 1990).

Over time, however, North American culture has expanded the standards of college success beyond the classroom. The successful student is now considered to be well-rounded, and engaged in many different areas of life (Astin, 1984). Universities have attempted to keep up with this trend, as student organizations rapidly grew on campuses everywhere. Students were not exposed only to academic experiences, but also to political, social, and recreational opportunities that soon became available (Wade, 1991). Some of the most highly regarded universities were those that provided the broadest possible experience to all students throughout their years of attendance (Boyer, 1987).

School administrators have been placing emphasis on the idea of co-curricular learning, which refers to learning that takes place outside of the classroom walls. Both formal and informal out-of-class opportunities that provide personal development, learning and character building experiences are becoming more prevalent at educational institutions; more meaningful attention has been given to these initiatives, in an effort to become more goal-oriented. According to the American College Personnel Association (ACPA, 2006), co-curricular programming refers to creative, curriculum-driven programming that is designed, in partnership

with teaching staff and faculty, to complement academic understanding and support student development. Co-curricular activities are considered to be voluntary, are not part of the regimented school curriculum, and do not receive grades nor earn credits. In this respect, many people would group co-curricular activities and extra-curricular activities as one in the same, which is not the case.

The difference lies within the intent of such activities. Co-curricular opportunities are ways to promote collaborative learning, by way of an intentional connection to personal development and learning. Musil (2003) described co-curricular learning as the societal and cognitive development that results when students step out of their comfort zones into contact zones with their peers. According to the ACPA (1996), co-curricular activities are purposefully designed to enhance course-related learning, connect knowledge and theory into practice, and to foster personal and professional development.

Effectiveness of Co-curricular Learning

Kuh (1996) discussed that while some higher education faculty members view student participation in co-curricular activities as a mild diversion, others see such institutionally sponsored opportunities as distractions from studying. Contrastingly, many student affairs professionals and faculty see the value of co-curricular involvement, stressing that many skills necessary for success after graduation are developed largely through co-curricular participation (Elkins, Forrester, & Noel-Elkins, 2011b) For instance, decision-making, culturally diverse socialization, and teamwork are skills that may be best learned by students living in residence halls or involved in campus organizations (Kuh, 1996).

The rationale for co-curricular activities is that what some students may learn inside the classroom, others may learn during their involvement as a participant in co-curricular activities

(Maki, 2002). Colleges can use this concept to determine their effectiveness in educating students; the most effective are those that have the greatest impact on and add the most value to a student's knowledge, personal growth and development (Astin, 1985). Co-curricular activities include opportunities for involvement with groups such as campus clubs and organizations, lectures, internships, co-ops, interactions with faculty and other students, cultural events and study abroad. These groups fall under the general department of student affairs on most campuses today, which is why, according to the National Association of Student Personnel Administrators (NASPA) (1997, p. 2), it is crucial for student affairs professionals to "share responsibility for learning."

Student affairs departments are expected to focus their time and energy towards creating conditions that foster an atmosphere of learning. There is a growing need for collaboration between student affairs professionals and academicians at higher education institutions, in order to provide opportunities to deepen and widen students' learning on campus (Kuh, 1996; Maki, 2002).

As a major component of student affairs, campus recreation programs have taken a leading role on college campuses in providing student development opportunities outside of the classroom (Haines & Fortman, 2008). Recreation centers are typically viewed as the cornerstone of campus life and play a meaningful role in creating a sense of community (Dalgarn, 2001). Therefore, it is important that campus recreation departments gauge the effect their facilities and programs may have on the student population and overall learning and assess if they are meeting these expectations.

Reprioritizing University Programs

  Campus recreation departments usually oversee many different program areas such as group fitness, sports clubs, intramural sports, personal training, and instructional recreation. Providing evidence of the outcomes of participation in these programs is crucial for campus recreation departments to earn and maintain adequate credibility and justification for their programs' existence in the university community. Reasonable justification has become a key focus in recent years, given the diminished budgets that many college campuses now face. As such, there is a greater need for assessment of outcome-based programming on college campuses.

  Today's economic crunch has put colleges across the country under tremendous pressure (De Pillis & De Pillis, 2001). Higher education administrators have felt the effects of this growing financial problem, and as such, have needed to take a step back and re-examine their campuses. Tuition and fees are on the rise, departments are fighting for funding, staff positions are being eliminated, grant money is thinning, incoming donations are dwindling, and facilities are suffering. As severe budget cuts have occurred, funding has not been as readily available, and campus recreation programs have been forced to reprioritize their agendas (De Pillis & De Pillis, 2001).

  Reprioritizing spending is difficult for administrators. With purse strings pulled so tight, the difficult task of deciding where money should be distributed has become even harder. Given these economic constraints, administrators are now pressured to increase the transparency of all decisions made; today's universities strive for accountability (Lock & Lorenz, 2007). To aid such difficult decision-making, university executives now require a greater justification of resources.

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This required justification leads to the development of outcomes-based programming, providing more substantial evidence of a program's outcomes.

Demands from Accreditation

Coming hand in hand with this increased demand for justification is the growing need for university accreditation. Accreditation is a process that involves the exhaustive review of universities and colleges by external organizations that decide if a particular institution is deemed to meet professional standards. The review examines not only academic performance, but also extracurricular opportunities, campus services, facilities, student enrollment, retention, staff qualifications, research activities, learning resources, and many other facets that are indicative of a successful campus (Harvey, 2003).

Ultimately, achieving accreditation provides universities with legitimacy within the world of higher education institutions (Federkeil, 2008). This trend has placed a large emphasis on the contributions of all campus services and departments to the university's overall mission (Cooper & Faircloth, 2006). With thousands of post-secondary institutions in the U.S. alone, schools are looking to boost ratings, improve their status, receive awards, and achieve the highest possible standing as a reputable institution. This growing pressure to be the best of the best is what has led administrators to focus on all facets of student development.

As mentioned before, campus recreation programmers focus attention on demonstrating that their programs contribute to overall student development on campus. Given the large number of people involved, campus recreation activities tend to be very costly and resource-demanding programs. Therefore, justification for continued funding is important. Examination of participation outcomes is crucial--it is important for programmers to be aware of what their programs have to offer. Understanding outcomes will help in developing an effective marketing

program to attract more student participants, but it may also help provide the framework that programmers need to support their programs' existence (Cooper & Faircloth, 2006).

Learning Outcomes

Documenting student outcomes is crucial to earn and maintain program credibility, which is required to secure a place of importance on campus. There have been numerous publications in the past decade that focus, specifically, on standards set for post-secondary institutions regarding student learning, performance and outcomes (Council for Advancement of Standards in Higher Education, 2008). Higher education administrators are looking for accounts of *how* campus programs will benefit students and contribute to their experience while in school.

Given the recent shift of focus among higher education institutions from inputs, standards and benchmarks, to outputs, results and performance, learning outcomes have been put in the spotlight. (CAS, 2004). The need to justify a program's contribution to student learning has, in turn, led to increased expectations to illustrate performance (Cooper, Flood, & Gardner, 2009).

The implementation of general learning outcomes allows administrators of campus recreation programs to overtly promote their intramural sports program as a crucial contribution to the overall student learning environment. Learning outcomes are, quite simply, the *results* of a program (Cooper et al., 2009) or, in other words, that which students will achieve as a result of participating. The importance of said outcomes, if positive, is that campus recreation departments could use these results to their advantage, and possibly see an increase in financial backing, credibility and overall acceptance as a key player on university campuses.

Sense of Community

Sense of community (SOC) is related to feelings of connectedness that a person may feel as a result of being a part of a larger group. Sense of community is a general feeling of belonging that members have, combined with the notion that members are of importance to one another, ensuring one's needs are met by way of group involvement (McMillan & Chavis, 1986). The guiding principles behind SOC include concepts such as socialization, group bonding, peer interactions and interpersonal relationships.

Value to Co-curricular Learning

Similar to the social premise of SOC, co-curricular learning occurs best in the presence of a strong social network; successful learning communities facilitate the establishment of both academic and social support networks outside the classroom (Cabrera et al., 2002). According to the National Association of Student Personnel Administrators (NASPA), communities that "value diversity, promote social responsibility, encourage discussion and debate, recognize accomplishments, and foster a sense of belonging among their members" are the most ideal environments for student learning (1997, p. 5). The SOC model to be used in this particular study focuses on concepts similar to NASPA's aforementioned definition, thereby creating a strong link between SOC and co-curricular learning.

Sense of Community as an Outcome

While sense of community is not necessarily a direct learning outcome, it contributes to student development and in maximizing a co-curricular environment. This indirect contribution, however, may still be viewed as an effect or outcome of intramural sports participation. Artinger et al. (2006) illustrated how participation in intramural sports programs can lead to improved

interpersonal relationships. Not only was it revealed that participants experienced improved teamwork within a group, but also better group bonding and overall socialization with fellow participants. These learning outcomes, which may be a result of SOC, are of great value in the broad scope of student learning.

Statement of the Problem

Many universities and colleges are focused on achieving recognition as an outstanding institution. A successful institution is achieved both inside and outside of the classroom walls, which is why campus programs, student services, clubs and organizations play a key role in determining the success of post-secondary schools. Recreational programs are popular and recognizable services offered on campuses that reach large numbers and a large proportion of campus (Dalgarn, 2001). Thus, it is important to understand what outcomes are associated with participation in campus recreation programs. Evaluation and assessment of these programs is also crucial to maintaining and growing funding for these services. Of particular interest to campus administrators is how program outcomes contribute to student development.

Recently, Elkins, Forrester and Noel-Elkins (2011a) studied the relationship between involvement in campus recreation activities and campus community. Elkins et al.'s study used an instrument designed in 2004 by Cheng, while this particular study focused on research by Chavis and McMillan and the corresponding Sense of Community Index 2 scale, developed in 2008 (Chavis, Lee & Acosta, 2008).

A sense of community has been examined in great depth within neighborhoods and other physical communities, but has not been extensively applied within the specific realm of intramural sports and the campus community. If a relationship exists between intramural sports

participation and improved SOC, this could perhaps contribute to future research in other related areas, including student retention, campus involvement, and co-curricular learning.

Purpose of the Study

The purpose of this study was to determine if there were statistically significant relationships between collegiate intramural sports participation and sense of community among college students. Using a participant questionnaire, students indicated which contributing elements of sense of community they gained through their own participation in intramural sports. In this manner, participants provided direct insight from their own experiences and involvement within the intramural sports program.

Research Questions

Q1: Does a student's length of participation in intramural sports contribute to sense of community?

Q2: Does a student's frequency of participation in intramural sports contribute to sense of community?

Hypotheses

H_o1: There is no relationship between sense of community and a student's length of participation in intramural sports.

H_a1: There is a positive relationship between sense of community and a student's length of participation in intramural sports.

H_o2: There is no relationship between sense of community and a student's frequency of participation in intramural sports.

H_a2: There is a positive relationship between sense of community and a student's

frequency of participation in intramural sports.

