FEMALE COLLEGE STUDENT MOTIVATIONS FOR PARTICIPATION IN
INTRAMURAL SPORTS: WITHIN GROUP COMPARISONS

BY

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THESIS

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ABSTRACT

While physical activity can have a variety of health benefits, female college students, on average, participate in less physical activity than do male college students (Han et al., 2008; “Physical activity guidelines for Americans,” 2008; Small et al., 2013). Intramural sports represent one program offering under the umbrella of Campus Recreation where female college students can participate in a team or individual sport while partaking in physical activity. Given that intramural sports can provide physical benefits to participants, there is growing concern regarding the low participation rates of female college students (Meacci et al., 1982; Smith & Missler, 1994; Young et al., 2003). This study examined the motivations of female college students to participate in intramural sports and if those motivations vary by year in school, ethnicity, level of campus involvement, and citizenship. By conducting a within group comparison, this study sought to fill the gaps in the existing literature that have focused on male participants (Cooper et al., 2012; O’Dell & McCormick, 1997; Rokosz & Fabian, 1978). A total of 80 individuals completed an online questionnaire creating a response rate of 13.05%. The questionnaire included the Leisure Motivation Scale which has four subscales; competence-mastery, social, intellectual, and stimulus avoidance (Beard & Ragheb, 1983). Significant findings noted that when comparing the social factor of the Leisure Motivation Scale across class year, graduate students are less motivated to participate for social factors than are sophomores and seniors. Competence-mastery was the highest motivational factor for all groups followed by social, stimulus avoidance, and intellectual. Additionally, this study collected un-anticipated data related to participation in intramural sports before and during the COVID-19 pandemic. Data for this group suggests that females participating in intramurals during the COVID-19 pandemic
were least motivated by stimulus avoidance factors. Practitioners can use this information to guide how they might design programming during similar health crises.
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CHAPTER 1: INTRODUCTION

Numerous health benefits are associated with regular physical activity such as prevention of heart disease, cancer, and diabetes ("Physical activity guidelines for Americans," 2008). While research continues to demonstrate these benefits, only 23.2% of adults over the age of 18 meet the Physical Activity Guidelines created by The Department of Health and Human Services (NHIS, 2019). The Physical Activity Guidelines recommends 150-300 minutes a week of moderate-intensity or 75-150 minutes of vigorous-intensity physical activity a week ("Physical activity guidelines for Americans," 2008). In spring 2005, a national survey of undergraduate students found that only 43.6% of undergraduate students reported exercising vigorously for 30 minutes at least three times in the last seven days, suggesting that over half of undergraduate students are not meeting the Physical Activity Guidelines (American College Health Association, 2006). A separate national survey of high school students found that 90.4% of students participated in vigorous or moderate physical activity during the seven days preceding the survey (Eaton et al., 2006). These two studies suggest that on average students are more physically active in high school than college.

On average, female high school students participate less in vigorous or moderate physical activity than male high school students (Eaton et al., 2006). While physical activity levels for women on average remain consistent during their senior year of high school, that level decreases significantly during the summer between high school and college, then reduces further during the first semester of college (Han et al., 2008). The decreasing rate of physical activity does not appear to stop during the freshman year. By their seventh semester of college, female students typically participate in moderate-to-vigorous physical activity 73% fewer days than male students (Small et al., 2013).
Working to address the problem of declining physical activity rates for undergraduate students throughout their time in college, Campus Recreation departments provide a wide array of programming and facilities to assist college students in engaging in physical activity. This programming includes facilities for open recreation (such as basketball courts, volleyball courts, swimming pools and climbing walls), group fitness classes, intramural sports, and club sports. A survey of current directors of campus recreation departments affiliated with the National Intramural-Recreational Sports Association (NIRSA) assessed which activities were being emphasized on campus, the patterns of student participation, and the current trends and potential future program offerings (Stier et al., 2005). A total of 269 directors completed the survey and they collectively represented private and public institutions of higher education. They reported that intramurals (65%) and open recreational opportunities (47%) were the program areas with the strongest emphasis. Additionally, open recreation (46%) and intramural sports (37%) were the programs with the highest rates of participation (Stier et al., 2005).

Intramural sports allow college students to participate in team or individual sports in a competitive and structured atmosphere while engaging in physical activity. Some examples of traditional intramural sports include basketball, soccer, volleyball, flag football, racquetball, and tennis. While participating in intramural sports students can experience many benefits in addition to physical activity such as an increased sense of community on campus (Phipps et al., 2015), opportunities to interact with diverse groups (Artinger et al., 2006), higher grade point averages (Stier et al., 2005), improvements in psychological wellbeing (Stier et al., 2005), and increased retention rates on campus (Stier et al., 2005).

Literature on the outcomes of intramural sports participation has emphasized the many social benefits of participation. Artinger et al. (2006) examined the social benefits of intramural
sports participation for undergraduate students at a midsized postsecondary institution. A total of 349 students completed a survey that measured four social benefits including university integration, personal social benefits, cultural social benefits and social group bonding. Respondents indicated they benefited the most in personal social benefits and social group bonding. Additionally, they found that respondents believed intramural sports improved their ability to work with diverse groups. First-year students also reported significantly higher social benefits as compared to fourth-year students (Artinger et al., 2006). Phipps et al. (2015) examined a different aspect of social benefits; sense of community, or a feeling of belonging to a larger group. A total of 250 intramural participants completed the Sense of Community Index. The results found that as participation in intramural sports increases, so does their overall sense of community (Phipps et al., 2015). Together, these studies suggest that intramural sports can play a role in the retention rates of currently enrolled college students on campus (Stier et al., 2005).

As the research demonstrates the many benefits of participation in intramural sports, there is continued concern of low participation rates among particular groups on campus, specifically female undergraduate students (Meacci et al., 1982; Smith & Missler, 1994; Young et al., 2003). This is particularly relevant in the context of the lower rates of physical activity of female undergraduate students (Small et al., 2013). To determine how to encourage increased participation among female college students, it is important to examine the motivations of current female participants. Professionals can then use this knowledge and highlight these factors in marketing campaigns or program designs to encourage more female participation in intramural sports.
Significance of the Study

There are inconsistent findings in the current literature on motivations of female participants in intramural sports. Studies have found that women are significantly more motivated to participate to improve physical appearance (Cooper et al., 2012), to socialize (Cooper et al., 2012; Iso-Ahola & Allen, 1982; Smith & Missler, 1994), for health (Ciuffo et al., 2014; Martindale et al., 1990; Smith & Missler, 1994), for a break in routine (Smith & Missler, 1994), for competition (Meacci et al., 1982), and to master a skill (Beggs et al., 2014; Beggs et al., 2004; Beggs & Elkins, 2010; Kanters & Forester, 1997; Martindale et al., 1990). Additionally, there is limited research on within group comparisons for intramural sports participation. Previous research has focused on age (Cooper et al., 2012; O’Dell & McCormick, 1997) and involvement in campus organizations (Rokosz & Fabian, 1978), however, the emphasis has been placed on male rather than female participants. This previous research is also outdated and may not be relevant to modern intramural sports programs.

Since there is limited recent motivational research examining within group comparisons of female intramural sports participants specifically focusing on the influence of year in school, ethnicity, level of campus involvement, and citizenship, this study fills that gap in the literature. Due to female college students not being as physically active as male college students, it is important to understand what motivates current women to participate in intramural sports. This insight will allow professionals to refine and enhance their marketing and programming, which may lead to an increase in physical activity of female undergraduate students.

Research Questions

For the purpose of this study, the following research questions were addressed:

1. What motivates female students to participate in intramural sports?
2. Do motivations vary by year in school, ethnicity, level of campus involvement and citizenship?
CHAPTER 2: LITERATURE REVIEW

When trying to learn why people participate in intramural sports, it is important to note that intramural sport is generally considered a leisure activity. There are many ways of defining and explaining leisure behavior and choices. Contemporary themes of the meaning of leisure include free time, recreational activity, and a special spirit (Russell, 2020). The literature on motivations influencing participation in leisure activities is extensive (Barnett, 2011; Chen et al., 2013; Geidne et al., 2016; Iannotti et al., 2013; Lee & Ewert, 2019; Lloyd et al., 2007; Ramey et al., 2016). One theory that explains why someone is motivated, in addition to the degree to which they are motivated, is Self-Determination Theory (Deci & Ryan, 1985). The following review of relevant literature examines why some individuals are motivated to participate in intramural sports.

Perceived Benefits and Limitations or Constraints of Participation

While the focus of this study was on the motivations for participation, it is helpful to first discuss the literature on the perceived benefits or constraints students experience related to participation in campus recreational programming. It is suggested that there is a connection between perceptions or attitudes and participation behavior (Grubbs & Carter, 2002; O’Dell & McCormick, 1997). Perceived benefits have emphasized opportunities for social interactions (Artinger et al., 2006; Lower et al., 2013; O’Dell & McCormick, 1997), intellectual or cognitive stimulation (Lower et al., 2013) and fitness or health (Lower et al., 2013; Spivey & Hritz, 2013). A study conducted by Spivey and Hritz (2013) examined the perceived benefits of intramural sports participants. Findings suggested that frequent participants felt perceived benefits greatly resonated with them when compared to infrequent or non-users. Perceived benefits included improved fitness, development of healthy lifestyle habits, and enhanced mood.
Research that has examined limitations or constraints experienced by students in relation to participation in campus recreational programming has focused on comparisons between current participants and nonparticipants (Meacci et al., 1982; Spivey & Hritz, 2013). A factor an individual experiences or perceives that precludes or limits an individual’s frequency, intensity, duration, or quality of participation in an activity is known as a constraint (Young et al., 2003). A perceived lack of time or scheduling conflicts (Meacci et al., 1982; O’Dell & McCormick, 1997; Spivey & Hritz, 2013) and no interest in participation (Meacci et al., 1982; O’Dell & McCormick, 1997; Stankowski et al., 2017) are the two primary themes mentioned in constraints research related to campus recreational participation.

A study conducted by Young et al. (2003) surveyed participants and nonparticipants in campus recreational programming. The most significant reasons for non-participation included “lack of time because of work, school, or family,” “I do not know what is available,” and “lack of time because of other leisure activities,” which is consistent with other studies within the literature (Lim et al., 2011; Meacci et al., 1982; O’Dell & McCormick, 1997; Spivey & Hritz, 2013). The study also compared constraints of individuals of different gender, age, and residential status. It was found that men and women did not have significant differences in relation to their level of agreement of perceived constraints. However, women agreed that the perceptions of “participation makes me self-conscious,” “I don’t have the will to participate,” “activities are dominated by a specific gender,” and “lack of time because of work, school, or family,” significantly impacted their constraints on participation more than men.