Limitations

One limiting factor of this study was its self-reporting design. Participants responded on

their own accord, reflecting on their own perceptions of personal gains from participating in

intramural sports. Since this was a one-time measure, causation cannot be determined from the

results of this study.

Length of participation was measured according to the number of semesters a student

reported that they participated in intramural sports. One limitation was the lack of differentiating

between students who participated only once per semester and those who participated on

multiple occasions each semester. Similarly, frequency of participation included the number of

sports in which a student participated. Due to the broad measure of frequency, students who

participated in only one game within a given sport were scored equally with students who

participated in many games within that sport.

Delimitations

Although participants were sampled from different intramural activities, the study

findings are only applicable to the study population; it would be difficult to apply the findings

similarly to other college campuses across the United States. There were incentives offered for

participants to respond, which may have lead to more truthful responses, due to participants'

eagerness to participate.

Assumptions

For the purpose of this study, it was assumed that all participants answered questionnaires honestly and to the best of their abilities. It was also assumed that reported sense of community was due to participation in intramural sports; it is entirely possible that participants may have gained improvements in SOC from other experiences in their college career. Exploration of other contributing factors was not within the scope of this study.

Definition of Terms

Frequency of participation – Frequency of participation refers to how often the respondent participates in intramural sports, with regards to the number of sports during the 2010-2011 academic year.

Intramural sports – Intramural is the combination of two Latin words that means "within the walls." When used in conjunction with the term "sports", it serves as organized sports events for participants in a specific jurisdiction of a setting, and requires design and leadership; in this case, a college or university campus (Mull, Bayless & Jamieson, 2005).

Intramural sports participant – An intramural sports participant is any person participating within an intramural sports activity, whether as a player or captain.

Length of participation – Length of time of participation in intramural sports refers to the number of semesters that a participant has been involved with the program.

Sense of Community – Sense of Community (SOC) refers to "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986).

CHAPTER II: REVIEW OF RELATED LITERATURE

Introduction

The purpose of this study was to examine the relationship between collegiate intramural sports participation and sense of community among college students. This chapter provides an overview of literature pertaining to this study. A brief history of community, intramural sports participation, and an overview of Sense of Community theory are presented.

Community

The term community can have many definitions, each very different from the next. Gusfield (1975) identified two primary uses of the term community from a sociological standpoint. On the one hand, community has a geographical or territorial connotation. On the other hand, however, it takes on more of a relational quality with regard to human relationships, lacking any reference to physical location. Although both uses of the term are distinctly different from each other, they are not necessarily mutually exclusive; elements of each co-exist in modern society's idea of community (Durkheim, 1964). As Durkheim also pointed out, society tends to develop community around interests and skills more than around physical locality (1964). This particular concept was applicable in this study, which examined a group of individuals with a common interest and activity, as opposed to a physical location.

Early Research on Sense of Community

Psychological Sense of Community, more commonly referred to as simply Sense of Community (SOC), has been studied by many different researchers over the years, dating back some thirty years. Doolittle and MacDonald (1978) looked at social behaviors and attitudes at the neighborhood level, to examine what factors influence community structure. Their research

focused on five factors, which they believed contributed to SOC: informal interaction, safety, pro-urbanism, neighboring preferences, and localism.

Informal interaction referred to the casual conversations that may take place with one's neighbors in the driveway or front yard. Safety levels were based on people's perception of how safe they feel in their own neighborhood. How private or anonymous a person chose to be within their neighborhood was represented by pro-urbanism, while neighboring preferences referred to how often a person wished to interact with their neighbors. The final factor, localism, made reference to a resident's desire to participate in neighborhood activities.

Doolittle and MacDonald's (1978) findings revealed three significant relationships. The less privacy and anonymity a person desired, the more often they chose to interact with neighbors. Also, as a resident's perception of safety increased, the more frequent their interactions with neighbors. Similarly, as safety perceptions increased, pro-urbanism decreased, meaning neighbors did not desire as much privacy if they felt their neighborhood was a safe environment in which to live.

Ahlbrant and Cunningham (1979) considered SOC to be the cornerstone of neighborhood satisfaction. There were three primary contributors to neighborhood satisfaction, according to the authors, all of which their research revealed as being significant. Neighborhood satisfaction increased when residents thought of their neighborhood as its own small community, embedded within the city as a whole. Residents who resided longer and participated more, thus were more loyal within their neighborhood, experienced greater satisfaction. Finally, neighborhood satisfaction was positively influenced when residents believed their neighborhood offered desirable activities and events for the people in the area.

In a study performed by Glynn (1981), in which questionnaires were distributed to residents of three different communities, it was found that 18 demographic items could essentially predict one's SOC score. As described by Glynn (1981), expected length of community residency, satisfaction with the community, the number of neighbors one could identify by first name, and the ability to function competently in the community were the strongest predictors of SOC.

Simultaneously, Riger and Lavrakas (1981) were administering a study that examined neighborhood attachment within a physical town community. Their findings revealed two factors around which residents could be clustered: social bonding and behavioral rootedness. Social bonding pertained to items such as identifying neighbors, feeling part of the neighborhood, and how many neighborhood children the resident knew personally. Its counterpart, behavioral rootedness, referred to years of residency in the community, whether the respondent owned or rented their home, and expected length of residency in the community. When these aforementioned factors were combined, four unique groups of citizens were identified (Riger & Lavrakas, 1981). The "young mobiles" were categorized as being low bonded and low rooted, whereas the "young participants" were high bonded and low rooted. Conversely, the "isolates" fell into the low bonded and high rooted group, and the "established participants" were labeled as high bonded and high rooted. Essentially, the latter group of established participants quintessentially represented the residents with the strongest SOC.

Also contributing to SOC, or in this case, comfort within one's neighborhood was fear of neighborhood crime, according to Riger, LeBailly and Gordon in their 1981 study. After examining four types of community involvement, they discovered that the two strongest indicators were bondedness and rootedness (Riger, LeBailly & Gordon, 1981), similar to Riger's

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and Lavrakas' findings (1981). That is to say that the more bonded a person felt within their community, and the more rooted the extent of their residency in the community, the less fear they felt with regards to crime in the neighborhood. In contrast, they found that using the neighborhood facilities and socially interacting more with neighbors did not play a significant role in determining a resident's feelings of safety.

A later study, by Bachrach and Zautra (1985), revealed that having a great SOC can contribute to feelings of empowerment or perceived control. For instance, the study looked at how residents coped with the introduction of a potential threat to their community, in the form of a hazardous waste facility. Questions were asked regarding seven different components. Each area addressed ways in which residents perceived their community, and included the following: if a person felt at home in the community, agreed with community values, felt they belonged in the community, felt important in the community, felt attached to the community, took an interest in the community's happenings, and overall satisfaction with the community (1985).

A trend showed that those who felt a stronger SOC were more likely to use "problem-focused coping behaviors" such as actively participating in community meetings, seeking additional information and writing and/or signing petitions (Bachrach & Zautra, 1985). Similarly, Florin and Wandersman (1984) came across complementary findings, to suggest community members who played an active role in neighborhood associations reported higher levels of SOC, as compared to those who did not participate.

All of the aforementioned studies played a very important role in the development and understanding of today's much clearer definition of SOC. While each of these studies differ slightly from one another, each contains a string of commonalities and themes. For example, length of residency, frequency of interaction, personal knowledge of neighbors, emotional

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connection with neighbors, and sense of safety are all common attributes that appeared in many of these historical findings.

<center>Sense of Community Today</center>

In 1986, McMillan and Chavis put forth a definition and theory surrounding the idea of sense of community (SOC), which remains the quintessential model to this day. Prior to this definition, previous studies had based their research on the *idea* of SOC, and not on any conceptually sound theory. As McMillan and Chavis point out, these studies assumed each separate element held equal weight or value, when that may not necessarily be true. Not every element of SOC "contributes equally to an individual's experience [because] the value-laden nature of the phenomenon [leads] one to believe that some feelings, experiences, and needs [are] more important than others" (McMillan & Chavis, 1986, p. 8).

Upon review of previous research McMillan and Chavis developed a definition stating that, "sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (1986, p. 9). To expand upon this definition, the researchers identified four components: membership, influence, integration and fulfillment of needs, and shared emotional connection (McMillan & Chavis, 1986). Membership refers to feeling a sense of belonging, or the ability to relate to others on a personal level. Influence includes feeling a sense of importance or mattering (both for the individual and the group), or the ability to make a difference to the group. Integration and fulfillment of needs is the idea of reinforcement; members whose needs are met and receive positive outcomes, by way of their involvement in the group, are more likely to continue as a member of the group than those who do not. Finally, shared emotional connection refers to the notion that group members share

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common beliefs, values, experiences and so-forth. A detailed description of each of the four components is provided in the following sections.

Membership

Membership can best be described as the feeling a person experiences when one has invested a portion of oneself into becoming a part of a group, or in other words, a member. In McMillan and Chavis' description of the concept of membership, they identify the following five attributes as contributing factors: boundaries, emotional safety, a sense of belonging and identification, personal investment, and a common symbol system (1986).

The important role that boundaries play is to distinguish that there are people who belong and people who do not. These boundaries enable the members who fall within the group to protect themselves against any potential threat (from outsiders) and to preserve the intimate social connections they have created within the group (McMillan & Chavis, 1986). Often times, the boundary is obvious, as is the case with neighborhood communities; geographical locations are much easier to delineate with such a boundary. Other times, however, it can seem difficult to outline a boundary, such as with common interest groups.

A positive result of boundaries is the notion of security, or as McMillan and Chavis state, emotional safety (1986). As previously stated, the members who lie within a particular group feel a sense of safety with regards to their emotions and "intimate social connections" they may have formed with other members. Not only can this sense of safety be emotional, but it may also be physical or economical. In the realm of gangs, for instance, gang members provide physical security (Doolittle & MacDonald, 1978; Riger, LeBailly & Gordon, 1981); relatives may help with economical safety within the boundaries of a family.

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The third attribute identified as contributing to membership is the sense of belonging and identification. This involves the notion that one has a "feeling, belief and expectation that one fits in the group and has a place there" (McMillan & Chavis, 1986, p. 10). In other words, it is a feeling of acceptance within and dedication to the group, which may lead to a willingness to make sacrifices on behalf of and for the group.

McMillan and Chavis suggested that personal investment was crucial in order for members to feel they had *earned* their membership within the group (1986). It was important to believe that one's place in the group was valuable and meaningful, whether through time, emotion, money or other such personal investment. One such example of investment leading to a stronger sense of belonging can be found within college fraternities and hazing rituals (Peterson & Martens, 1972). For instance, a student who has put their reputation on the line and faces humility will undoubtedly feel more connected to the group as a result of this personal investment (or sacrifice).

The final contributing factor is a common symbol system, which may be the most difficult attribute to define or describe. Put simply, it is something that has value or meaning, to the people who use or recognize it as such. Possible symbols for a particular neighborhood may include such things as the community's name, a landmark or logo, or the architectural style of the neighborhood. In a broader sense, national symbols include holidays, flags, and language.