When examining age, the study found that younger individuals (aged 18-25) identified “lack of transportation” and “lack of money” as more prevalent constraints. Older individuals (aged 26 and older) identified “available activities are inappropriate for my gender,” “lack of
time because of work, school, or family,” and “I do not know what is available,” as the most significant constraints preventing participation. This study also found a significant difference between the perceived constraints of on-campus residents and off-campus residents. On-campus residents perceived the following constraints; “participation makes me self-conscious,” “I lack the skill to participate,” “I don’t have the will to participate,” “facilities too crowded,” and “lack of transportation”.

The financial situation of a family, or the student’s socioeconomic-status (SES), can be viewed as a barrier to participation. A positive correlation has been found between higher SES and physical activity for both adults and adolescents (Lim et al., 2011; Stalsberg & Pedersen, 2010). This trend can be extended to sport participation where membership of a sport club or team is typically associated with higher SES families (Eime et al., 2013). This association is stronger in metropolitan areas as compared to rural areas (Eime et al., 2013). There are a few reasons why this association occurs including the cost of team fees, sport equipment, and transportation to where the team plays (Stalsberg & Pedersen, 2010). Lower SES can also impact structurally related factors associated with living in lower SES neighborhoods such as fewer or lower quality recreation areas, significant traveling distances to access better facilities, and perceived safety of the areas (Stalsberg & Pedersen, 2010). As Young et al. (2003) noted, while constraints are significant, they do not always prevent participation. Constraints may exist, but an individual can negotiate through those constraints to allow for participation to occur. Therefore, motivations themselves were the main focus of this study.

**Leisure Motivation**

The literature on leisure motivations stems from theory related to leisure needs. A leisure need is the perceived reason for participation in a leisure activity (Iso-Ahola & Allen, 1982). A
series of needs qualify as core, or basic needs. To meet this qualification, a need must meet the following criteria: 1) operates across a wide variety of settings, 2) impacts a broad variety of behaviors, 3) directs cognitive processing, 4) drives towards satisfaction, 5) has affective consequences, and 6) is universal (Baumeister & Leary, 1995). Some examples of core needs include belongingness (Baumeister & Leary, 1995), competence (Deci & Ryan, 1985), and autonomy (Deci & Ryan, 1985). A need has two aspects: change and stability. A need can change according to when it is measured relative to the activity in addition to the outcome of the experience (Iso-Ahola & Allen, 1982). A need that is measured prior to participating in the activity is termed a priori. Conversely, a need that is measured after participating in a leisure activity is termed posteriori (Iso-Ahola & Allen, 1982). A key characteristic of a need is that if it is not met the effect can be harmful to the individual either medically, psychologically, or behaviorally (Baumeister & Leary, 1995). Leisure needs do not explain why someone chooses to participate after their need is met, or if their need is met through another activity. As a result, this study focuses on leisure motivation rather than leisure needs.

**Self-Determination Theory**

Motivational theories are useful in understanding what motivates undergraduate students to participate in intramural sports. One theory commonly used by exercise psychology researchers and in intramural sports motivation literature is Self-Determination Theory (SDT) (Cooper et al., 2012; Deci & Ryan, 1985; Lox et al., 2014). This theory originated to aid in the explanation of cognitive, behavioral, and affective responses in an achievement domain, such as academics (Lox et al., 2014). SDT is founded on the assumption that individuals have three primary psychosocial needs: 1) Autonomy, or the need for self-dependent or self-determinant behavior; 2) Competence, or the need to demonstrate mastery of the skills within the activity;
and 3) Relatedness, or the need for social interactions (Cooper et al., 2012; Lox et al., 2014).

This theory proposes an individual will be highly motivated to participate in an activity that meets one or more of these three psychosocial needs (Cooper et al., 2012).

This theory suggests achievement behaviors are driven by three forms of motivation. The three forms are Amotivation, Extrinsic Motivation, and Intrinsic Motivation (Lox et al., 2014). The three categories exist within a continuum and are illustrated in Figure 1. Amotivation is the lack of motivation to engage in an activity and exists on the edge of the continuum with Low Self-Determination (Cooper et al., 2012; Lox et al., 2014). This form of motivation can result from not anticipating the given activity yielding a desired outcome, not valuing the activity, or not having competency in the skills needed to participate in the activity (Ryan & Deci, 2000). On the opposite end of the continuum exists intrinsic motivation, or the motivation to engage in an activity for inherent pleasure of the activity (Lox et al., 2014). This motivation is suggested to be the highest source of motivation as it originates from within the individual (Cooper et al., 2012). As a result it is highly autonomous and is associated with regular participation in activities (Cooper et al., 2012; R. M. Ryan & Deci, 2000). Intrinsic motivation flourishes in situations that facilitate relatedness and a sense of security (Ryan & Deci, 2000).

![Figure 1. Self-Determination Theory continuum (Cooper et al., 2012).](image)
The third motivation category is extrinsic motivation, or motivation that originates outside of the individual (Lox et al., 2014). This category consists of four types of motivation: external regulation, introjected regulation, identified regulation, and integrated regulation (Lox et al., 2014). Each type of extrinsic motivation can vary greatly in levels of autonomy (Ryan & Deci, 2000). External regulation is the first form and is defined as participation in a task or activity to gain an external reward or to avoid a type of punishment (Cooper et al., 2012; Lox et al., 2014). An example within the intramural sports context is playing intramural basketball to receive praise from others. External regulation is the least autonomous which is why it is positioned on the end of the continuum closest to amotivation (Ryan & Deci, 2000). The second form is introjected regulation, or the motivation to participate due to self-imposed pressure (Lox et al., 2014). An individual participating in intramurals to prevent feelings of guilt if one does not participate is an example of introjected regulation. Identified regulation is the third form of extrinsic motivation and stems from the individual setting personal goals (Cooper et al., 2012; Lox et al., 2014). While the behavior occurs autonomously, the behavior itself is guided by external rewards rather than a sense of satisfaction (Cooper et al., 2012; Lox et al., 2014). An example of identified regulation is an individual participating in intramural racquetball to enhance hand-eye-coordination, but not because they inherently enjoy the sport. The final form of extrinsic motivation is integrated regulation, or the process of participating in an activity to define oneself (Cooper et al., 2012; Lox et al., 2014). Within intramurals this may be a soccer player who participates to continue identifying themselves as a soccer player. Integrated regulation is the most autonomous extrinsic motivation as the behavior is in congruence with the individual’s other needs and values (Ryan & Deci, 2000). Within the context of intramural sports, SDT suggests that an individual who experiences the inherent satisfaction of participation
(or intrinsic motivation) would be more likely to participate and continue to participate, more than an individual who participates due to low self-determining motives (Lox et al., 2014). A low self-determining motive would include external regulation such as participating to lose weight.

The final component of SDT relates to the general versus specific nature of motivation. The three primary motivation types (intrinsic motivation, extrinsic motivation, amotivation) are said to exist within three levels (Lox et al., 2014). The initial level is global motivation and it refers to the motivation experienced by the individual across most behavioral domains (Lox et al., 2014). Contextual motivation is the second level, and is the motivation experienced in a particular scenario (Lox et al., 2014). The final level is situational motivation, or the motivation that occurs within a specific scenario at a specific point in time (Lox et al., 2014). Global motivation is the type studied most commonly in intramural sports participation literature (Beggs et al., 2014).

**Self-Determination Theory in Context of Physical Activity and Sport**

While intramural sports fits under the broad category of leisure, it also fits under the subcategory of physical activity. Physical activity is defined as “any bodily movement produced by skeletal muscles that requires energy expenditure – including activities undertaken while working, playing, carrying out household chores, traveling, and engaging in recreational pursuits” (World Health Organization, 2018). This is not to be confused with exercise, which is a subcategory of physical activity. Exercise is an activity that is “planned, structured, repetitive and aims to improve or maintain one or more components of physical fitness” (World Health Organization, 2018). Physical activity and exercise occurs within leisure as they are considered activities that occur in free time or as a recreational activity (Russell, 2020). To understand how SDT is understood in the realm of intramural sports, one should examine the literature related to
Within the realm of physical activity, researchers have examined the application of SDT in exercise motivation. Research has found that exercise programs that use elements of SDT, specifically autonomy, have been found to promote increased rates in physical activity (Edmunds et al., 2008; González-Cutre et al., 2018; Silva et al., 2010; Wilson et al., 2005), increased adherence rates of participation in exercise related activities (Edmunds et al., 2008), increased weight loss (Silva et al., 2010), and increased intention to participate in physical activity in adults and adolescents (González-Cutre et al., 2018; Wilson et al., 2005). Together, these factors can lead to increased long-term motivation to participate in physical activity or exercise. A separate study conducted by Fenton et al. (2016) examined the influence of the environment created by the coach and the motivation of a youth sport player on physical activity levels. They found that in environments that are more autonomy-supportive children are more likely to experience autonomous motivation which increases physical activity levels in sport. While SDT is explored within these studies as a way to increase physical activity through an increase in motivation, they do not focus on why an individual is motivated to participate.

In an attempt to use SDT to explain why college students participate in physical activity, a study by Fletcher (2016) found that college students are highly extrinsically motivated. These extrinsic motivations were clear within a social context through messages provided intentionally and messages inadvertently received through friends, family members, romantic relationships, the college environment, and societal pressures. The results of this study suggested that relatedness is a highly significant psychosocial need that college students seek to satisfy and their participation in physical activity will be impacted by how well the activity meets this need. As intramural sports is a physical activity that has a social component, it could be predicted from the
findings of Fletcher (2016) that intramural sports participants are participating in the activity to satisfy this need.

Research into the application of SDT has also been found in a study on intramurals that focused on what motivates individuals to participate. Cooper et al. (2012) used SDT in their study to assess the motivations of intramural sports participants from different demographic groups. The study found that women were more motivated to participate because of appearance and social motives as compared to men. The study also found that age and class rank demonstrated no significant differences in motivations for participation. Additionally, the study found that all groups reported interest/enjoyment as the highest motivational factor illustrating intrinsic motivation is the greatest motivational factor for participating in intramural sports. Due to the prevalence of the use of SDT in physical activity literature, SDT was utilized as the theoretical framework for the current study. It should be noted that there is a gap within the SDT literature in that female participants are often not included and the emphasis is on how SDT can increase motivation, rather than why participants are motivated. This study contributed to the literature by examining why female college students are motivated to participate in intramural sports.

**Motivations for Participation within Campus Recreational Programming**

Motivations for participation in campus recreational programming has been examined (Beggs et al., 2014). Beggs et al. (2014) examined the motivations of participation for a variety of campus recreational programming areas including aquatics, group fitness, intramurals, informal sports and informal work outs. A total of 289 participants that consisted of 154 women and 135 men completed the survey. The researchers found that competency-mastery factors, or an individual’s need to compete and achieve certain skills (Beard & Ragheb, 1983), was the
The strongest motivator for participants in all activity areas. The second highest motivator was social factors, or the need to develop friendships and gain esteem from others (Beard & Ragheb, 1983; Beggs et al., 2014). The lowest motivational factor was stimulus-avoidance factors indicating that college students do not participate in campus recreation programming to restore or escape stressors. However, individuals who participated in aquatics, informal fitness, and group fitness were significantly more motivated by stimulus-avoidance than were those who participated in the other program areas.

The significance of competency-mastery and social factors as motivators for participation are a consistent theme throughout the literature. Many studies examined motivation for participation in campus recreational programming in conjunction with other leisure aspects. Beggs and Elkins (2010) examined the relationships between leisure motivation and leisure satisfaction in college students. The results of 363 surveys that consisted of the Leisure Motivation Scale (Beard & Ragheb, 1983) and the Leisure Satisfaction Scale (Beard & Ragheb, 1980) found that competency-mastery factors were the most important variables in leisure motivation and satisfaction. Additionally, the results suggested that competency-mastery factors contributed more than any other factor to leisure satisfaction. Social factors were important motivators in participation but did not relate to a satisfying leisure experience. The study also found that while intellectual factors, such as use of imagination or cognitive learning (Beard & Ragheb, 1983), were not significant motivators for participation, they were highly related to leisure satisfaction of college students.

**Motivations for Intramural Participation**

Throughout the literature, competency-mastery is a prominent motivator of intramural sports participation (Beggs et al., 2014; Beggs et al., 2004; Beggs & Elkins, 2010; K...
Forester, 1997). Kanters and Forester (1997) utilized the Leisure Motivation Scale to assess the motivations of intramural volleyball participants. They found competency-mastery was the most significant motivator along with social factors for intramural volleyball participants. This is consistent with the findings of Beggs et al. (2004) who also used the Leisure Motivation Scale to identify the motivations of participants and nonparticipants in campus recreational sports programs. Contrary to Kanters and Forest (1997), they found the social factors to be an insignificant motivator.

The previously mentioned study by Cooper et al. (2012) used the Motives for Physical Activity Scale (Frederick & Ryan, 1993). This scale is similar to the Leisure Motivation Scale, but assesses motives for physical activity on five factors including interest/enjoyment, competence, appearance, fitness, and social factors (Frederick & Ryan, 1993). Interest/Enjoyment was the highest motivator for all groups examined. This motivator is similar to intrinsic motivation as defined by Lox et al. (2014), and supports previous research that high intrinsic motivation relates to regular participation (Ryan & Deci, 2000). Consistent with the literature, the social motive was the second highest motivator for participation (Beggs et al., 2014; Beggs & Elkins, 2010).

Motivations for Female Participation in Intramurals

There is limited research that focuses solely on female participants. Most of the research on motivations of female participants in intramural sports has emphasized a comparison between male and female motivational factors or aspects. There is contradictory evidence as to whether women have the same (Kanters & Forester, 1997; Martindale et al., 1990; Meacci et al., 1982) or different motivational factors than males (Beggs et al., 2004; Ciuffo et al., 2014; Cooper et al., 2012; O’Dell & McCormick, 1997; Rokosz & Fabian, 1978; Smith & Missler, 1994). An earlier
study conducted by Rokosz and Fabian (1978) examined the differences in attitudes of play between male and female intramural basketball participants on two separate campuses. The results of the study were consistent with the literature in that women were more oriented towards intrinsic and fair values as compared to men (O’Dell & McCormick, 1997). As previously discussed Cooper et al. (2012) found that women were motivated to participate due to appearance and social motives outlined in the Motives for Physical Activity Scale (Frederick & Ryan, 1993; Smith & Missler, 1994), indicating they are not as intrinsically motivated as previously believed. Smith and Missler (1994) found women were participating for reasons of health, a break in routine, and experience nature in addition to social interactions. Males, comparatively, were motivated to participate for competitive reasons such as dominating an opponent, performing skillfully, and to show off their skills.

Outcomes of an intramural sports contest can impact the motivations of men and women in different ways. A study conducted by Iso-Ahola and Allen (1982) examined the influence of the outcome of a leisure activity on reported leisure needs before and after a leisure activity. In their study, 438 intramural basketball players who participated in either the competitive or recreational league participated in a survey containing 40 items. These items assessed seven total factors including interpersonal diversion and control (example items are “getting away from other people” and “being in authority”), personal competence (examples include “chance to use skills or abilities” and “competition”), escape from daily routine, positive interpersonal development (such as “talking to new people” and “helping others”), diversionary relaxation (example items include “physical relaxation” and “boredom avoidance”), interpersonal competence (items include “asked to play” and “seeing the result of one’s effort”), and meeting the opposite sex or being with the opposite sex. In their study, it was found that winning an
intramural contest increased certain needs of women including need for positive interpersonal development and interpersonal diversion and control. Winning also decreased the need for interpersonal competence for women. Men, on the other hand, had an opposite reaction from winning in that they experienced a reduced need for positive interpersonal development and interpersonal diversion and control, but an increase in their need for interpersonal competence. This suggests that the motivations for participation in intramurals differ between males and females even when outcome of the game is taken into consideration.

While several studies suggest there are significant differences, others indicate there are many similarities between female and male intramural participant. Meacci et al. (1982) examined the attitudes and motivations towards participation in intramural sports of both men and women. The results of their study suggested that these two groups are both motivated to participate for recreation, physical outlet, and competition. This is contrary to previous research that indicates only men are motivated by competition, and women are motivated by fitness (Ciuffo et al., 2014). Martindale et al. (1990) found no gender differences in motivations between varsity athletes, club/intramural participants, and formal recreation. Additionally, improvement, health and fitness, and achievement were found to be the three most significant motivators for both males and females. While this study utilized a modified Kenyon’s Attitude Toward Physical Activity Inventory, the motives identified within the study are similar to competency-mastery, a consistent significant motivator within the literature (Beggs et al., 2014; Beggs et al., 2004; Beggs & Elkins, 2010; Kanters & Forester, 1997).

**Within Group Comparisons**

Limited research has examined within group comparisons on motivations for participation in intramural sports. The aspects investigated include age (Cooper et al., 2012;
O’Dell & McCormick, 1997), year in school (Cooper et al., 2012; O’Dell & McCormick, 1997), and affiliation with campus organizations (Rokosz & Fabian, 1978). While studies have attempted to identify the influence of these aspects on motivations, no significant differences have been found (Cooper et al., 2012; Rokosz & Fabian, 1978). However, it should be noted that while these two studies found no significant differences, the study by Rokosz and Fabian (1978) took place several years ago and may no longer reflect modern intramural participants. Additionally, this study only examined the role of campus organizations, in the form of Greek life, that may influence male participants. The study by Cooper et al. (2012) only examined the influence of gender and age on motivations for participation separately, rather than assessing how different ages of either male participants or female participants could also influence motivations.

The influence of age and class rank on motivation for participation in intramural sports has been studied in multiple contexts throughout the years. The literature suggests contradictory findings. The findings of O’Dell and McCormick (1997) suggested that individuals under the age of 21 are more likely to be motivated to participate in intramurals. This conflicts with findings by Cooper et al. (2012) who found that there were no significant differences in motivations for different age and class ranks.

In their early study on attitudes and motivations for intramural sports participants, Rokosz and Fabian (1978) examined not only the differences between men and women on two separate campuses, but also between independent males and fraternity males. Independent males were identified as non-residential male students and fraternity males were those involved in a fraternity organization on campus. The results of the study found no significant differences in attitudes between independent males and fraternity males.
Research conducted by Smith and Missler (1994) focused on personal meaning in intramural sports for participants. They compared motivations for participants of multiple groups including men, women and minorities. The results suggested that minorities and women share social aspects such as being with friends as a common motivator for participation.

Few studies have examined within group comparisons of female intramural sports participants. O’Dell and McCormick (1997) conducted a study that sought to determine the influence of ethnicity, age, employment status, residency on campus, previous participation in high school athletics, and year in school on intramural sport participation. Ethnicity was unable to be examined as a large percentage of the participants identified as white. Findings indicated that females were more likely to participate if they were younger than 21 or if they participated in high school athletics. Females who resided on campus were also more likely to participate in intramural sports.

**Leisure Motivation Scale**

The current study used the Leisure Motivation Scale (LMS)( Beard & Ragheb, 1983) to assess the motivations of females in their participation of intramural sports. The LMS consists of 48-items that assess four factors of leisure motivations. These factors, or components, are intellectual, social, competence-mastery, and stimulus-avoidance (Beard & Ragheb, 1983). The intellectual component can be defined as the motivation to participate in an activity because it provides the participant with mental stimulation such as learning or imagination (Beggs et al., 2004). Items that assess the intellectual component consist of statements such as “to satisfy my curiosity” and “to expand my knowledge” (Beard & Ragheb, 1983). The second component is social, or the motivation to participate in an activity to satisfy the need for esteem from others and interpersonal relationships (Beggs et al., 2014). Statements assessing the social factor on the
full LMS include “to develop close friendships” and “to gain a feeling of belonging” (Beard & Ragheb, 1983). Competence-mastery is the third component assessed by the LMS. This factor is the motivation to participate in an activity to master, challenge, compete, or achieve specifically in the realm of physical activity (Beggs et al., 2014). These motivations are assessed using phrases such as “to challenge my abilities” and “to improve my skill and ability in doing them” (Beard & Ragheb, 1983). The final component the LMS assesses is stimulus avoidance, or the motivation to participate in an activity to escape the mundane and restore oneself (Beard & Ragheb, 1983; Beggs et al., 2014). This final component is assessed by items such as “to relax physically” and “to relieve stress and tension” (Beard & Ragheb, 1983). Since its creation, the LMS has been adapted to be utilized in different aspects of leisure studies including tourism and campus recreation (Beggs et al., 2004; Beggs et al., 2014; Beggs & Elkins, 2010; Kanters & Forester, 1997).