Influence

Once membership has been established, influence must come into play. Perhaps the most important characteristic of influence within a community, according to McMillan and Chavis (1986), is that it is bidirectional. Not only does the group have influence over its members, but the members must also be able to influence the group (Peterson & Martens, 1972). A person is

unlikely to wish to become part of a group if he or she was incapable of having any influence as this is what results in a sense of empowerment. Conversely, a person chooses to join a group because of its influential ways over the membership, which results in group cohesiveness (Kelley & Woodruff, 1956).

While the former and latter ideas appear to contradict one another, McMillan and Chavis (1986) illustrate that both can work symbiotically:

> People who acknowledge that others' needs, values, and opinions matter to them are often the most influential members, while those who always push to influence, try to dominate others, and ignore the wishes and opinions of others are often the least powerful members. (p. 11)

The researchers also stress that group cohesiveness, or conformity, does not necessarily entail a "loss of personal choice" (McMillan & Chavis, 1986), but rather stresses the necessity of communities and groups that show acceptance and appreciation for people's individual differences. Wandersman (1981) stated that people who participate voluntarily in groups or associations feel a sense of shared power, which can lead to greater overall satisfaction, a sense of ownership, and improved group cohesion within the community. This notion can perhaps best be described as trust (McMillan, 1996). Ultimately, within a tightly knit community it will be evident that the influence of a member on the community and influence of the community on a member will both be present. In one summarizing statement, members are more attracted to a community in which they feel they are influential (McMillan & Chavis, 1986).

Integration and Fulfillment of Needs

In addition to the feeling that the members and group are both influential, members must feel that their needs are being met through their membership in the group. This third component

of SOC is referred to as integration and fulfillment of needs or reinforcement. McMillan and Chavis (1986) point out that in order for a group to maintain a positive partnership with its membership, the individual-group association must be rewarding for its members. In this way, the group can feel a strong sense of togetherness.

Two primary reinforcers are postulated as having a positive effect of binding people together within a close community, which are status and competence (McMillan & Chavis, 1986). The status of being a member is important, which relates back to the fact that members must feel a sense of belonging and reward for being a member. Status can also be viewed as the group's success. It has been shown that group success may bring members of that group closer together; people wish to be part of a successful group (Peterson & Martens, 1972). The latter concept, competence, refers to the fact that people wish to be involved with others who show some degree of competency and whose skills may be of benefit to them (Zander & Havelin, 1960). What is referred to as person-environment fit means that people choose to be members with other people and groups that can offer the most rewards (Rappaport, 1977).

Of importance is that this notion of fulfilling one's needs does not refer to the basic primal needs to survive. Instead, people seek to have their secondary needs met, which may be on an emotional or psychological level. McMillan and Chavis examine what it is that drives a person to seek out the needs beyond survival, to which the answer is shared values (1986). Each person has their own set of personal values, resulting from their personal backgrounds, culture, family and so forth. These values dictate each person's emotional or psychological needs and the importance of each, which determines which needs must be met first and foremost. By joining a group of members who share the same values, it is likely they will also share the same needs, priorities and goals, which leads to a partnership when meeting these needs (McMillan & Chavis,

1986). By relying on this partnership to aid in the reinforcement of a member's needs, the group is brought closer together and group cohesion increases.

To summarize, reinforcers that attract a person to a group are status of membership, success of the community, and competence of capabilities of other members. The result is a strong community, which is capable of fitting people together within the group so that each person's individual needs are met while simultaneously meeting others' needs.

Shared Emotional Connection

Perhaps one of the more abstract elements of SOC is the concept of shared emotional connection. McMillan and Chavis (1986) pose seven features that play key roles in a shared emotional connection: contact hypothesis, quality of interaction, closure to events, shared valent event hypothesis, investment, effect of honor or humiliation, and spiritual bond.

Contact hypothesis refers to proximity and frequency of members' interactions. Quite simply put, the more often members interact with one another, the more likely they will become close and develop a positive relationship (Allan & Allan, 1971). Also important is the quality of such interaction. For instance, the inter-member interactions should be positive experiences, which will then lead to a more positive relationship and a greater bond. This can then, in turn, facilitate even greater group cohesion (McMillan & Chavis, 1986).

While frequency and quality of interaction are key, it is also important that the interactions have a sense of importance themselves. If interactions or tasks within the community are ambiguous in nature it is less likely for group cohesion to occur. In other words, people do not wish to partake in events with no real purpose. That being said, the more important the shared event is to the people participating, the stronger the bond within that particular community. This idea of a shared valent event is evident in cases of natural disasters or other

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such crises, wherein people who get through the crisis together will experience a strong bond with one another (Myers, 1962).

McMillan and Chavis illustrate that the degree to which a member invests in a group is also crucial to a shared emotional connection (1986). Within a neighborhood, for example, homeowners who have put significant time or money into their residence are more likely to feel ties to the neighborhood than a person who is temporarily renting a home in the area. Likewise, those who donate time and energy to an association are likely to become more emotionally involved and tied to that association (McMillan & Chavis, 1986). Furthermore, the level of risk taken when becoming involved with a group and its members may be a contributing factor. Peterson and Martens (1972) discuss that intimate interactions (those with high emotional risk) will also affect a person's sense of community.

Similarly, members who experience honor within the community will most likely see positive gains in sense of community. This is primarily due to an increased attraction to the group as a result of positive recognition amongst peers. Conversely, experiencing humiliation in the presence of group members may have a negative impact on a member's SOC, and lead to an aversion to that community (James & Lott, 1964).

Related Research on Sense of Community

With McMillan and Chavis' definition and theory (1986) serving as the basis for current research on SOC, numerous studies have been conducted in recent years. Modern researchers have continued to expand on SOC theory and developed similar instruments to the Sense of Community Index-2 (SCI-2) (Chavis, Lee & Acosta, 2008) and other methods of assessing and measuring SOC. Topics of study range from leisure activities (Fairley & Tyler, 2012), to academic settings (Wighting, Nisbet & Spaulding, 2009), prisoners (Phillips, 2007) and

adolescent groups (Vieno, Santinello, Pastores & Perkinds, 2007). While the content and population in each study varies greatly from the last, the underlying concepts related to SOC remain similar.

While much of the historical research surrounding SOC focused primarily on communities in the form of neighborhoods or workplaces, little existed in the realm of community organizations. A 2008 study (Peterson, Speer, Hughey, Armstead, Schneider & Sheffer) focused on the development and revision of the Community Organization Sense of Community Scale (COSOC). The initial COSOC, first proposed in 2002, included a four-factor framework consisting of relationship to organization, organization as mediator, influence of the organization, and bond to community. After two studies, the revised COSOC was found to be reliable and released in 2006; it has since been cited in numerous studies ranging in disciplines from studying music bands in the United States (Keough, 2003) to citizen participation in communities in Japan (Yasuda, Hughey, Peterson, Saito & Kubo, 2007).

A study by Breunig, O'Connell, Todd, Anderson and Young (2010) focused on the contribution of wilderness leisure experiences on the perceived sense of community for college students. Outdoor pursuit programs center on the development of interpersonal relationships and group cohesion, which both inherently relate to an enhanced sense of community. There existed a lack of research in the particular realm of SOC and nature experiences, which established the purpose for the study. A group of 101 sophomore and junior college students participated in a 13-day outdoor practicum-based course in a centralized camp setting. Students completed both the Group Cohesion Evaluation Questionnaire (GCEQ) (Glass & Benshoff, 2002) and the Perceived Sense of Community Scale (PSCS) (Bishop, Chertok & Jason, 1997). The PSCS concentrates on three primary subscales, each of which captures a corresponding element from

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McMillan and Chavis' model of SOC (1986): mission (reinforcement of needs), reciprocal responsibility (influence), and harmony (shared emotional connection). The GCEQ was used to measure the equivalent of McMillan and Chavis' membership subscale. The study findings indicated an increase in sense of community over the course of the students' outdoor experience, across all four subscales.

Also pertaining to perceived SOC, researchers Elkins, Forrester and Noël-Elkins (2011) performed a study regarding participation in campus recreational sports and its contribution to perceived sense of campus community. The study examined 125 college students who participated in campus recreational sports using a sense of community scale developed by Cheng (2004). Of the six factors identified by Cheng as contributing to campus community, the diversity and acceptance subscale was the only one to result in any significant findings. Results illustrated that student participants in campus recreational sports were able to foster positive interpersonal relationships, develop friendships based on similar interests and values, and freely express ideas, opinions and beliefs.

Lloyd-Jones (1989) defined "community" as the binding together of individuals toward a common cause or experience. Shortly after, Boyer's publication of *Campus Life: In Search of Community* (1990) prompted continued research with regards to SOC development on college campuses. Institutions of higher education were thought to provide a strong sense of community if there was a positive connection or linkage between academic constituents and cocurricular activities on campus (Tinto, 1993). Kinzie and Schuh (2008) postulated that one essential component in the development of sense of campus community was student involvement and engagement in outcomes-based cocurricular activities.

Intramural Sports Participation

Intramural sports programs are often the largest and/or most popular offerings within campus recreation departments on college campuses across the country. Providing a range of recreational sports and activities, intramural sports programs are appealing to a wide variety of individuals on campus. Traditionally, activities offered include individual, dual, and team sports, as well as other unconventional activities. Intramural sports programs ideally offer activities at different levels of skill and competitiveness, so that more people may feel comfortable and inclined to participate. While intramural sports are predominantly, if not exclusively, physical activities, that is not to say all outcomes of participation are solely physical.

Past research has sought to determine the many outcomes of participation in recreational activities. It has been known for many years that such participation can lead to improved physical fitness and health status. Research confirms the positive relationship between physical activity and the primary and secondary prevention of disease, both chronic and acute (Pate et al., 1995). Regular physical activity can lead to the prevention of ailments such as diabetes, cancer, high blood pressure, cardiovascular disease, obesity, osteoporosis, depression, and asthma (Warburton, Nicol, & Bredin, 2006). In more recent years, however, studies have also shown the contribution that recreational activity makes to better overall health, which is not solely limited to physical well-being (Haines, 2001).

There has been research showing how participation can lead to improvements not only in physical health, but also emotional, psychological, cognitive, and social health and well-being. For example, research indicates participation in campus recreation programs can lead to improved self-esteem (Collins, Valerius, King, & Graham, 2001; Kanters & Forrester, 1997), decreased stress (Haines, 2001; Kanters, 2000; Ragheb & McKinney, 1993), increased academic

success (Belch, Gebel, & Maas, 2001; Hackett, 2007; Hall, 2006), improved teamwork, group bonding and socialization (Artinger et al., 2006), higher multicultural acceptance (Artinger et al., 2006), moral growth and values clarification (Rothwell & Theodore, 2006; Theodore, 1999), and time management and leadership skill development (Hall, Forrester, & Borsz, 2008; Schuh, 1999).