The LMS has been used in the context of tourism to identify expressed needs, satisfaction, and desired destination attributes for vacationers. Lounsbury and Polik (1992) utilized an adapted LMS to measure expressed and met needs and their role in vacation satisfaction. Their findings suggested that all four components defined in the LMS were significantly related to vacation satisfaction. Additionally, they determined that expressed intellectual and competence-mastery was positively related to vacation satisfaction for men, while expressed social needs was negatively related to vacation satisfaction for women. Ryan and Glendon (1998) examined the application of a shortened LMS to destination attributes of British vacationers. Their findings suggested that a researcher can construct an adapted LMS using 14-items from the original scale that retains the integrity of the four original factors.

**LMS in the Context of Campus Recreation and Intramural Sports Participation**
As previously mentioned, Beggs et al. (2014) utilized the shortened LMS to determine if differences in motivations existed for participants of different campus recreation programs. A total of 289 surveys were completed to analyze the motivations for the program areas aquatics, group fitness, intramural sports, informal sports, and informal fitness. The results indicated that students in general were motivated to participate by competence-mastery factors, followed by social factors, and intellectual factors. There were statistical differences in competency-mastery factors based on activity type. Participants in group fitness programs and informal workout programs were significantly more motivated by competence-mastery than participants in informal sports programs. While stimulus-avoidance was the lowest motivating factor, participants in aquatics, group fitness, and informal work out programs were significantly more motivated by this factor than intramural sports participants.

A study by Beggs et al. (2004) also utilized a shortened LMS to examine motivational differences in students who participated regularly in campus recreational sports programs and those who did not. A total of 631 students from two universities participated in the survey. The results of the study suggested that competence-mastery factors were the greatest motivators for participation which supports previous research (Beggs et al., 2014; Kanters & Forester, 1997). However, contrary to previous research findings, the study found that social factors were the least significant motivator (Beggs et al., 2014; Kanters & Forester, 1997). Additionally, the study found a significant difference in motivational factors for male and female participants. Males indicated they were more strongly motivated by competence-mastery factors while females reported intellectual factors to be more significant. It should be noted that females still reported competence-mastery as an important motivator, however, intellectual motivators were more influential. For non-regular participants in campus recreational sports programs, the findings
suggested this group is seeking leisure that fulfills motivational desires for stimulus avoidance and intellectual factors. The findings of this study are consistent with the findings of Beggs and Elkins (2010), who as previously mentioned, utilized the shortened LMS in addition to a satisfaction scale to determine the relationship between leisure motivations and satisfaction.

The LMS has been utilized by researchers to examine motivations for participation in intramural sports. As noted, Kanters and Forester (1997) utilized the full LMS as one aspect of their research study. They examined the motivations for participation in an intramural volleyball league in addition to the self-esteem of players. A total of 203 volleyball players completed the survey and competed in three types of volleyball leagues; highly competitive, low competitive, and recreational. The group as a whole indicated that the two significant motivating factors for participating were competency-mastery and social. Participants from each of the varying levels of competition did not differ in their motivational factors. There was a significant difference between male and female participants for the stimulus-avoidance factor where it appeared that it was a more important component for females than males. The results suggested that males and females were more alike than different in their motivations for participation in intramural sports (Kanters & Forester, 1997).

Summary

The most common motivating factors for intramural sports participation when utilizing the LMS are competence-mastery and social (Beggs et al., 2014; Beggs et al., 2004; Kanters & Forester, 1997). Research on the motivations of women participating in intramurals has emphasized the comparison between women and men rather than among women specifically (Beggs et al., 2004; Ciuffo et al., 2014; Cooper et al., 2012; Kanters & Forester, 1997; Martindale et al., 1990; Meacci et al., 1982; O’Dell & McCormick, 1997; Rokosz & Fabian,
1978; Smith & Missler, 1994). While earlier studies have attempted to determine the influence of class year (Cooper et al., 2012; O’Dell & McCormick, 1997), ethnicity (O’Dell & McCormick, 1997), and involvement in campus organizations (Rokosz & Fabian, 1978), they did not examine women specifically, did not have representative samples that would allow for proper analysis, and did not find significant differences. Additionally, these studies were completed several years ago and may no longer be representative of modern intramural sports participation. No previous study has examined how motivations may vary for international students. This study, therefore attempts to fills these gaps in the literature by conducting within group comparisons of female intramural sports participants.
CHAPTER 3: METHODS

The purpose of this study was to explore motivations for participation among female college students in intramural sports programming. The findings provided insights into participants’ motivations by exploring within-group comparisons. Specifically, the study examined the factors of school year, ethnicity, campus involvement, and citizenship. These factors were examined through a two-part survey consisting of demographic questions and an adapted Leisure Motivation Scale (Beard & Ragheb, 1983). The following research questions were examined: 1) What motivates female students to participate in intramural sports, and 2) Do motivations vary by school year, ethnicity, campus involvement, and citizenship?

Population and Sample

The population being examined consisted of approximately 610 women who had a current IMLeagues account at the University of Illinois at Urbana-Champaign. This allowed them to participate in the intramural sports programs provided by the campus recreation department. Sports offered included basketball, indoor soccer, volleyball, spikeball, bowling, and archery tag. The majority of the population were freshmen (170), followed by sophomores (145), juniors (117), seniors (111), and graduate students (63). This study utilized a convenience sample of this group of self-identified, currently enrolled female students as the researcher had access to this population through her place of work (Creswell & Creswell, 2018). Inclusion criteria were as follows: participants must be within the age range of 18-25 and have participated in an intramural sporting contest at least once during the Spring 2020 semester. The target sample size was 236 respondents for a 95% confidence level with a 5% margin of error.

Data Collection Procedures
Participants were recruited through an email message sent through an online software IMLeagues. The message contained a detailed description and purpose of the study, along with a link to the online consent form and survey. An initial message was sent followed by four reminder messages. Data were collected over a three-week period. Respondents completed a survey consisting of two parts. The first contained a demographic portion and the second an adapted version of the shortened Leisure Motivation Scale (Beard & Ragheb, 1983). The survey is provided in Appendix A.

**Leisure Motivation Scale (LMS).** This study utilized an adapted Leisure Motivation Scale (LMS; Beard & Ragheb, 1983). The LMS is a 48-item scale commonly used by researchers examining the global motivations of intramural sports participants (Beggs et al., 2014; Beggs et al., 2004; Beggs & Elkins, 2010; Kanters & Forester, 1997). A shortened scale is recommended to eliminate significant time consumption (Beard & Ragheb, 1983). The shortened scale consists of 32-items that classify four defining factors. The first factor is intellectual, or the motivation to engage in activities that involve learning, creating, or imagining. Social is second, and it relates to one’s need for interpersonal relationships and the esteem of others. The third factor is competence-mastery, or the motivation to participate in activities to achieve, master, compete and challenge. The final factor is stimulus avoidance or participation in an activity to escape from overstimulating life situations (Beard & Ragheb, 1983). Items 1-8 assess intellectual factors, 9-16 assess social factors, 17-24 asses competence-mastery, and 25-32 assess stimulus avoidance factors. The items measuring the subscales are assessed on a five-point Likert scale (1 = never true; 5 = always true; Beard & Ragheb, 1983). Past research has found the instrument to have reliability is 0.92 with the reliability of the subscales ranging from 0.85 to 0.93 (Beggs et al., 2004). The traditional LMS utilizes the phrasing “leisure activities” within the purpose and
directions of the instrument. For the purposes of this study, the phrasing “leisure activities” was substituted for “intramural sports” to ensure the LMS addressed motivations specific to intramural sports rather than all leisure activities more generally.

**Data Analysis**

To assess which factors within the LMS were the most significant for each group, the total score of each factor was calculated (Burlingame & Blaschko, 2010). The motivational factor with the highest composite score was the highest motivating factor for that group. The factor with the lowest composite score was the least motivating factor. The highest composite score possible for each motivational factor was 40. The mean score for each of these factors was then calculated and compared to assess differences between the various groups.

After the motivating factors for each group were established, two statistical analyses were run to establish if there were within group statistical differences between the motivational factors. The data collected on ethnicity and year in school is categorical with multiple possible responses. As a result, multiple groups for each question were represented. For these two questions, an ANOVA and post-hoc test were calculated to determine if differences existed within these groups. The second type of analysis was an independent t-test for the data collected on citizenship. This data was collected in a yes/no format and as result, the data only represents two groups (U.S. citizens and international citizens). The two analyses provided insights into differences in motivational factors for each group.
CHAPTER 4: RESULTS

A total of 80 surveys were completed for a response rate of 13.05%. This response rate is lower than the average email survey response rate (30%) and online survey response rate (29%; Lindemann, 2019). Participants were asked the number of times they had participated in a spring 2020 intramural sport. Nearly half of the respondents (n=34) had participated in a spring 2020 intramural sport once (Table 1). The next largest group (n=27) had participated 3 or more times, followed by 2 times (n=17) and 0 times (n=2). Participants that indicated they had participated 0 times were eliminated from the study, which brought the total sample to 78. Participants were asked what sport they participated in during the spring 2020 semester. The intramural sport that was participated in the most by the respondents was volleyball (n=29) followed by indoor soccer (n=26), basketball (n=10), archery tag (n=10), and bowling (n=1). No respondents had participated in spikeball (n=0). A total of 18 respondents selected that they participated in an unlisted activity. Most of these respondents (n=16) indicated they participated in the intramural running league. Of the running group, two responders indicated they participated in running and trivia (n=1) or running and ice hockey (n=1). Other submitted responses included trivia (n=1) and outdoor soccer (n=1). The majority of the respondents participated in only one intramural spring 2020 activity (n=63), followed by two sports (n=14), and three sports (n=1).
Table 1.

Sample Demographic Data

<table>
<thead>
<tr>
<th>Number of Times Participated</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 times</td>
<td>0</td>
</tr>
<tr>
<td>1 time</td>
<td>34</td>
</tr>
<tr>
<td>2 times</td>
<td>17</td>
</tr>
<tr>
<td>3 or more times</td>
<td>27</td>
</tr>
</tbody>
</table>

Intramural Sport Played

<table>
<thead>
<tr>
<th>Intramural Sport Played</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archery Tag</td>
<td>9</td>
</tr>
<tr>
<td>Basketball</td>
<td>10</td>
</tr>
<tr>
<td>Bowling</td>
<td>1</td>
</tr>
<tr>
<td>Indoor Soccer</td>
<td>26</td>
</tr>
<tr>
<td>Spikeball</td>
<td>0</td>
</tr>
<tr>
<td>Unlisted</td>
<td>18</td>
</tr>
<tr>
<td>Volleyball</td>
<td>28</td>
</tr>
</tbody>
</table>

Number of Intramural Sports Played

<table>
<thead>
<tr>
<th>Number of Intramural Sports Played</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>63</td>
</tr>
<tr>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. N=78 and n=sample size.

The highest motivating factor for the sample (Table 2) was competence-mastery with a mean composite score of 35.46 (SD=3.74). The next highest motivating factor was social (M=31.09, SD=5.49), stimulus avoidance (M=22.94, SD=6.25), and intellectual (M=20.69, SD=8.66).

Table 2

Sample Mean Composite Scores

<table>
<thead>
<tr>
<th>Motivation Factor</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competence-Mastery</td>
<td>35.46</td>
<td>3.74</td>
</tr>
<tr>
<td>Social</td>
<td>31.09</td>
<td>5.49</td>
</tr>
<tr>
<td>Stimulus Avoidance</td>
<td>22.94</td>
<td>6.25</td>
</tr>
<tr>
<td>Intellectual</td>
<td>20.69</td>
<td>8.66</td>
</tr>
</tbody>
</table>

Comparison of Motivations by Class Year

Freshman were the smallest group of respondents (n=11). The highest motivating factor for freshman respondents was competence-mastery followed by social, stimulus avoidance and
intellectual (Table 3). When broken down by class year, juniors (n=12), graduates (n=17), sophomores (n=18), and seniors (n=20) also had competence-mastery as the highest motivating factor followed by social, stimulus avoidance, and intellectual.

**Table 3**
*Means of Each Motivational Factor by Class Year*

<table>
<thead>
<tr>
<th>Class Year</th>
<th>n</th>
<th>Intellectual</th>
<th>Social</th>
<th>Competence-Mastery</th>
<th>Stimulus Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>11</td>
<td>20.27</td>
<td>8.63</td>
<td>32.09</td>
<td>3.48</td>
</tr>
<tr>
<td>Sophomore</td>
<td>18</td>
<td>23.83</td>
<td>8.67</td>
<td>32.44</td>
<td>6.57</td>
</tr>
<tr>
<td>Junior</td>
<td>12</td>
<td>17.75</td>
<td>7.52</td>
<td>30.75</td>
<td>4.75</td>
</tr>
<tr>
<td>Senior</td>
<td>20</td>
<td>21.40</td>
<td>7.86</td>
<td>32.70</td>
<td>4.28</td>
</tr>
<tr>
<td>Graduate</td>
<td>17</td>
<td>18.88</td>
<td>10.05</td>
<td>27.35</td>
<td>5.79</td>
</tr>
</tbody>
</table>

A one-way ANOVA was conducted to compare motivational factors for each class year (Table 4). There was no significant difference between groups for the intellectual factor, competence-mastery factor, and stimulus avoidance factor. There was a significant difference between groups for the social factor \(F(4, 73) = 3.07, p=0.02\).

**Table 4**
*ANOVA for Each Motivational Factor for Class Year*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sum of Sq.</th>
<th>df</th>
<th>Mean Sq.</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual</td>
<td>Between Groups</td>
<td>349.12</td>
<td>4</td>
<td>87.28</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>5431.50</td>
<td>73</td>
<td>74.40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5780.62</td>
<td>77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>Between Groups</td>
<td>334.69</td>
<td>4</td>
<td>83.67</td>
<td>3.07</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>1987.69</td>
<td>73</td>
<td>27.23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2322.3</td>
<td>77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence-Mastery</td>
<td>Between Groups</td>
<td>63.48</td>
<td>4</td>
<td>15.86</td>
<td>1.14</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>1013.93</td>
<td>73</td>
<td>13.89</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1077.39</td>
<td>77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stimulus Avoidance</td>
<td>Between Groups</td>
<td>278.61</td>
<td>4</td>
<td>69.65</td>
<td>1.87</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>2726.07</td>
<td>73</td>
<td>37.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>3004.68</td>
<td>77</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p<.05

Post hoc comparisons using the Tukey HSD test (Table 5) indicated that the mean
composite score for the social factor (Table 6) of graduate students (M=27.35, SD=5.79) was significantly different than sophomores (M=32.44, SD=6.57) and seniors (M=32.70, SD=4.28). This suggests that sophomores and seniors were significantly more motivated to participate in intramural sports for social reasons than were graduate students. However, the mean composite score for the social factor of graduate students was not significantly different than that of freshman and juniors.

**Table 5**

*Post hoc Test for Social Factor for Class Year*

<table>
<thead>
<tr>
<th>Class Year (I)</th>
<th>Class Year (J)</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Sophomore</td>
<td>-.35</td>
<td>2.00</td>
<td>1.00</td>
<td>-5.94</td>
<td>5.23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>1.34</td>
<td>2.18</td>
<td>.97</td>
<td>-4.75</td>
<td>7.43</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>-.61</td>
<td>1.96</td>
<td>1.00</td>
<td>-6.09</td>
<td>4.87</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>4.74</td>
<td>2.02</td>
<td>.14</td>
<td>-9.1</td>
<td>10.39</td>
<td></td>
</tr>
<tr>
<td>Sophomore</td>
<td>Freshman</td>
<td>.35</td>
<td>2.00</td>
<td>1.00</td>
<td>-5.23</td>
<td>5.94</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>1.69</td>
<td>1.94</td>
<td>.91</td>
<td>-3.75</td>
<td>7.13</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>-.26</td>
<td>1.70</td>
<td>1.00</td>
<td>-5.00</td>
<td>4.49</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>5.09*</td>
<td>1.76</td>
<td>.04</td>
<td>.16</td>
<td>10.03</td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>Freshman</td>
<td>-1.34</td>
<td>2.18</td>
<td>.97</td>
<td>-7.43</td>
<td>4.75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
<td>-1.69</td>
<td>1.94</td>
<td>.91</td>
<td>-7.13</td>
<td>3.75</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>-1.95</td>
<td>1.91</td>
<td>.84</td>
<td>-7.28</td>
<td>3.38</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>3.40</td>
<td>1.97</td>
<td>.42</td>
<td>-2.11</td>
<td>8.90</td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>Freshman</td>
<td>.61</td>
<td>1.96</td>
<td>1.00</td>
<td>-4.87</td>
<td>6.09</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
<td>.26</td>
<td>1.70</td>
<td>1.00</td>
<td>-4.49</td>
<td>5.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>1.95</td>
<td>1.91</td>
<td>.84</td>
<td>-3.38</td>
<td>7.28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>5.35*</td>
<td>1.72</td>
<td>.02</td>
<td>.53</td>
<td>10.16</td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>Freshman</td>
<td>-4.74</td>
<td>2.02</td>
<td>.14</td>
<td>-10.39</td>
<td>.91</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sophomore</td>
<td>-5.09*</td>
<td>1.76</td>
<td>.04</td>
<td>-10.03</td>
<td>-.16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Junior</td>
<td>-3.40</td>
<td>1.97</td>
<td>.42</td>
<td>-8.90</td>
<td>2.11</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Senior</td>
<td>-5.35*</td>
<td>1.72</td>
<td>.02</td>
<td>-10.16</td>
<td>-.53</td>
<td></td>
</tr>
</tbody>
</table>

*The mean difference is significant at the 0.05 level.*
**Table 6**  
*Descriptive Data for the Social Factor by Class Year*

<table>
<thead>
<tr>
<th>Class Year</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error</th>
<th>95% Confidence Interval for Mean</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>11</td>
<td>32.09</td>
<td>3.48</td>
<td>1.05</td>
<td>29.75</td>
<td>34.43</td>
<td>28</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Sophomore</td>
<td>17</td>
<td>32.44</td>
<td>6.57</td>
<td>1.55</td>
<td>29.18</td>
<td>35.71</td>
<td>14</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>12</td>
<td>30.75</td>
<td>4.75</td>
<td>1.37</td>
<td>27.73</td>
<td>33.77</td>
<td>24</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>20</td>
<td>32.70</td>
<td>4.28</td>
<td>.96</td>
<td>30.70</td>
<td>34.70</td>
<td>22</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Graduate</td>
<td>18</td>
<td>27.35</td>
<td>5.79</td>
<td>1.40</td>
<td>24.38</td>
<td>30.33</td>
<td>18</td>
<td>40</td>
<td></td>
</tr>
</tbody>
</table>

**Comparisons of Motivation by Ethnicity**

Respondents were asked to identify their ethnicity. The largest group of respondents identified as Caucasian (n=60). Due to low group numbers, respondents that did not identify as Caucasian were combined together into the new group named Minority (n=18). Majority of respondents (n=77) selected one ethnicity with one participant selecting two ethnicities. Responders who identified as Caucasian had competence-mastery as the highest motivational factor followed by social, stimulus avoidance, and intellectual (Table 7). Responders who identified as a Minority also had competence-mastery as the highest motivational factor followed by social, stimulus avoidance, and intellectual.

**Table 7**  
*Means of Each Motivational Factor by Ethnicity*

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>n</th>
<th>Intellectual</th>
<th>Social</th>
<th>Competence-Mastery</th>
<th>Stimulus Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>M</td>
<td>M</td>
</tr>
<tr>
<td>Caucasian</td>
<td>60</td>
<td>19.67</td>
<td>7.98</td>
<td>30.95</td>
<td>5.61</td>
</tr>
<tr>
<td>Minority</td>
<td>18</td>
<td>24.11</td>
<td>10.13</td>
<td>31.56</td>
<td>5.22</td>
</tr>
</tbody>
</table>

An independent samples t-test was done to compare motivational factors for ethnicity (Table 8). There was no significant difference between groups for any of the factors.
### Table 8

**Independent Samples T-Test for Ethnicity**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Levene’s Test for Equality of Variances</th>
<th>t-test for Equality of Means</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F, Sig.</td>
<td>t, df, Sig. (2-tailed), Mean Diff., Std. Error Diff., Lower, Upper</td>
<td></td>
</tr>
<tr>
<td><strong>Intellectual</strong></td>
<td></td>
<td>-1.94, 76, .06, -4.44, 2.29, -9.00, .11</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td>1.58, .21</td>
<td>-1.71, 23.69, .10, -4.44, 2.60, -9.82, .93</td>
<td></td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Social</strong></td>
<td>.01, .91</td>
<td>-.41, 76, .68, -.61, 1.48, -3.56, 2.35</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td></td>
<td>-.42, 29.80, .67, -.61, 1.43, -3.52, 2.31</td>
<td></td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Competence-Mastery</strong></td>
<td>.25, .62</td>
<td>-.55, 76, .58, -.56, 1.01, -2.57, 1.46</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td></td>
<td>-.52, 26.09, .61, -.56, 1.06, -2.74, 1.63</td>
<td></td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Stimulus Avoidance</strong></td>
<td>.03, .87</td>
<td>-1.80, 76, .08, -2.97, 1.66, -6.27, .32</td>
<td></td>
</tr>
<tr>
<td>Equal variances assumed</td>
<td></td>
<td>-1.84, 29.03, .08, -2.97, 1.62, -6.28, .33</td>
<td></td>
</tr>
<tr>
<td>Equal variances not assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comparisons of Motivational Factor by Campus Involvement**

Respondents were asked how many hours a week they participated in a registered student organization (RSO). The largest group of respondents were those who participated in an RSO 4-7 hours a week (n=27). The next largest groups were 1-3 hours (n=25), 8-11 hours a week (n=10), and 12+ hours a week (n=4). A total of 12 respondents selected that they participated in
an RSO 0 hours a week, indicating they did not participate in RSO’s. The highest motivational factor for 4-7 hours a week was competence-mastery followed by social, stimulus avoidance and intellectual (Table 9). Respondents who participated in an RSO 1-3 hours, 8-11 hours, 12+ hours and did not participate in an RSO also reported competence-mastery as the highest motivational factor followed by social, stimulus avoidance, and intellectual.