Intramural Sports and Sense of Community

By examining the interrelated components of both sense of community and intramural sports participation, the relationship between the two may be better understood. When looking at the contributing factors, each can be viewed from a different perspective within the scope of intramural sports. For instance, length of residency (previously in a neighborhood setting) can be most closely related to length of participation within intramural sports. Frequency of interaction with neighbors can be related to frequency of participation with other intramural sports participants. A resident's indication of personal knowledge of other neighbors can be interrelated to an intramural sports participant's ability to identify fellow participants within the intramural sports community.

In McMillan and Chavis' (1986) definition and theory article regarding sense of community, a solid example of SOC in a university setting is provided; conveniently, this example pertains to intramural sports, and how each component relates to SOC theory:

> Someone puts an announcement on the dormitory bulletin board about the formation of an intramural dormitory basketball team. People attend the organizational meeting as strangers out of their individual needs (integration and fulfillment of needs). The team is bound by place of residence (membership boundaries are set) and spends time together in

practice (contact hypothesis). They play a game and win (successful shared

valent event). While playing, members exert energy on behalf of the team

(personal investment in the group). As the team continues to win, team

members become recognized and congratulated (gaining honor and status

for being members). Someone suggests that they all buy matching shirts

and shoes (common symbols) and they do so (influence). (p. 16)

While the SOC theoretical framework, and its corresponding SCI-2 instrument, is not

specifically targeted towards recreational sports, there appear to be some strong similarities

between the two. Given the group setting within which intramural sports take place, many of the

SOC components can be related to such a program. Intramural sports participants must meet

player eligibility requirements, similar to the idea of membership. Bi-directional influence is

present between program administrators and participants. Participants choose to participate out

of the desire to meet many of their own personal needs, interests and goals, while simultaneously

sharing a similar experience to other fellow students in the program.

Summary

Higher education administrators today are seeking justification of programs and services

on campuses to defend the positive contributions made to student learning. Emphasis has been

placed on co-curricular learning and the importance of a whole educational experience, not

solely confined to the classroom. As such, campus recreation programs have followed suit with

corresponding student affairs departments to ensure student participants are receiving valuable

learning experiences.

Of particular interest are learning outcomes, or direct results of programs. Sense of

community is one such example of what may be a result of participation in recreational

programs, specifically intramural sports. The theoretical framework behind SOC includes

components related to membership, influence of - and by - members, fulfillment of members'

needs, and a shared emotional connection between members. Given the nature of intramural

sports, there is a strong connection to suggest a relationship between SOC and intramural sports

participation. What remains to be studied, however, is the nature of this relationship, if it exists at

all.

CHAPTER III: METHODOLOGY

Introduction

The purpose of this study was to determine if there were statistically significant

relationships between collegiate intramural sports participation and sense of community among

college students. Details regarding the methodology of the study are described below.

Study Design

A quantitative, self-reporting questionnaire was used as the study design for this research.

Participants were surveyed only once, resulting in a one-time measure of variables. Due to the

nature of the surveys administered and the assigned scoring for the instrument that was used, the

results were quantitative.

Study Site

The study took place within an intramural sports program at a university in the

southeastern United States. The university had a student population of approximately 28,000

students, and approximately 5,000 of the students participate in the intramural sports program

annually. This intramural sports program offered the campus community many different

recreational sport opportunities, including basketball, flag football, softball, soccer, and

volleyball leagues, in addition to small tournaments and activities. This study focused on

intramural sports participants of the 2010-2011 academic year, which occurred between

September 2010 and April 2011. The major sport leagues offered during this time period

included flag football, volleyball, outdoor soccer, basketball, and softball. Smaller activities

included dodgeball, tennis, racquetball, indoor soccer, kickball, innertube waterpolo, and

bowling.

Sample

The sample for this study included people who had participated in intramural sport programs during the 2010-2011 academic year (5,195 total). Convenience sampling was utilized; all intramural participants were invited to participate in the study through an email invitation. Participant email addresses were obtained confidentially from the university's campus recreation department for sole use of questionnaire distribution. In order to achieve a confidence level of 95% and a precision level of ±5%, the target sample size needed to be at least 370 respondents (Israel, 1992). This number was based on a population of approximately 5,000 intramural sports participants.

Data Collection

Prior to beginning any data collection, the study and its protocols were approved by the university's Institutional Review Board (IRB). A copy of the IRB study approval letter can be found in Appendix B. Once the instrument and consent forms were approved, data collection began.

The questionnaire was administered online. All potential respondents received a recruitment email that invited them to participate in the study. The invitation email included a brief introduction to the purpose of the study, contact information for the researcher, and a uniform resource locator (URL) link to the online survey. A copy of this invitation email is located in Appendix C. Participants were informed they were not required to participate in the study and that they may drop out at any time. This information was also stated on a consent form, which the participants were required to read and sign online, prior to beginning the questionnaire. A copy of the consent form is located in Appendix D. All questionnaires were confidential, and results were securely stored and accessible only by the researcher.

Three weeks after initial survey distribution, a reminder email was sent to the sample, requesting their participation if they had not already done so. Following an additional three weeks, a final reminder email was sent, notifying participants that the survey would close the following day.

As an incentive for their participation in the survey, respondents were given the option to participate in a prize drawing after completing the questionnaire. Respondents were directed to a separate website to indicate if they would like to participate in the prize drawing or not. A copy of the prize drawing entry form can be found in Appendix F. Each participant's first name, last name and email address were entered, and stored securely and separately from the participants' survey responses. Once the survey had closed, winners were chosen at random and notified via email to claim their prize. All prizes were donated in-kind by the campus recreation department and included group fitness passes, personal training sessions, fitness assessments, adventure equipment rentals and miscellaneous promotional items.

Instrumentation

The questionnaire consisted of two parts: demographic questions and a sense of community instrument. A copy of the questionnaire is provided in Appendix E. The questionnaire began with questions regarding demographic information including age, gender, ethnicity, classification and status on campus, place of residence, length of participation in intramural sports, number and type of intramural sports activities involved in, and any Greek organization involvement.

Age was asked using an open-ended question that allowed respondents to enter their age. Gender was posed as a question with two options for either male or female. Ethnicity was asked with seven possible selections, from which the respondents selected any that applied. There were

also options presented if racial identity was unknown, or if the person chose not to report on that particular question. Classification on campus asked for the student's year of study, although respondents who were not undergraduate students could instead indicate if they were a graduate student, staff or faculty member. Status on campus simply referred to whether the participant was considered full-time or part-time at the institution. Place of residence asked if respondents lived on-campus or off-campus, and a simple yes or no question was posed with regards to Greek organization involvement (in a fraternity or sorority) on campus. The aforementioned variables were collected in order to describe the sample of the study, and to determine any secondary relationships that may have existed between variables.

Respondents were instructed to choose from a drop-down menu to indicate the number of semesters in which they had participated in intramural sports. Respondents were also asked if they had ever served as an intramural sports captain. Lastly, respondents selected all of the intramural sports activities in which they had participated (from all-inclusive list of activities offered during the 2010-2011 academic year).

The second portion of the questionnaire was the Sense of Community Index 2 (SCI-2), as created by researchers Chavis, Lee and Acosta (2008). The Sense of Community Index (SCI) is the most "frequently used quantitative measure of sense of community in the social sciences" (Chavis, Lee & Acosta, 2008). The instrument has been used in numerous studies within many different countries and cultures. Also applied to a number of varying contexts, the SCI has previously been used for research in urban, rural, workplace, school, club and cyber community settings. Upon initial critique of the previous SCI, the revised SCI-2 was introduced. After a pilot test involving 36 culturally-diverse participants from varying socio-economic and geographical backgrounds, the SCI-2 was used as part of a larger survey involving 1,800 people.

Permission to use the SCI-2 instrument was provided by Dr. David Chavis, as shown in Appendix A. Reliability scores for the SCI-2 instrument from previous research were moderately strong, with a coefficient alpha of 0.94. Each of the four subscales within the instrument were also reporting as reliable in previous research with coefficient alpha scores ranging from 0.79 to 0.86 (Chavis, Lee & Acosta, 2008).

There are a total of 25 questions in the instrument, including one initial question to gauge the respondent's view on his or her feeling of sense of community. This preliminary question was accompanied by a six-point Likert-type response scale. According to the instrument developers, this initial question serves as a validating question to aid with the interpretation of results; the majority of previous studies have shown a correlation between total SOC scores and this question, although that is not necessarily true for all communities (Chavis, Lee & Acosta, 2008).

The remaining 24 questions included six statements aimed at each of the four components of McMillian and Chavis' (1986) SOC definition: membership, influence, integration and fulfillment of needs, and shared emotional connection. Responses for these 24 questions were structured with a four-point Likert-type scale, forcing respondents to give a clear answer, be it positive or negative. The four possible responses gauged the participant's agreement with the statement, in the form of: not at all, somewhat, mostly, or completely.

A total of 35 questions comprised the bulk of the questionnaire: 25 for the aforementioned instrument, and an additional ten demographic questions. As included in the SCI-2, scoring for the instrument was as follows:

Not at All   = 0

Somewhat   = 1

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Mostly   = 2

Completely   = 3

The totals were then summed to determine the participant's total Sense of Community

Index-2 score (SCI-2 score). Further scoring consisted of dividing the twenty-four statements

into the four subscales, as per McMillan and Chavis' (1986) SOC definition:

Reinforcement of Needs = Q1 + Q2 + Q3 + Q4 + Q5 + Q6

Membership = Q7 + Q8 + Q9 + Q10 + Q11 + Q12

Influence = Q13 + Q14 + Q15 + Q16 + Q17 + Q18

Shared Emotional Connection = Q19 + Q20 + Q21 + Q22 + Q23 + Q24

Data Analysis

The dependent variable for analysis was the SCI-2 total score. Since all participants were

selected according to their involvement in intramural sports, this meant there was no true zero

value possible in this particular study and the variable was an interval measure. The independent

variables for each test were length of time and frequency of intramural sports participation

respectively, each of which was also interval level data.

Analysis of variance (ANOVA) and t-tests were used to determine the significance of the

following variables: Greek involvement, serving as a captain, and classification on campus

(student's year of study in college). T-tests were used to determine the relationship between

overall sense of community scores and the variables with only two possible responses, including

Greek involvement and service as a captain. Classification on campus had five possible

responses, which required the use of ANOVA to determine its relationship with overall sense of

community. The variables that reported significant values were then included in the next stage of

multiple regressions. The aforementioned significant variables were analyzed in conjunction the

independent variables of length and frequency of participation, using simple linear regressions to

determine the strength of the relationship with overall sense of community scores. Complete

analyses and findings are reported in the following chapter.

CHAPTER IV: RESULTS

Introduction

The purpose of this study was to determine if there were statistically significant

relationships between collegiate intramural sports participation and sense of community among

college students. This chapter provides an overview of the results pertaining to this study. A

description of the sample and study respondents is provided, in addition to detailed information

regarding data analysis and the significance of any findings.