**Table 9**

*Means of Each Motivational Factor by Level of Campus Involvement*

<table>
<thead>
<tr>
<th>Hours a Week in a RSO</th>
<th>Intellectual</th>
<th>Social</th>
<th>Competence-Mastery</th>
<th>Stimulus Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>0 hours</td>
<td>12</td>
<td>20.33</td>
<td>11.87</td>
<td>29.25</td>
</tr>
<tr>
<td>1-3 hours</td>
<td>25</td>
<td>20.92</td>
<td>8.28</td>
<td>30.64</td>
</tr>
<tr>
<td>4-7 hours</td>
<td>27</td>
<td>21.48</td>
<td>8.92</td>
<td>32.44</td>
</tr>
<tr>
<td>8-11 hours</td>
<td>10</td>
<td>21.00</td>
<td>5.81</td>
<td>30.90</td>
</tr>
<tr>
<td>12+ hours</td>
<td>4</td>
<td>14.25</td>
<td>3.10</td>
<td>30.75</td>
</tr>
</tbody>
</table>

A one-way ANOVA was conducted to compare motivational factors for level of campus involvement (Table 10). There were no significant differences between groups for any motivational factor.

**Table 10**

*ANOVA for Each Motivational Factor for Level of Campus Involvement*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sum of Sq.</th>
<th>df</th>
<th>Mean Sq.</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>186.62</td>
<td>4</td>
<td>46.65</td>
<td>.61</td>
<td>.66</td>
</tr>
<tr>
<td>Within Groups</td>
<td>5594.00</td>
<td>73</td>
<td>76.63</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5780.62</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>96.05</td>
<td>4</td>
<td>24.01</td>
<td>.79</td>
<td>.54</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2226.33</td>
<td>73</td>
<td>30.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2322.37</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence-Mastery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>58.54</td>
<td>4</td>
<td>14.64</td>
<td>1.05</td>
<td>.39</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1018.84</td>
<td>73</td>
<td>13.96</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1077.39</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stimulus Avoidance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>15.29</td>
<td>4</td>
<td>3.82</td>
<td>.09</td>
<td>.98</td>
</tr>
<tr>
<td>Within Groups</td>
<td>2989.39</td>
<td>73</td>
<td>40.95</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3004.68</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Comparisons of Motivational Factor by International Student Status

Respondents were asked if they were an international student. The majority of respondents \((n=73)\) indicated that they were domestic students with a smaller group indicating that they were an international student \((n=5)\). Due to the limited sample size a statistical analysis could not be run for this comparison.

Comparisons of Motivational Factor by Financial Security

Respondents were asked to describe their feelings of adequacy around their finances. The largest group of respondents were those who felt their finances were adequate always \((n=33)\). The next largest groups were those felt adequate in their finances most of the time \((n=32)\) followed by respondents who sometimes or rarely felt adequate in their finances \((n=13)\). The two groups, sometimes and rarely, were combined in analysis due to low group numbers. No respondents indicated that they never felt adequate in their finances. The highest motivational factor for those who felt their finances were always adequate was competence-mastery then social and stimulus avoidance (Table 11). The lowest motivational factor was intellectual.

Respondents who felt their finances were adequate most of the time and sometimes or rarely followed a similar trend.

<table>
<thead>
<tr>
<th>Table 11</th>
<th>Means of Each Motivational Factor by Security in Finances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Intellectual</td>
</tr>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>Security in Finances</td>
<td></td>
</tr>
<tr>
<td>Always</td>
<td>33</td>
</tr>
<tr>
<td>Most of the time</td>
<td>32</td>
</tr>
<tr>
<td>Sometimes or Rarely</td>
<td>13</td>
</tr>
<tr>
<td>Never</td>
<td>0</td>
</tr>
</tbody>
</table>
A one-way ANOVA was conducted to compare motivational factors based on financial security (Table 12). There was no significant difference between groups for any of the factors.

**Table 12**

*ANOVA for Each Motivational Factor for Security in Finances*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Between Groups</th>
<th>Within Groups</th>
<th>Total</th>
<th>Sum of Sq.</th>
<th>df</th>
<th>Mean Sq.</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual</td>
<td>273.50</td>
<td>5507.11</td>
<td>5780.62</td>
<td>1</td>
<td>76</td>
<td>72.46</td>
<td>3.77</td>
<td>.06</td>
</tr>
<tr>
<td>Social</td>
<td>13.71</td>
<td>2317</td>
<td>2322.37</td>
<td>1</td>
<td>76</td>
<td>30.49</td>
<td>.18</td>
<td>.68</td>
</tr>
<tr>
<td>Competence-Mastery</td>
<td>15.39</td>
<td>1061.99</td>
<td>1077.39</td>
<td>2</td>
<td>75</td>
<td>14.16</td>
<td>.54</td>
<td>.58</td>
</tr>
<tr>
<td>Stimulus Avoidance</td>
<td>44.07</td>
<td>2960.61</td>
<td>3004.68</td>
<td>2</td>
<td>75</td>
<td>39.48</td>
<td>.56</td>
<td>.58</td>
</tr>
</tbody>
</table>

**COVID-19 Related Data**

Data were collected during the 2020 COVID-19 pandemic. During this unprecedented time, non-traditional programming occurred. As a result, unexpected data were collected and analyzed related to individuals who participated in traditional team sports prior to the pandemic (volleyball, basketball, archery tag, bowling, soccer, etc.), individuals who only participated in activities during the pandemic (running league and trivia) and individuals who had participated in activities both before and during the pandemic. The majority of respondents had participated in activities that occurred prior to the COVID-19 pandemic (n=60, Table 13). The same number of respondents had participated in activities during the COVID-19 pandemic (n=9) as the number of respondents had participated in activities both before and during the COVID-19 pandemic (n=9). For participants who only participated in activities that occurred during COVID-19, the highest motivational factor was competence-mastery, followed by social, intellectual and
stimulus avoidance. This is different than respondents who only participated in activities that occurred before COVID-19 and respondents who participated in activities both before and during COVID-19. These two groups had competence-mastery as their highest motivational factor followed by social, stimulus avoidance, and intellectual.

**Table 13**

*Means of Each Motivational Factor for Activities that Occurred Pre-COVID-19, During COVID-19, and Before/During COVID-19*

<table>
<thead>
<tr>
<th>Activity Occurred During COVID-19</th>
<th>n</th>
<th>Intellectual</th>
<th>Social</th>
<th>Competence-Mastery</th>
<th>Stimulus Avoidance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>During COVID-19</td>
<td>9</td>
<td>23.33</td>
<td>7.05</td>
<td>31.44</td>
<td>4.69</td>
</tr>
<tr>
<td>Before COVID-19</td>
<td>60</td>
<td>20.55</td>
<td>9.12</td>
<td>31.23</td>
<td>5.56</td>
</tr>
<tr>
<td>Before/During COVID-19</td>
<td>9</td>
<td>19.00</td>
<td>6.96</td>
<td>29.78</td>
<td>6.14</td>
</tr>
</tbody>
</table>

A one-way ANOVA was conducted to compare motivational factors for activities participated in before COVID-19, during COVID-19, and before and during COVID-19 (Table 14). There was no significant difference between groups for any of the motivational factors.

**Table 14**

*ANOVA for Each Motivational Factor for Activities that Occurred Pre-COVID-19, During COVID-19, and Before/During COVID-19*

<table>
<thead>
<tr>
<th>Factor</th>
<th>Sum of Sq. Between Groups</th>
<th>df</th>
<th>Mean Sq.</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intellectual</td>
<td>89.77</td>
<td>2</td>
<td>44.88</td>
<td>.59</td>
<td>.56</td>
</tr>
<tr>
<td></td>
<td>5690.85</td>
<td>75</td>
<td>75.88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5780.62</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social</td>
<td>17.86</td>
<td>2</td>
<td>8.93</td>
<td>.29</td>
<td>.75</td>
</tr>
<tr>
<td></td>
<td>2304.51</td>
<td>75</td>
<td>30.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2322.37</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Competence-Mastery</td>
<td>13.43</td>
<td>2</td>
<td>6.72</td>
<td>.47</td>
<td>.63</td>
</tr>
<tr>
<td></td>
<td>1063.96</td>
<td>75</td>
<td>14.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1077.39</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stimulus Avoidance</td>
<td>95.17</td>
<td>2</td>
<td>47.58</td>
<td>1.23</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>2909.51</td>
<td>75</td>
<td>38.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3004.68</td>
<td>77</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
In summary, the findings in this study demonstrate a significant difference between graduate students and two other class years for the social factor. These two class years were sophomores and seniors. The general trend in the order of motivational factors for each comparison was competence-mastery as the highest motivating factor, followed by social and stimulus avoidance. The intellectual factor was typically the lowest motivational factor. There was one exception to this trend. It was respondents who only participated in intramural activities that occurred during COVID-19. This group had competence-mastery as the highest motivational factor followed by social and intellectual. The stimulus avoidance factor was the lowest motivational factor for this group. While respondents in this group demonstrated different trends than other groups in the comparison, the difference was not significantly different.
CHAPTER 5: DISCUSSION

Based on the results of the present study, a few general themes can be observed. While there are few significant findings, the general trends of motivational factors can inform researchers and practitioners as to why female college students may participate in intramurals. Further, the study contributes to the literature by providing data on within group comparisons that focuses on female intramural sports participants. Practitioners can learn from this study regarding how to attract new female participants to engage in intramural sports through new program designs and marketing strategies. This study also represents the first step towards a better understanding of how the COVID-19 pandemic has and will impact intramural sports program design and participation.