Sample Overview

The original sample included 5,195 intramural sports participants from the 2010-2011

academic year. Due to constraints related to the tracking of intramural sports participants, the

sample included all students, staff and faculty of the institution who had participated in at least

one intramural sport in the past year; therefore, while the study was focused on students only, all

intramural sports participants were included in the initial email distribution. Of the 5,195 emails

sent, 359 were returned due to invalid email addresses. After a review of the original email list,

132 were discovered to contain typing errors with the email address domain, and the survey was

re-sent to the corrected email addresses. The final sample consisted of 4,968 participants who

received the email invitation.

A total of 303 participants (6.10%) voluntarily accessed the survey link, and completed

the online informed consent form. Not all participants completed the survey itself, however, as

only 255 respondents (5.13%) did so. Of those 255 respondents, 187 (3.76%) chose to enter their

name and email address into the optional prize drawing after completion of the survey. Among

the 255 survey participants, five respondents were staff or faculty members of the institution.

Due to the student-focused nature of the study, these five cases were removed from the final data

set, leaving 250 student responses (5.03% of the sample) with which to conduct the data analysis.

There were no missing data for any variables across the 250 cases, allowing for complete

analyses of all student responses. The average time respondents took to complete the survey was

five minutes and forty-six seconds.

Characteristics of the Sample

Descriptive statistics and frequencies were obtained to understand sample characteristics

including age, gender and race/ethnicity. The mean age of respondents was 21.38 years with an

age range of 18 – 36 years. The greatest percentage of the sample (74.4%) was between the ages

of 19 and 22. Respondses are summarized in Table 1.

Table 1

Respondents' Age

Age (years)	Frequency (n = 250)	Percentage (%)
18	8	3.2
19	39	15.6
20	61	24.4
21	58	23.2
22	28	11.2
23	22	8.8
24	9	3.6
25	8	3.2
26	4	1.6
27	6	2.4
29	2	0.8
30	1	0.4
31	2	0.8
32	1	0.4
36	1	0.4

Mean = 21.38
Median = 21
Mode = 20

Of the 250 respondents, 125 were male (50%) and 125 were female (50%). Study

participants were predominately white/caucasian (82.0%), followed by black/African-American

(10.4%). Responses regarding race/ethnicity are summarized in Table 2.

Table 2

Respondents' Race/Ethnicity

Race/Ethnicity	Frequency *	Percentage (%)
White	205	82.0
Black / African American	26	10.4
Hispanic	7	2.8
Asian	7	2.8
American Indian / Alaskan Native	2	0.8
Native Hawaiian / Pacific Islander	2	0.8
Multiracial	7	2.8
Racial identity unknown	0	0.0
Prefer not to report my race/ethnicity	6	2.4

* Participants were instructed to check all race/ethnic groups with which they identify; therefore, total responses exceed 250.

Respondents were also asked to provide information regarding their classification on

campus, status on campus, place of residence, Greek organization involvement, and if they had

ever served as captain of an intramural sports team. Students were classified as a freshman,

sophomore, junior, senior, and graduate student. The largest proportion (28.0%) of the

respondents were juniors. Participants' responses for classification on campus are summarized in

Table 3.

Table 3

Respondents' Classification on Campus

Classification on Campus	Frequency (n = 250)	Percentage (%)
Freshman	30	12.0
Sophomore	50	20.0
Junior	70	28.0
Senior	56	22.4
Graduate Student	44	17.6

Off-campus students (n = 203, 81.2%) comprised the greatest percentage of respondents, as compared to on-campus (n = 45, 18.0%) and commuter students (n = 2, 0.8%). A total of 243 students (97.2%) reported being full-time versus 7 part-time students (2.8%). The majority of respondents (80%) did not indicate any involvement with a Greek organization on campus (n = 200), and 68.8% had never served as an intramural sports captain (n = 172).

Independent Variables

Survey participants were asked to describe their participation in intramural sports. Questions collected information regarding both length and frequency of intramural sports participation. Length of participation was determined by the number of semesters an individual had participated. Frequency was defined as the number of intramural sports a student had participated in during the 2010-2011 academic year.

The mean number of semesters in which respondents had been in involved with intramural sports was 3.3 semesters, with a range in length of participation of 1 – 12 semesters. The mean number of sports in which respondents had participated during the 2010-2011 academic year was 3.4 sports, with a range of 1 – 17 sports. The greatest proportion of students

had participated for 1 – 2 semesters (48.4%) and in 1 – 2 sports (52.4%). Results pertaining to

number of semesters and number of sports are presented in Tables 4 and 5, respectively.

Table 4

Number of Semesters Participated in Intramural Sports

Number of Semesters	Frequency (n = 250)	Percentage (%)
1	59	23.6
2	62	24.8
3	27	10.8
4	45	18.0
5	12	4.8
6	25	10.0
7	4	1.6
8	8	3.2
9	1	0.4
10	2	0.8
11	2	0.8
12	3	1.2
> 12	0	0.0

Mean = 3.33
Median = 3
Mode = 2

Table 5

Participation in Intramural Sports Activities

Sport	Frequency *	Percentage (%)
Softball	131	52.4
7 on 7 Flag Football	113	45.2
5 on 5 Basketball	101	40.4
Outdoor Soccer	79	31.6
Volleyball	74	29.6
Indoor Soccer	73	29.2
4 on 4 Flag Football	68	27.2
Kickball	43	17.2
Dodgeball	30	12.0
3 on 3 Basketball	27	10.8
Bowling	26	10.4
Wiffleball	23	9.2
Team Handball	18	7.2
Racquetball	7	2.8
Innertube Waterpolo	6	2.4
Golf	5	2.0
Billiards	4	1.6
Table Tennis	3	1.2
Disc Golf	3	1.2
Tennis	2	0.8
Foosball	1	0.4

* Participants were instructed to check all sports in which they participated; therefore, total responses exceed 250.

In order to determine frequency of participation, each participant's responses were totaled to determine the total number of intramural sports in which they participated during the 2010-2011 academic year. Totals ranged from 1 to 17, with the majority of respondents (52.4%) participating in 2 sports or fewer over the course of the year. Frequency totals are presented in Table 6.

Table 6

Frequency of Participation in Intramural Sports

Total Number of Sports	Frequency (n = 250)	Percentage (%)
1	85	34.0
2	46	18.4
3	30	12.0
4	20	8.0
5	22	8.8
6	11	4.4
7	15	6.0
8	6	2.4
9	3	1.2
10	8	3.2
11	1	0.4
13	2	0.8
17	1	0.4

Mean = 3.4
Median = 2
Mode = 1

Sense of Community Index-2 Responses

The second portion of the survey consisted of the Sense of Community Index-2 (SCI-2) instrument. Respondents answered twenty-four items pertaining to their perceptions of the intramural sports community. Responses were made on a four-point Likert-type scale, referring to the degree to which participants agreed to each of the twenty-four statements. Answers ranged from "Not At All" to "Completely" agree, and a summary of participants' responses is presented in Table 7.

Table 7

Frequency of Participants' Responses to the Sense of Community Index-2.

Percentages are shown in parantheses.

Item	Not At All "0"	Somewhat "1"	Mostly "2"	Completely "3"	Mode
I get important needs of mine met because I am part of this community.	15 (6.0)	121 (48.4)	96 (38.4)	18 (7.2)	1
Community members and I value the same thing.	9 (3.6)	114 (45.6)	114 (45.6)	13 (5.2)	1*
This community has been successful in getting the needs of its members met.	6 (2.4)	82 (32.8)	138 (55.2)	24 (9.6)	2
Being a member of this community makes me feel good.	5 (2.0)	57 (22.8)	114 (45.6)	74 (29.6)	2
When I have a problem, I can talk about it with members of this community.	31 (12.4)	97 (38.8)	88 (35.2)	34 (13.6)	1
People in this community have similar needs, priorities, and goals.	7 (2.8)	85 (34.0)	130 (52.0)	28 (11.2)	2
I can trust people in this community.	9 (3.6)	90 (36.0)	134 (53.6)	17 (6.8)	2
I can recognize most of the members in this community.	28 (11.2)	91 (36.4)	101 (40.4)	30 (12.0)	2
Most community members know me.	47 (18.8)	124 (49.6)	58 (23.2)	21 (8.4)	1
This community has symbols and expressions of memberships such as clothes, signs, art, architecture, logos, landmarks and flags that people can recognize.	25 (10.0)	71 (28.4)	92 (36.8)	62 (24.8)	2
I put a lot of time and effort into this community.	35 (14.0)	111 (44.4)	69 (27.6)	35 (14.0)	1
Being a member of this community is part of my identity.	55 (22.0)	116 (46.4)	51 (20.4)	28 (11.2)	1
Fitting into this community is important to me.	34 (13.6)	112 (44.8)	69 (27.6)	35 (14.0)	1
This community can influence other communities.	16 (6.4)	98 (39.2)	94 (37.6)	42 (16.8)	1

Table 7 continued

Item	Not At All "0"	Somewhat "1"	Mostly "2"	Completely "3"	Mode
I care about what other community members think of me.	39 (15.6)	114 (45.6)	71 (28.4)	26 (10.4)	1
I have influence over what this community is like.	57 (22.8)	142 (56.8)	36 (14.4)	15 (6.0)	1
If there is a problem in this community, members can get it solved.	16 (6.4)	106 (40.0)	99 (39.6)	35 (14.0)	1
This community has good leaders.	13 (5.2)	61 (24.4)	130 (52.0)	46 (18.4)	2
It is very important to me to be a part of this community.	25 (10.0)	98 (39.2)	84 (33.6)	43 (17.2)	1
I am with other community members a lot and enjoy being with them.	16 (6.4)	77 (30.8)	101 (40.4)	56 (22.4)	2
I expect to be a part of this community for a long time.	36 (14.4)	87 (34.8)	73 (29.2)	54 (21.6)	1
Members of this community have shared important events together, such as holidays, celebrations, or disasters.	55 (22.0)	87 (34.8)	82 (32.8)	26 (10.4)	1
I feel hopeful about the future of the community.	11 (4.4)	68 (27.2)	102 (40.8)	69 (27.6)	2
Members of this community care about each other.	10 (4.0)	89 (35.6)	116 (46.4)	35 (14.0)	2

* Multiple modes exist. The smallest value is shown.

The twenty-four items were divided into four separate subscales (Reinforcement of

Needs, Membership, Shared, Influence and Shared Emotional Connection), each consisting of

six items. Responses for each corresponding item were totaled to provide scores for the four

different subscales. In addition, each participant's SCI-2 responses were scored and totaled to

provide their final SOC score.

Total SOC scores, according to scoring of the SCI-2 instrument ranged from 5 – 72 out of

a possible maximum range of 0 – 72. The mean total SOC score was 37.50. Subscale scores for

the SOC Subscales of Reinforcement of Needs, Membership, Influence and Shared Emotional

Connection ranged from 0 – 18, 0 – 18, 1 – 18, and 0 – 18 respectively. Mean scores for the

aforementioned subscales were 9.96 for Reinforcement of Needs, 8.77 for Membership, 8.89 for

Influence, and 9.89 for Shared Emotional Connection. Reliability analysis of the four subscales

indicated a moderate consistency. Cronbach's alpha scores ranged from .818 to .880. Reliability

analysis of the total SOC score resulted in a score of .950. The results were similar to previous

reliability analysis conducted by Chavis, Lee and Acosta (2008). Results pertaining to these five

scores are summarized in Table 8.

Table 8

SCI-2 Subscale and SOC Scores

Subscale	Range	Mean	Median	Standard Deviation	Cronbach's Alpha
Reinforcement of Needs	0 - 18	9.96	10.00	3.42	.867
Membership	0 - 18	8.77	9.00	3.71	.818
Influence	1 - 18	8.89	9.00	3.77	.852
Shared Emotional Connection	0 – 18	9.89	10.00	4.18	.880
Total SOC Score	**5 - 72**	**37.50**	**37.00**	**13.56**	**.950**

Research Questions

Q1: Does a student's length of participation in intramural sports contribute to sense of

community?

Q2: Does a student's frequency of participation in intramural sports contribute to sense of community?

Regression Analysis

Regression analyses were undertaken to determine relationships between the independent variable (SOC score) and dependent variables (length of participation and frequency of participation), in order to answer the above research questions. Prior to doing so, analysis of demographic variables was needed to determine their significance in the overall relationship with SOC. In this manner, it could be determined which variable(s) to include in the regressions. T-tests were conducted to test the significance between SOC scores and Greek organization involvement, and between SOC scores and service as a captain.

Both Greek organization and service as a captain were nominal variables; due to their dichotomous nature, data for both variables was re-coded using reference categories. This resulted in all "no" responses coded as a zero value, and all "yes" responses coded with a value of one. An analysis of variance (ANOVA) test was conducted to determine the significance between SOC scores and classification on campus. With a significance value of $p<.05$, Greek organization involvement was shown to have no significant relationship with total SOC score. Both service as a captain and classification on campus were shown to have a significant relationship with SOC, both having scores of $p<.05$ and $p<.001$ respectively.

Independent variables of length of participation, frequency of participation, service as a captain, and classification on campus were included in a regression model, along with the dependent variable of total SOC scores. Additional regressions were used, including the same independent variables mentioned above along with each of the four subscales' scores as dependent variables. Results of these regressions are described in the following section.

Sense of Community

A linear regression analysis was conducted to examine the relationship between SOC scores and length of participation, frequency of participation, campus classification, and service as a team captain. Results of the analysis can be found in Table 9. The regression model was significant ($F_{4,249}=10.147$, $p<.001$, $R^2=.142$). The adjusted R^2 value of .128 indicates that the model explains slightly less than 13% of the variability in SOC scores. Results illustrated a significant inverse relationship between campus classification and SOC scores (B=-3.677). As campus classification increased, SOC score decreased. A significant positive relationship was observed between length of participation and SOC scores (B=1.268). As the number of semesters for intramural sports participation increased, so did SOC scores. All other relationships in the model were not significant.

Table 9

Predictors of Sense of Community

Variables	Sense of Community (DV)	Length of Participation	Frequency of Participation	Classification	Service as Captain	B	β
Length of Participation	.156					1.268*	.218
Frequency of Participation	.047	.240				.109	.022
Campus Classification						-3.677**	-.343
Service as Captain	(Reference = no)					-3.016	-.103
						Intercept = 11.62	
Means	37.50	3.33	3.35	+	+		
Standard deviations	13.56	2.34	2.77				
							$R^2 = .142$
							Adjusted $R^2 = .128$
							$R = .377*$

*$p<.005$
**$p<.001$
+Note. Classification and Service as Captain were ordinal and nominal variables, respectively

Reinforcement of Needs

A linear regression analysis was conducted to examine the relationship between reinforcement of needs and length of participation, frequency of participation, campus classification, and service as a team captain. Results of the analysis can be found in Table 10. The regression model was significant ($F_{4,249}=5.514$, $p<.001$, $R^2=.083$). The adjusted R^2 value of .068 indicates that the model explains slightly less than 7% of the variability in reinforcement of needs. Results illustrated a significant inverse relationship between campus classification and reinforcement of needs (B=-.767). As campus classification increased, reinforcement of needs score decreased. All other relationships in the model were not significant.

Table 10

Predictors of Reinforcement of Needs

Variables	Reinforcement of Needs (DV)	Length of Participation	Frequency of Participation	Classification	Service as Captain	B	β
Length of Participation	.045					.146	.100
Frequency of Participation	.007	.240				.007	.006
Campus Classification						-.767*	-.283
Service as Captain	(Reference = no)					.634	.086
					Intercept = 11.65		
Means	9.96	3.33	3.35	+	+		
Standard deviations	3.42	2.34	2.77				
						$R^2 = .083$	
						Adjusted $R^2 = .068$	
						R = .287*	

*$p<.001$
+Note. Classification and Service as Captain were ordinal and nominal variables, respectively

Membership

A linear regression analysis was conducted to examine the relationship between membership and length of participation, frequency of participation, campus classification, and

service as a team captain. Results of the analysis can be found in Table 11. The regression model was significant ($F_{4,249}$=13.075, p<.001, R^2=.176). The adjusted R^2 value of .162 indicates that the model explains slightly more than 16.2% of the variability in membership. Results illustrated a significant inverse relationship between campus classification and membership (B=-.894). As campus classification increased, membership score decreased. A significant positive relationship was also observed between length of participation and membership scores (B=.528). As the number of semesters for intramural sports participation increased, so did membership scores. All other relationships in the model were not significant.

Table 11

Predictors of Membership

Variables	Membership (DV)	Length of Participation	Frequency of Participation	Classification	Service as Captain	B	β
Length of Participation	.285					.528*	.332
Frequency of Participation	.097	.240				.055	.041
Campus Classification						-.894*	-.304
Service as Captain	(Reference = no)					-.787	-.098
					Intercept = 9.58		
Means	8.77	3.33	3.35	+	+		
Standard deviations	3.71	2.34	2.77				
						R^2 = .176	
						Adjusted R^2 = .162	
						R = .419*	

*p<.001
+Note. Classification and Service as Captain were ordinal and nominal variables, respectively

Influence

A linear regression analysis was conducted to examine the relationship between influence and length of participation, frequency of participation, campus classification, and service as a

team captain. Results of the analysis can be found in Table 12. The regression model was significant ($F_{4,249}$=7.260, p<.001, R^2=.106). The adjusted R^2 value of .091 indicates that the model explains slightly more than 9% of the variability in influence. Results illustrated a significant inverse relationship between campus classification and influence (B=-.949). As campus classification increased, influence score decreased. All other relationships in the model were not significant.

Table 12

Predictors of Influence

Variables	Influence (DV)	Length of Participation	Frequency of Participation	Classification	Service as Captain	B	β
Length of Participation	.059					.183	.114
Frequency of Participation	.034	.240				.043	.032
Campus Classification						-.949*	-.318
Service as Captain	(Reference = no)					-.796	-.098
					Intercept = 10.31		
Means	8.89	3.33	3.35	+	+		
Standard deviations	3.77	2.34	2.77				
						R^2 = .106	
						Adjusted R^2 = .091	
						R = .326*	

*p<.001
+Note. Classification and Service as Captain were ordinal and nominal variables, respectively

Shared Emotional Connection

A linear regression analysis was conducted to examine the relationship between shared emotional connection and length of participation, frequency of participation, campus classification, and service as a team captain. Results of the analysis can be found in Table 13. The regression model was significant ($F_{4,249}$=9.094, p<.001, R^2=.129). The adjusted R^2 value of

.115 indicates that the model explains slightly more than 11% of the variability in shared emotional connection. Results illustrated a significant inverse relationship between campus classification and shared emotional connection (B=-1.068). As campus classification increased, shared emotional connection score decreased. A significant positive relationship was observed between length of participation and shared emotional connection scores (B=.411). As the number of semesters for intramural sports participation increased, so did shared emotional connection scores. All other relationships in the model were not significant.

Table 13

Predictors of Shared Emotional Connection

Variables	Shared Emotional Connection (DV)	Length of Participation	Frequency of Participation	Classification	Service as Captain	B	β
Length of Participation	.163					.411*	.229
Frequency of Participation	.031	.240				.004	.002
Campus Classification						-1.068**	-.322
Service as Captain						-.800	-.089
					Intercept = 9.97		
Means	9.88	3.33	3.35	+	+		
Standard deviations	4.18	2.34	2.77				
						R^2 = .129	
						Adjusted R^2 = .115	
						R = .360*	

*$p<.005$
**$p<.001$
+Note. Classification and Service as Captain were ordinal and nominal variables, respectively

CHAPTER V: DISCUSSION

Introduction

The purpose of this study was to determine if there were statistically significant relationships between collegiate intramural sports participation and sense of community among college students. This chapter provides a summary of findings for this study. A discussion of these findings and conclusions are presented, in addition to recommendations for further research.

Study Overview

The interpersonal interactions involved in a recreational sports setting suggests that such participation contributes to a sense of bonding amongst the group (Haines & Fortman, 2008). These group dynamics may contribute to a greater acceptance of diversity and a sense of cohesion, all of which can lead to such experiences as overall happiness, improved levels of well-being, clarified values, and stronger character building (Downs, 2003). According to Downs, collegiate intramural participants reported that outcomes of such participation play a key role in helping students not only learn important team-building skills, but also to "feel like [a] part of the college community." (p. 44)

The concept of Sense of Community (SOC) has been studied in great depth over the past three decades. While a wide range of outcomes of intramural sports participation have been documented, many of which are strongly associated with the idea of sense of community, the specific interaction between SOC and intramural sports has yet to be examined in great depth. This study aimed to focus on the relationship between the two, in an attempt to determine any significant relationship(s) that may be present.

It was observed that participants who were younger, lived off-campus, or who had served as an intramural sports captain had higher scores on the SCI-2, indicating a stronger sense of community. Similarly, the longer students had participated in intramural sports, the higher their SOC scores. Students who were underclassmen/women on campus (freshmen and sophomores) exhibited higher SOC scores, on average, when compared to fellow upper class students.

Upon further analysis of independent variables, regression results indicated that approximately 12.8% of the variance in SOC scores could be explained by a student's (a) length of intramural sports participation, (b) frequency of intramural sports participation, (c) classification on campus, and (d) serving as an intramural sports captain. Of statistical significance in predicting the variance in SOC scores was a student's length of participation, indicating that students who had been involved with intramural sports for a longer period of time reported higher levels of sense of community. With a significance value of $p = 0.002$ in the regression model, it can be concluded that length of participation may predict a student's SOC score. There was not, however, any statistically significant relationship between SOC scores and a student's frequency of participation in intramural sports.