Major Themes

This study found that female college students are highly motivated by competence-mastery factors followed by social and stimulus avoidance factors. Female college students are least motivated by intellectual factors. This trend is the same regardless of class year, ethnicity, and level of campus involvement. This suggests that female college students at the University of Illinois at Urbana-Champaign are motivated to participate in intramural sports to master the sport they are selecting. The second highest motivational factor was social, indicating female college students are motivated to satisfy the need for esteem from others or build relationships. The lowest motivating factors were stimulus avoidance and intellectual suggesting females are less motivated to participate in intramurals to avoid everyday life or for mental stimulation. Intellectual being the lowest factor may imply that college students are receiving mental stimulation in other aspects of their lives, such as classes or research. Therefore, they may be
looking for experiences that balance their time between academics and social time or an opportunity to be competitive.

These trends are consistent with previous research conducted by Kanters and Forester (1997) who also found competence-mastery to be the highest motivating factor for female undergraduate students followed by social, stimulus avoidance, and intellectual. The work of Beggs and Elkins (2010) and Beggs et al. (2014) who studied male and female intramural sports participants also found competence-mastery and social to be the highest motivating factors. However, the findings of the present study are inconsistent with this previous literature in that these two studies found the intellectual factor to be the third highest motivating factor and stimulus avoidance being the least motivating for both male and female intramural sports participants. The current findings are also inconsistent with findings of Beggs et al. (2004) who found female students who participated in intramural sports to be more motivated by intellectual factors followed by competence-mastery factors. While findings of the current study suggest a consistent trend in motivational factors, there were a few significant differences between groups related to some key variables.

**Class Year**

Generally, each class year followed the trend of competence-mastery being the highest motivational factor followed by social, stimulus avoidance and intellectual. Two significant differences were found between two groups. The results indicated that the mean composite score for the social factor of graduate students was significantly lower than that of sophomores and seniors. This suggests that graduate students are less motivated to participate in intramural sports for social factors such as building new relationships or fostering interpersonal relationships. This may be due to graduate students having established relationships with fellow students within
their cohorts. This may decrease their motivation to participate in intramurals solely to develop new friendships. Additionally, graduate students may spend a significant amount of time socializing with their peers in class due to smaller class sizes and research labs resulting in a lower need to socialize within the context of intramural sports.

These findings are inconsistent with previous research of Cooper et al. (2012) who found no significant differences between class year. However, that study had to exclude graduate students due to small group size. Additionally, they used the Motives for Physical Activity Scale (MPAS) in an attempt to determine the motivational factors of both male and female intramural sports participants. However, they did find that freshmen were highly motivated by competence motives and seniors scored the highest on social motives when compared to the other class years. The competence motive from the MPAS is similar to competence-mastery in the LMS as they both examine motivation as it relates to competition and the desire to master a skill. The social factor for the MPAS is also similar to the LMS in that they both examine developing and fostering relationships. Therefore, while Cooper et al. (2012) found no significant differences between any class year, the general trend of finding the ranking of competence and social factors being different for certain class years is similar to findings of the present study.

*Ethnicity*

Majority of the respondents within the study identified as Caucasian. Unfortunately, due to limited group sizes for each minority group, all of the respondents that identified as either African-American, Latino or Hispanic, Asian, Native American, or as an unlisted ethnicity were combined into one new group labeled Minority, which is certainly not ideal. These two groups demonstrated a similar trend to the other comparisons where competence-mastery was the
highest motivational factor followed by social, stimulus avoidance and intellectual. The analysis demonstrated that there were no statistical differences between groups.

A previous study by Smith and Missler (1994) analyzed the different personal meanings females and ethnic minorities had related to intramural sports. While personal meanings in intramurals sports is different than motivations for participation, they found socializing within an intramural sports context to be appealing for minorities and female participants. This is a similar theme to the present study, where social factors were the second highest motivating factor. This may suggest that developing new and fostering current relationships is an important factor for minorities. Consistent with the present study, Smith and Missler (1994) also did not find a significant difference between groups for Caucasians and Minorities.

Campus Involvement

Participants were asked how many hours a week they participated in an RSO. Majority of respondents indicated they participated 4-7 hours a week. The next largest groups were 1-3 hours a week, 8-11 hours a week, 12+ hours a week, and those who did not participate in an RSO. These groups all had the same trend as the other comparisons within this study in that competence-mastery was the highest motivating factor followed by social, stimulus avoidance, and intellectual. There was no significant difference between groups indicating that regardless of how many hours female intramural sports participants are involved in an RSO during the week, they are still joining intramurals to compete and socialize. This suggests that RSO’s may be providing female intramural sports participants distractions from everyday life and mental stimulation.

Financial Security
This study collected data related to feelings of financial security to determine if finances influence motivations to participate in intramural sports. The majority of respondents indicated they felt their finances were always adequate, followed by most of the time. Due to low group numbers, respondents who indicated they sometimes felt adequate and rarely adequate were combined into one group. No respondents felt they were never adequate in their finances. This is not surprising, as intramural sports at the University of Illinois at Urbana-Champaign has a cost associated with participating. Individuals who never feel adequate in their finances likely would not participate to save money or spend it on other expenses. Each group had competence-mastery as their highest motivational factor followed by social, and stimulus avoidance. The intellectual factor was the least motivating factor. There were no significant differences found between groups indicating finances may not influence motivational factors.

Motivations were the main focus of this study, however it is important to note that financial security is a constraint in leisure participation (Young et al., 2003). This is demonstrated by positive correlations between higher SES and physical activity (Eime et al., 2013; Lim et al., 2011; Stalsberg & Pedersen, 2010). This trend could also be seen within the current study as no respondents felt they were never adequate in their finances, therefore participation could be positively correlated with security in finances. This trend would only be speculative as no true statistical analysis was conducted.

**COVID-19 Data**

Between the time this current study was approved by the institutional review board, and the time data collection began, a significant world-wide event occurred currently known as the COVID-19 pandemic, or the coronavirus pandemic. In December 2019, a novel coronavirus was identified in China. This novel virus quickly spread throughout the world and was categorized as
a pandemic on March 11, 2020 (World Health Organization, 2020). On March 13, 2020 President Donald Trump declared a national emergency concerning the novel coronavirus (Trump, 2020). Following this proclamation, the governor of Illinois announced an executive order declaring the state of Illinois a disaster area (Pritzker, 2020). This resulted in a shelter-in-place order being instituted. Under this order, non-essential businesses, including universities were required to cease operations until the order was lifted. In response, the University of Illinois at Urbana-Champaign opted to move instruction to a virtual format and cease all in-person programs and operations on campus (Killeen et al., 2020).

Since in-person programs on campus were canceled for the duration of the semester, the intramural sports scheduled for the spring 2020 semester changed drastically. The sport offerings that were being played leading up to Governor Pritzker’s executive order (including basketball, volleyball, indoor soccer, and archery tag) were stopped abruptly, and other offerings (such as outdoor soccer and flag football) were unable to begin. Wanting to promote a healthy lifestyle for students while at home for an extended period of time, the intramural sports program at the University of Illinois designed and planned new activities. These activities were designed to follow safety guidelines set by the Center for Disease Control. These new activities included a running league, trivia, and esports. As a result, participants had the opportunity to participate in two types of program offerings. The first being traditional team sports that occurred before the COVID-19 pandemic. The second was individual virtual programs that occurred during the COVID-19 pandemic. Additionally, there was an opportunity for participants to participate in activities offered both before and during the COVID-19 pandemic. Since the program offerings are inherently different, it was easy to differentiate the groups based on the sport selected on the survey question. This resulted in the survey collecting unexpected COVID-19 related data that
could be analyzed to determine if there were motivational differences among participants selecting to participate at various stages of the COVID-19 pandemic.

The findings of this study indicated that for respondents who participated in activities that occurred prior to COVID-19 and those respondents who participated in activities both before and during COVID-19 had competence-mastery as the highest motivat

ional factor followed by social, stimulus avoidance, and intellectual. This trend is consistent with the other groups within the study. The respondents who participated in activities that occurred during COVID-19 also had competence-mastery as their highest motivating factor followed by social. However, this group had the intellectual factor as the third highest motivational factor and stimulus avoidance as the lowest. This trend is consistent with findings from previous studies by Beggs et al. (2014) and Beggs and Elkins (2010).

This difference in trends is interesting within the context of the COVID-19 pandemic. One may anticipate that individuals may participate in programming provided by intramural sports for stimulus avoidance factors, such as distracting oneself from the burdens of everyday life. The COVID-19 pandemic resulted in significant levels of stress due to high levels of uncertainty. The current study suggests that individuals who only participated in intramural sports during the COVID-19 pandemic were least motivated by stimulus avoidance, therefore it is likely they were meeting that need in other activities. Additionally, intellectual being the third highest motivational factor for this group suggests that female intramural sports participants may not be receiving enough intellectual stimulation through other outlets during the time of the pandemic.

While the differences between the groups were not statistically different, these findings can provide some initial insight into how the COVID-19 pandemic may be changing the
motivational factors of female participants. Additionally, this provides insights into what may be
least motivating for female participants for different programming structures. For example,
female participants interested in team sports, or sports offered prior to the COVID-19 pandemic,
are least motivated by intellectual factors such as mental stimulation. Female participants
interested in individual based programming and virtual programming, or sports offered during
the COVID-19 pandemic, are least motivated by stimulus avoidance factors such as desire to
escape the burdens of everyday life.

Theoretical Implications

Multiple theoretical implications are demonstrated in this study within the context of
SDT. The first is indicated by competence-mastery being the highest motivational factor across
all comparisons. This suggests that female intramural sports participants are highly motivated to
participate because the activity allows them to master a skill or be competitive. Competence-
mastery is related to the psychosocial need Competence, or the need to demonstrate mastery of
skills within a given activity (Cooper et al., 2012; Lox et al., 2014). With the highest
motivational factor aligning with one of the psychosocial needs, it is clear why a program that is
designed to foster competition would be appealing to participants.

Another theoretical implication is that the second highest motivational factor for all
comparisons, social, addresses interpersonal connections. This is similar to the psychosocial need
Relatedness, or the need for social interactions (Cooper et al., 2012; Lox et al., 2014). If
Relatedness is addressed in an activity, intrinsic motivation can be fostered (Ryan & Deci, 2000).
Intrinsic motivation is thought of as highly autonomous as it originates from within the
individual and is associated with regular participation in activities (Ryan & Deci, 2000). This
suggests that individuals motivated to participate in intramural sports are influenced by the social
factor and are likely to regularly participate in the activity. This can lead to numerous health benefits as a result of the increased physical activity.