Relationship of Intramural Sports Participation to Sense of Community

The first regression analysis indicated that as college students' participation in intramural sports increases, their overall sense of community increases. As previously noted, McMillan and Chavis (1986) defined sense of community as feeling a sense of belonging, that being a member matters, and that needs will be met through commitment to be together. The design and implementation of collegiate intramural sports is conducted in the spirit of maximizing opportunity and participation, as well as building community capital on campuses. The positive relationship between participation and sense of community supports both of these concepts.

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Alternatively, the analysis noted that as college student classification increases, sense of community decreases. This relationship does not support the Sense of Community model. The results could be related to evolving needs during the total college experience. For example, upper class students (juniors, seniors, and graduate students) experience an increase in needs beyond college, such as career placement and family matters. Upper class students may naturally begin to disengage from the community they had formed in college during their early years. Related, under class students (freshmen and sophomores) may have a stronger desire to build community as they disconnect from their previous environment of high school and hometown.

Intramural Sports Participation and Reinforcement of Needs

The second regression analysis examined the relationship between intramural sports participation and reinforcement of needs. While there were no statistically significant relationships between the intramural sports participation and reinforcement of needs, results indicated that as student classification increases, reinforcement of needs decreases. As integration and fulfillment of needs is one component of sense of community, this inverse relationship does not support the Sense of Community model. This relationship could be related to the variance in college students' needs as they move up each year, nearing graduation.

McMillan and Chavis (1986) stated that the primary reinforcers of meeting one's needs within a community are status and competence. Underclassmen, who are new to college, typically take time to root themselves within the campus, and therefore, may not yet feel a sense of importance or success. An intramural sports program is one outlet in which freshmen may be able to gain experiences of status and competence, perhaps by participating with a winning team. Conversely, upper class students will have had multiple years of opportunities in which to gain a feeling of status and success outside of intramural sports. Senior college students will likely

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experience a sense of competence after getting involved with other student organizations and as they near completion of their degree, thereby limiting the effect that intramurals sports may have on meeting their needs.

Intramural Sports Participation and Membership

Regression analysis of intramural sports participation and membership revealed as college students' participation in intramural sports increases, so does their membership score. As per McMillan and Chavis' Sense of Community theory (1986), this relationship supports the model; their model postulates that length of residency within a neighborhood (in this case, length of participation in intramural sports) is positively related to sense of community. Membership refers to the investment of oneself that a person puts into becoming a part of a group.

Two of the primary proponents of membership include a sense of belonging and identification. As students continue to participate within intramural sports, it becomes very clear to all involved who the main community members are. The longer they participate, students tend to begin recognizing fellow participants, teammates, opponents, team captains and so on.

Personal investment also plays a key role in one's level of membership within a group. Study results showed that students who had participated for one semester were more likely to participate in only one intramural sport over the course of the 2010-2011 year, as compared to students who had been participating for years, who tended to participate in multiple sports in the same year. This increased investment of time and commitment likely contributes to the increased membership scores.

Lastly, a common symbol system plays an integral part in establishing membership within a community, which is most prevalent within intramural sports in the form of championship t-shirts. The greater number of semesters that students are involved with

intramural sports, the increased likelihood they will earn a champion shirt. These coveted awards are easily recognizable on campus, and create a sense of pride and ownership for those successful enough to earn one.

Results also showed that increased campus classification was related to decreased membership. This relationship could be related to the tendency of senior students to be involved in other communities on campus, which would limit the extent to which membership is experienced through intramural sports. For instance, upper class students may also be members of Greek organizations, student groups, honors organizations, residence life communities, etc. Many senior students may become more connected with their major and feel a sense of membership within that cohort. This increased breadth of involvement could dilute levels of intramural sports membership.

Intramural Sports Participation and Influence

In a regression analysis of influence and intramural sports participation, similar results regarding campus classification were found; influence scores decrease as campus classification increases. Counterintuitive to the Sense of Community model, this inverse relationship could be explained by the apathy commonly experienced by senior college students. Students nearing graduation, tend to feel indifferent in many ways, as they prepare to leave their college career behind them and move onto new experiences and challenges. Influence is a bi-directional phenomenon within the realm of sense of community (McMillan and Chavis, 1986), in that members are not only influenced by the group, but also influence the group itself. Upper class students who are attempting to separate themselves from the groups with which they are involved in college may feel that (a) they are no longer in need of the group's influence on them,

and (b) they do not feel they are able to be an influence on the group, as soon they will no longer be a member.

Intramural Sports Participation and Shared Emotional Connection

The final regression analysis examined intramural sports participation and shared emotional connection. Results indicated a positive signification relationship between the two, revealing that as the number of semesters of intramural involvement increases, shared emotional connection scores also increase. This relationship seems to support the Sense of Community model with regards to the concept of contact hypothesis (Allan & Allan, 1971; McMillan & Chavis, 1986). The proximity and frequency of group members' interactions plays a key role in establishing shared emotional connections.

One possible reason for this relationship is the more frequent number of interactions between intramural sports participants as the number of semesters of involvement increases. Students who participate in intramural sports for multiple semesters will, naturally, have greater opportunities to get to know fellow participants. Not only will the frequency of these interactions increase, but also the quality; as students participate for greater lengths of time, fellow participants may become close friends, as opposed to the acquaintances they were in previous semesters.

Further, it is plausible that underclassmen are more likely to rely on the intramural sports community as their primary social network when first becoming involved on campus. Freshmen will have limited connections when first entering college and will need to establish themselves within a community of their peers. For many young students, they may view the group of fellow participants as their intramural "family" even.

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Conversely, due to upper class students' continued involvement with multiple groups, both in and outside of college, they may no longer place as much importance on the social connections they have within the intramural sports community. Senior students will have a natural tendency to progress towards other parties and networks, such as their major or department's student organization, as they begin to exit college and move on from student life.

Implications and Recommendations to the Profession

While the results of this study have been reported and presented with possible explanations for relationships between variables, the practicality of the findings has yet to be discussed. It is important to examine how this study's results may benefit the campus recreation profession and, specifically, the realm of intramural sports. Possible applications of findings within the field are presented below.

Marketing

In this study, underclassmen/women were found to experience greater levels of SOC, overall. Results also revealed that those who participated longer in intramural sports experienced lower levels of SOC. Taking these findings into account, increased marketing efforts should be implemented to target freshmen students. By shifting the marketing focus towards freshmen, these incoming students can become involved within intramural sports early on. Having them incorporated into this community as soon as possible can only benefit the students, as they will be able to establish themselves within a community at the beginning of their college career. With the early security of this social network, lower year students will be likely to continue their intramural sports involvement for future years, thereby enhancing their own experienced levels of SOC. In addition, freshmen who can create quality connections with fellow students via

intramural sports may also be able to broaden their campus involvement into other groups and organizations with these same peers, and experience a stronger connectedness to the campus community(ies).

Programming

While continued involvement in intramural sports led to higher levels of SOC, it was also found that upper class students experienced lower SOC in general (as compared to lower year students). Perhaps counter-intuitively, the latter presents a challenge in increasing the levels of SOC that senior students experience. Specialized programs can be offered within intramural sports in order to provide unique opportunities for upper class students. For example, separate leagues and/or tournaments designed only for senior students could be included in the intramural sports program. The uniqueness of such offerings could assist upper class students in feeling more connected to their intramural peer participants, as they would be able to relate to one another more closely.

Furthermore, the specific senior leagues could be developed with direct input and feedback from the senior students themselves. Allowing the seniors to choose which unique sport(s) they would like to play provides tremendous opportunity for them to influence the group, and they may feel more valued within the community. The addition of a senior-specific sports could also lead to a new tradition within the program, of which underclassmen will hope to be a part of once they reach their final year.

Retention

The drop in SOC scores as students advance in campus classification presents an interesting situation related to retention of intramural sports participants. By implementing a way

to retain more student participants year-to-year, said students will likely experience greater levels of SOC, as shown in this study's findings. One such way to encourage students to continue intramural involvement is the introduction of an incentives program. For each sport a student participates in, for instance, they would receive one participation point. These points would carry over from one year to another for the entire course of the student's college "career." Upon reaching certain points milestones, students would be rewarded with unique intramural sports apparel. An example of points milestones is presented below:

10 points	Water bottle
20 points	Baseball cap
30 points	Sports bag
40 points	Track jacket

With a similar system in place, students would have tangible rewards to strive for as a way to continue participating in intramural sports for a number of semesters. After successfully reaching a milestone and receiving the appropriate item, students would then feel an elevated sense of status, thereby adding to their reinforcement of needs. Students could also identify more strongly with the group, by displaying the coveted apparel items as another common symbol for the community.

<div align="center">Limitations of the Study</div>

A primary limitation of this study is the way in which frequency of participation was collected in the survey. Students indicated in which sport(s) they had participated, which was then extrapolated into a numeric value, signifying the student's annual frequency for that school year. In essence, this did not accurately capture a student's frequency, but instead the number of sports involved in over the course of the year; students may have participated in each sport once

or several times and yet would essentially score the same for the frequency variable. This inaccuracy may have potentially skewed the results when determining the presence of statistically significant relationships between frequency of participation and SOC scores.

While the survey collected information regarding students' classification on campus as of the spring 2011 semester, the SCI-2 instrument and other variables collected referred to the entire 2010-2011 academic year. Thus, it is possible that students who changed classification at the mid-point of the academic year were compared alongside fellow classmates who did not experience this change in classification; analysis of results may have varied as a result.

A third limitation of the study was the sample size. Although 250 respondents participated in the study, the target of 370 participants was not reached. Effort was made to obtain the optimal sample size, but time constraints limited further solicitation and competing assessment efforts on campus may have hindered survey response.

Lastly, it is possible that students may have responded to SCI-2 items with reference to their experiences within the campus community in general, as opposed to referring to the intramural sports community only. In that case, students may have scored differently on the SOC scale, due to other contributing experiences outside of the intramural sports community.

Recommendations for Future Research

While this study was found to support only one of the two proposed hypotheses, the results provide valuable information for campus recreational sports professionals with regards to intramural sports participation and its connection to sense of community. Longer time as a participant of an intramural program is strongly associated with a sense of community among participants. Professionals within intramural sports programs may be able to use this information

to build outreach programs and strategies that may provide opportunities for increased involvement, thereby contributing to building a greater sense of community for those involved.

Future researchers should look to sample from multiple institutions so as to help increase the generalizability of the results and to apply findings accordingly across multiple college campuses. In addition, it is important that independent variables, such as frequency of intramural sports participation are collected more precisely, in order to assist in a more accurate data analysis. Students' participation should be examined with regards to the breadth, depth and quality of involvement to aid in a better representation of data and corresponding analysis. Potential future research could also focus on SOC scores for participants of individual sports as compared to participants of team sports, as well as how observed sense of community could relate to other campus involvement or student retention.

Conclusion

Involvement in co-curricular activities provides students with opportunities to enrich their social lives, which has been shown to have a connection with sense of community on college campuses (Cheng, 2004). According to Thomas (2000), college students who take advantage of such opportunities to provide broader social networks are more likely to remain in school than other students who only remain involved within their own group of peers. Intramural sports programs can be categorized in this way, as they provide a vast social network within which participants can build meaningful interpersonal relationships and campus connections.

This study's results indicate that longer time as an intramural sports participant is strongly associated with a greater sense of community among participants. Interestingly enough, however, it was also found that freshmen and sophomores reported higher SOC scores, as compared to fellow upper class students. These findings could suggest that freshmen experience

a greater sense of community within intramural sports as they may have yet to make connections with other groups or organizations on campus, and may rely on intramural sports as their social network. In that case, results suggest that said freshmen would experience an even greater sense of community in future years, after continuing as an intramural sports participant for a number of semesters. Results of this study could be used to develop an effective marketing program to attract more student participants, while also providing the framework that programmers need to support their programs' existence to campus administrators (Cooper & Faircloth, 2006).

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APPENDIX A – Use of SCI-2 Permission

From: David Chavis
To: Chelsea Phipps
Sent: Tuesday, February 22, 2011 2:39PM
RE: Sense of Community Index 2

Hi Ms. Phipps,

Sorry for the delay. You have permission to use the SCI-2 instrument. This is a copyrighted instrument. The reason is to maintain comparability across studies and to maintain the overall integrity of the instrument. Please participate in the forum on www.senseofcommunity.com. Thanks.

Best regards,
David

_____
David M. Chavis, Ph.D.
Principal Associate/CEO

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www.communityscience.com (*Learn more about us*)
www.changethinkers.com (*Share Ideas and Knowledge for Social Change*)
www.senseofcommunity.com (*Resources and discussions on SOC*)

 Community Science is a group practice of social change professionals who use knowledge to build healthy, just, and equitable communities. We connect knowledge with social change.

EAST CAROLINA UNIVERSITY
Office for Human Research Integrity
University & Medical Center Institutional Review Board
1L-09 Brody Medical Sciences Building• 600 Moye Boulevard • Greenville, NC 27834
Office **252-744-2914** • Fax **252-744-2284** • **www.ecu.edu/irb**

Date: June 1, 2011

Principal Investigator: Chelsea Phipps, Graduate Student
Dept./Ctr./Institute: Recreation and Leisure Studies
Mailstop or Address: phippsc09@students.ecu.edu

RE: **Exempt Certification**
UMCIRB# **11-0345**
Funding Source: Unfunded

Title: "The Relationship between Collegiate Intramural Sports Participation and Sense of Community"

Dear Ms. Phipps:

On 06/01/2011, the University & Medical Center Institutional Review Board (UMCIRB) determined that your research meets ECU requirements and federal exemption criterion #2 which includes research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior on subjects 18 years of age or older, unless:
(a) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
(b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation..

It is your responsibility to ensure that this research is conducted in the manner reported in your Internal Processing Form and Protocol, as well as being consistent with the ethical principles of the Belmont Report and your profession.

This research study does not require any additional interaction with the UMCIRB unless there are proposed changes to this study. Any change, prior to implementing that change, must be submitted to the UMCIRB for review and approval. The UMCIRB will determine if the change impacts the eligibility of the research for exempt status. If more substantive review is required, you will be notified within five business days.

The UMCIRB Office will hold your exemption application for a period of five years from the date of this letter. If you wish to continue this protocol beyond this period, you will need to submit an Exemption Certification Request at least 30 days before the end of the five year period.

Sincerely,

Chairperson, University & Medical Center Institutional Review Board

Attachments

pc: Dr. Nelson Cooper

APPENDIX C – Recruitment Email

Hello,

You have been invited to participate in an online survey, regarding your involvement as an intramural sports participant. This study will be examining the relationship between intramural sports participation and sense of community among college students.

All survey responses will be kept confidential throughout the study.

As an incentive for your participation, there is an optional prize drawing available to you, at the completion of the survey. If you choose to participate, you may enter your contact information, which will be stored separately from your survey responses. Available prizes include Fitness Gold passes, personal training sessions, fitness assessment packages, and other gift certificates kindly donated by Campus Recreation & Wellness.

This research is being conducted by Graduate student, Chelsea Phipps, as partial fulfillment of her Master's thesis requirements. Should you have any questions regarding the survey, or your participation, please contact Chelsea Phipps at phippsc09@students.ecu.edu.

The survey can be found online at the following link:

Thank you for your time,

Chelsea Phipps

Informed Consent Form

Introduction
This study attempts to collect information about sense of community among collegiate
intramural sports participants.

Procedures
You will be asked to complete a short questionnaire. The questionnaire is made up of 33
questions and should take no more than 15 minutes to complete. Questions are designed to
determine to what extent you feel a sense of community within the intramural sports community.
This questionnaire will be conducted with an online Qualtrics-created survey.

Risks/Discomforts
Risks are minimal for involvement in this study. Although we do not expect any harm to come
upon any participants due to electronic malfunction of the computer, it is possible though
extremely rare and uncommon.

Benefits
There are no direct benefits for participants. However, it is hoped that through your participation,
researchers will learn more about sense of community and collegiate intramural sports
participation.

Confidentiality
All data obtained from participants will be kept confidential and anonymous, and will only be
accessible by the primary investigator and assistant researchers listed below. The data collected
will be stored in the HIPPA-compliant, Qualtrics-secure database until it has been deleted by the
primary investigator.

Compensation
There is no direct compensation. As an incentive, however, participants may choose to enter a
drawing for free Campus Recreation & Wellness services. Available prizes include Fitness Gold
Passes, Personal Training sessions, and Promotional Giveaway packages.

Participation

Participation in this research study is completely voluntary. You have the right to withdraw at
anytime or refuse to participate entirely without consequence. If you desire to withdraw, simply
close your internet browser.

Questions about the Research
If you have questions regarding this study, you may contact the primary investigator, Chelsea
Phipps, at phippsc09@students.ecu.edu.

Questions about your Rights as Research Participants
If you have questions you do not feel comfortable asking the researcher, you may contact the research supervisor, Dr. Nelson Cooper, at coopern@ecu.edu, or contact the director of East Carolina University's Institutional Review Board, Dr. Susan McCammon, at (252) 744-2914 or mccammons@ecu.edu.

By selecting "Yes" and clicking the "next" button, you agree with the following statement:

I have read, understood, and **printed a copy** of the above consent form and desire of my own free will to participate in this study.

❍ Yes

APPENDIX E - Questionnaire

What is your sex?

❍ Male
❍ Female

What is your age?

_____

What is the racial/ethnic group(s) with which you identify? (Check all that apply)

❑ White
❑ Black or African American
❑ Hispanic
❑ Asian
❑ American Indian/Alaskan Native
❑ Native Hawaiian/Pacific Islander
❑ Multiracial
❑ Racial identity unknown
❑ I prefer not to report my race/ethnicity

What is your classification on campus (as of Spring 2011)?

❍ Freshman
❍ Sophomore
❍ Junior
❍ Senior
❍ Graduate Student
❍ Faculty
❍ Staff

What is your status on campus?

❍ Full-time
❍ Part-time

Where do you live?

❍ On-Campus
❍ Off-Campus
❍ Commuter

Are you a member of a Greek organization (fraternity or sorority)?

❍ Yes
❍ No

For how many semesters have you participated in Intramural Sports?

❍ 1
❍ 2
❍ 3
❍ 4
❍ 5
❍ 6
❍ 7
❍ 8
❍ 9
❍ 10
❍ 11
❍ 12
❍ more than 12

In which Intramural Sports have you participated? (Check all that apply)

❑ Volleyball
❑ 7 on 7 Flag Football
❑ Tennis
❑ Wiffleball
❑ Outdoor Soccer
❑ 3 on 3 Basketball
❑ Dodgeball
❑ Team Handball
❑ 5 on 5 Basketball
❑ Bowling
❑ Racquetball
❑ Foosball
❑ Table Tennis
❑ Billiards

- ❏ Innertube Waterpolo
- ❏ Softball
- ❏ Indoor Soccer
- ❏ 4 on 4 Flag Football
- ❏ Kickball
- ❏ Golf
- ❏ Disc Golf

Have you ever served as captain of an Intramural Sports team?

- ❍ Yes
- ❍ No

The following questions about community refer to your participation in the Intramural Sports community.

How important is it to you to feel a sense of community with other community members?

- ❍ Prefer not to be a part of this community
- ❍ Not important at all
- ❍ Not very important
- ❍ Somewhat important
- ❍ Important
- ❍ Very important

How well do each of the following statements represent how you feel about this community?

1. I get important needs of mine met because I am part of this community.

- ❍ Not at all
- ❍ Somewhat
- ❍ Mostly
- ❍ Completely

2. Community members and I value the same thing.

- ❍ Not at all
- ❍ Somewhat
- ❍ Mostly
- ❍ Completely

3. This community has been successful in getting the needs of its members met.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

4. Being a member of this community makes me feel good.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

5. When I have a problem, I can talk about it with members of this community.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

6. People in this community have similar needs, priorities, and goals.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

7. I can trust people in this community.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

8. I can recognize most of the members of this community.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

9. Most community members know me.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

10. This community has symbols and expressions of memberships such as clothes, signs, art, architecture, logos, landmarks and flags that people can recognize

○ Not at all
○ Somewhat
○ Mostly
○ Completely

11. I put a lot of time and effort into this community.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

12. Being a member of this community is a part of my identity.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

13. Fitting into this community is important to me.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

14. This community can influence other communities.

○ Not at all
○ Somewhat

○ Mostly
○ Completely

15. I care about what other community members think of me.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

16. I have influence over what this community is like.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

17. If there is a problem in this community, members can get it solved.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

18. This community has good leaders.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

19. It is very important to me to be a part of this community.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

20. I am with other community members a lot and enjoy being with them.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

21. I expect to be a part of this community for a long time.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

22. Members of this community have shared important events together, such as holidays, celebrations, or disasters.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

23. I feel hopeful about the future of this community.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

24. Members of this community care about each other.

○ Not at all
○ Somewhat
○ Mostly
○ Completely

Please review your responses and click the "Next" button once you are ready to submit the survey. You will then receive instructions to enter your name and email address into a separate database to be entered for the optional prize drawing.

○ Next

APPENDIX F – Prize Drawing Entry

To be entered into the drawing for participating in this survey, please provide your name and ECU email address below. This information will only be stored in the prize drawing file, which is separate from your survey responses. **Your name and contact information will <u>not</u> be associated with your responses from the survey.**

By providing your name and ECU email address, you will be entered into the prize drawing to win free Campus Recreation & Wellness services. Available prizes include:

- Fitness Gold pass
- Adventure trip
- Free Adventure equipment rentals
- Personal Training sessions
- Fitness Assessment package
- Miscellaneous promotional items

The prize drawing will take place after the closing of the survey on **July 22, 2011**, and winners will be notified via email. All survey participants will receive one (1) entry into the prize drawing.

First Name	_____
Last Name	_____
ECU email Address	_____

Your identifying information must be valid for you to enter the prize drawing. Please review your name and ECU email address to ensure they have been entered correctly. When finished, click the "next" button to submit your information for the drawing.

❍ Next