When considering the competence-mastery factor and the social factor together, it is clear that female intramural sports participants are engaging in intramurals to satisfy two psychosocial needs. These two needs are Competence and Relatedness. This is significant as SDT proposes that individuals are highly motivated to participate in activities that meet one or more of the three psychosocial needs (Cooper et al., 2012).

While the scale within this study does not directly assess it, the third psychosocial need Autonomy may be addressed through new individual based programing created during the COVID-19 pandemic. Autonomy is the need for self-dependent behavior (Cooper et al., 2012; Lox et al., 2014), therefore individual sports programs may address all three psychosocial needs. This is suggested by Competence and Relatedness being demonstrated through competence-mastery and social being the two highest motivational factors for female students who only participated in intramural sports during the COVID-19 pandemic. Individual based sports program offerings may therefore foster regular participation which could increase the overall health of female college students due to an increase in physical activity.

Limitations

One of the most critical limitations in this study was the sample size. The final sample size was 12.79% of the population being studied. As a result, the reliability of the study may be compromised (Denscombe, 2010). There could be a variety of reasons why the sample size was not larger including participants believing the email message was spam or not having access to technology that would allow them to complete the survey. The timing of the survey may have also resulted in a reduced response rate. The survey was sent out at the beginning of the
pandemic which was a time that a lot of communication from the university was also being sent through emails. This may have resulted in the emails containing this survey being lost in inboxes and receiving little attention. The pandemic also prevented in-person contact with the students and as a result they could not be encouraged in-person to complete it. These factors could have prevented individuals from completing the survey. The sample itself was not diverse enough to provide adequate subsamples to conduct comparisons. This was particularly true for the comparisons examining international students and ethnicity.

An additional limitation is self-selection bias which occurs anytime an individual can choose whether or not they participate in a research study (Olsen, 2011). As a result, the data could be biased and may not represent the motivations of the population as a whole, but rather only the respondents who completed the survey. Within the context of this study, individuals who completed the survey may be highly motivated to not just complete the survey, but also highly motivated to participate in intramural sports rather than those who may have an average or low motivation to participate.

**Practical Implications**

This study attempted to bridge the gap between practical and theoretical implications. This study assessed types of motivations, rather than degrees of intrinsic motivation which may increase the potential for practical application of the SDT theory. In general, this study demonstrated that female college intramural sports participants are generally highly motivated to participate in intramural sports due to competence-mastery factors and social factors, which has two implications. First, it suggests that if intramural sports programs would like to see an increase in female participants, they should demonstrate how their programming allows female participants to be competitive and how it can be used to develop or foster relationships. Second,
if the campus recreation professionals are trying to broaden their appeal to females who are not participating in intramural sports, they may consider designing programs that are appealing to lower-ranked motivations. For example, offering programs that are appealing to those searching for mentally stimulating activities may be one strategy. These programs could include board games such as chess or trivia.

The results of this study demonstrated that graduate students are significantly less motivated by social factors when compared to sophomores or seniors. This suggests campus recreational professionals should market to female undergraduate students differently than female graduate students. While both groups are participating for competence-mastery factors, social factors should be emphasized for undergraduate students, specifically sophomores and seniors. This may encourage more female participants to play in intramural sports that may not already be participating.

The collection of data during the COVID-19 pandemic also informs practitioners in campus recreation about programming during a health crises and why women may be participating in individual or virtual based programs. The two highest motivating factors for respondents who participated in activities offered only during the pandemic were the same as the highest motivating factors for respondents who participated in activities offered only prior to the pandemic. This suggests that both groups are highly motivated to participate in team sports and individual virtual based programs to be competitive and foster or develop relationships. However, these two groups are least motivated to participate due to different factors. Female participants in team sports, or sports only available prior to the COVID-19 pandemic, were least motivated by intellectual factors. Those who participated in virtual or individual based programs, or sports only available during the COVID-19 pandemic were least motivated by stimulus
avoidance factors. This informs practitioners that how they should market new programs during the pandemic. Additionally, it suggests motivating factors may be shifting due to the current climate. As practitioners continue to struggle to design programming that can operate within the varying guidelines of each state and university, professionals should recognize that they need to be flexible in designing programming and marketing that addresses the motivational factors of previous and current participants.

Suggestions for Future Research

While this study contributed to the previous literature, it is clear that more research is needed to address within group comparisons for female intramural sports participants. A study addressing this topic should have a larger sample size that is more diverse which would increase the likelihood that comparisons could be made. One way this could be accomplished is through the use of different recruitment strategies such as QR codes, incentives or targeted oversampling for smaller sub-groups (e.g., international students. As a result, the analysis could be more informative on the motivations of international students and various ethnicities.

Future research should also further examine the influence of campus involvement. There are various ways to assess campus involvement and the present study examined only one aspect, hours a week devoted to an RSO. Another aspect that may be beneficial to examine is employment on campus, participating in Greek life, and if the respondent is participating in any other on-campus programs or events. This information may provide insight into whether being involved in programs provided by the university influence the motivational factors of female participants.

This study occurred at an interesting time due to the COVID-19 pandemic. A significant change is occurring throughout the country in relation to on-campus programming, specifically
within the intramural sports context. Due to many state and university guidelines having significant limitations and restrictions on team sports, many intramural sports programs are having to be creative about the types of sports and programs they offer. More research is needed to understand the true impact of the pandemic. Research is needed on motivations related to different forms of programs including individual and virtual based programs. The current study did not examine e-sports (such as FIFA, Super Smash Bro’s and Madden) as they were not offered through the intramural program at the time of the study. As many intramural sports programs begin to offer this option, additional research into how motivations to participate in e-sports may differ when compared to other offerings will be needed. Research that is conducted at various stages in the pandemic can inform campus recreation professionals on the best practices related to program offerings based on possible changing motivations.

Although not the focus of this study, future researchers could also examine the influence of feelings of financial adequacy on intramural sports participation. There was a close to significant effect for the intellectual factor when assessing for security in finances. While finances can be viewed as a barrier to participation rather than a motivation, there may be a relationship between these two influences that may impact intramural participation.

Conclusion

While there were multiple limitations, theoretical and practical implications can be drawn from this study. Female intramural sports participants are meeting two psychosocial needs which suggests they are motivated to participate in intramural sports activities regularly. Practitioners should use this data to inform their program design and marketing strategies to attract new female students to participate in intramural sports. Future research should continue to examine how different factors may influence the motivations of female intramural sports participants.
Specifically, studies should aim to have larger group sizes to ensure a more diverse sample to examine the role of ethnicity and citizenship. Additionally, research is needed into the influence of different types of campus involvement and the role the COVID-19 pandemic may have on current and future program offerings. As the current climate of intramural sports evolves, it is important to continue learning about why female students are participating in intramural sports. This will allow professionals to foster increased female participation which will result in a variety of health benefits that female college students may be missing out on due to lack of physical activity.
REFERENCES


NHIS. (2019). *Figure 7.5. Percentage of adults aged 18 and over who met 2008 federal physical activity guidelines for both aerobic and muscle-strengthening activites through leisure-time aerobic and muscle-strengthening activites: United States, 2010-2018.*

https://public.tableau.com/profile/tina.norris#!/vizhome/FIGURE7_4/Dashboard7_4


58
https://doi.org/10.1177/1090198112467801


https://doi.org/10.1123/rsj.37.1.14


https://doi.org/10.1123/rsj.2015-0026


https://web.archive.org/web/20200319045239/https://www.whitehouse.gov/presidential-


APPENDIX A

ONLINE SURVEY

PART 1: DEMOGRAPHIC PORTION

PURPOSE: The purpose of this section is to gather demographic information about the current intramural sports participants.

DIRECTIONS: The following section contains six (6) questions. Please select the answer that best describes you.

1. What was your gender?
   a. Male
   b. Female
   c. Other
   d. Prefer not to specify

2. How many times during the Spring 2020 semester have you participated in intramural sports?
   a. 0 times
   b. 1 time
   c. 2 times
   d. 3 or more times
   e. Prefer not to say

3. Which intramural activity did you participate in the most during the Spring 2020 semester?
   a. Indoor Soccer
   b. Basketball
   c. Volleyball
   d. Archery Tag
   e. Bowling
   f. Spikeball
   g. I participated in the following unlisted activity: _____________________

4. What year in school are you?
a. Freshman  
b. Sophomore  
c. Junior  
d. Senior  
e. Graduate Student  
f. Faculty/Staff  
g. Prefer not to say  
5. Please specify your ethnicity (please select all that apply).  
a. Caucasian  
b. African-American  
c. Latino or Hispanic  
d. Asian  
e. Native American  
f. I identify as the following unlisted ethnicity: ______________  
g. Prefer not to say  
6. Are you an international student?  
a. Yes  
b. No  
c. Prefer not to say  
7. Please select the option that best completes the following statement; “My finances are adequate ______”:  
a. Always  
b. Most of the time  
c. Sometimes  
d. Rarely  
e. Never  
8. On average, how many hours per week do you participate in registered student organizations on campus? (i.e. sorority or RSO)  
a. 0 hours  
b. 1-3 hours  
c. 4-7 hours
PART 2: THE LEISURE MOTIVATION SCALE

PURPOSE: The purpose of this scale is to identify why the participant or player chooses to engage in intramural sports.

DIRECTIONS: The following section contains 32 statements. Each one begins with the phrase: “One of my reasons for engaging in intramural sports is…”. To the right of the statement is a number scale indicating how true the statement is. A “1” indicates that the statement is never true, a “2” means that it is seldom true, “3” indicates it is somewhat true, “4” means that it is often true and a “5” means that it is always true. Please select the number that best fits your situation.

One of my reasons for engaging in intramural sports is…

1) To learn about things around me.

2) To satisfy my curiosity.

3) To explore new ideas.

4) To learn about myself.

5) To expand my knowledge.

6) To discover new things.

7) To be creative.
8) To use my imagination.

9) To build friendships with others.

10) To interact with others.

11) To develop close friendships.

12) To meet new and different people.

13) To reveal my thoughts, feelings, or physical skills to others.

14) To be socially competent and skillful.

15) To gain a feeling of belonging.

16) To gain other’s respect.

17) To challenge my abilities.

18) To be good in doing them.

19) To improve my skill and ability in doing them.

20) To be active.

21) To develop physical skills and abilities.

22) To keep in shape physically.

23) To use my physical abilities.

24) To develop physical fitness.

25) To slow down.

26) Because sometimes I like to be alone.

27) To relax physically.

28) To relax mentally.

29) To avoid the hustle and bustle of everyday activities.

30) To rest.

31) To relieve stress and tension.

32) To unstructure my time.