Collegiate Novice Rowers' Motivations: An Application of Self-Determination Theory

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ABSTRACT

The purpose of this study was to understand the reasons why novice rowers choose to join collegiate rowing teams. There is no existing research specifically analyzing this population, and the unique team structure in rowing makes previous sport participation research difficult to generalize to this population. The reasons for sport participation vary widely by age, gender, and level of competition.

This study integrates self-determination theory and organismic integration theory with scales to measure satisfaction and behavioral intentions, and data were collected through the use of a web-based survey. Schools competing in NCAA Division I and II rowing conferences were contacted for their participation, resulting in 233 completed surveys. Data analysis was completed using SPSS resulting in the discovery that novice rowers are a highly motivated group, and intrinsic and identified forms of motivation regulation stand out as the strongest indicators of behavior. Self-determined forms of motivation were linked with high satisfaction and intent to continue rowing, whereas extrinsic regulation had an inverse relationship with intent to continue rowing, and amotivation had an inverse relationship with both satisfaction and intent to continue rowing.

This information can be used to strengthen recruiting efforts to target student-athletes who naturally align with preferred motivation profiles. Specific recommendations are given for coaches, student-athletes, parents, and sport administrators on ways to ensure the sport environment fosters positive forms of motivation to enhance performance, satisfaction, and sport adherence.

Keywords: Self-determination theory, organismic integration theory, sport selection, gender

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CHAPTER I

Introduction and General Information

Rowing is hailed as one of the oldest college sports, predating both college football and basketball by more than15 years (Kirschman, 2014; Riesman & Denney, 1951). The first intercollegiate competition was a rowing race between Yale University and Harvard University in 1852 (*Yale Heavyweight Crew*, 2009). The rich and prestigious history of men's rowing has fostered the growth of this sport across the nation, but only in recent history have women taken the oar. For the purposes of this study, it is essential to understand the structure and history of women's rowing in college athletics. Gaining an awareness of how this sport is designed and has grown will allow sport administrators to nurture a trajectory of growth and further development in years to come.

Women's rowing was introduced into the NCAA during the 1987-1988 academic year. In the Division I bracket, rowing started with 24 teams across the nation and averaged a squad size of 38.2 student-athletes. Rowing was dropped as a NCAA sport after 1989, but was reintroduced as an emerging sport in 1995. The following year, it was deemed a championship sport with 54 Division I teams nationwide and an average squad size of 55.9 student-athletes (Irick, 2013).

Women's collegiate rowing has experienced steady growth in the past two decades, both in number of student-athletes and number of teams in the NCAA. Figure 1 (See Appendix A) illustrates the number of student-athletes who have joined the sport since it was deemed an emerging sport in 1995 until the 2012 season. Rowing has realized a 226% increase in student-athlete participation during this time and the average squad size now surpasses 64 student-athletes per team. Figure 2 (See Appendix B) shows the steady growth in the number of teams and illustrates that women's rowing teams in the NCAA have nearly doubled since being re-introduced as a collegiate sport.

Women's collegiate rowing programs host the largest roster of any female athletic team and offer the greatest number of scholarships out of all female sports (Irick, 2013; Macur, 2004). Despite these benefits, it is the 12th most commonly played sport behind basketball, volleyball, soccer, cross country, softball, tennis, track and field, golf, swimming and diving, lacrosse, and field hockey (Acosta & Carpenter, 2014).

In order to sustain a competitive rowing program, teams must maintain a roster large enough to participate in the main rowing events. Preferably, collegiate programs aim to have as large a roster as possible as this gives the team more opportunities to score points during events, as well as it facilitates intra-squad competition. A difficulty facing collegiate rowing programs is in recruiting experienced student-athletes at the age-group and high school level, as there are relatively few youth programs across the country (Rosner, 2001; The Rowers Almanac Inc., 2008). Additionally, this means many schools will be competing for the same student-athletes, making it difficult to secure talented recruits. In order to compensate for this small pool of experienced rowers, collegiate rowing teams must often seek out-of-sport student-athletes to build their roster. This means targeting people with an athletic background, such as swimmers or runners, who may not have any prior rowing experience. Often out-of-sport student-athletes are able to transfer their fitness and ability to learn physical skills from their previous sport domain to rowing.

To be capable of recruiting these out-of-sport student-athletes, rowing teams are divided into varsity and novice squads. Varsity rowers are typically recruited from age-group or club rowing teams; whereas, the novice squad is comprised solely of beginners, traditionally with no rowing experience what-so-ever. Typically, many novice student-athletes have athletic experience in other areas such as swimming, volleyball, track and field, soccer, among other

sports. While on the novice squad, the student-athlete is allowed to spend one year learning the sport of rowing. The first year of training relies heavily upon technique development and general conditioning. Based on performance at this level, a novice student-athlete may be offered a spot on the varsity squad upon satisfactory completion of the first year. Otherwise, if a novice student-athlete does not successfully advance to the varsity squad, they are then cut from the team altogether. In essence, this group acts as a feeder program to build the varsity team.

Potential novice student-athletes are primarily sought through direct-mailing the incoming freshman class, on-campus recruiting, and attending freshman seminars and orientation sessions (Hartsuff, 2012). Coaches may also seek high-caliber high school student-athletes in other sports and contact them directly. The goal of this type of recruiting is to connect with large amounts of female first-year students in order to educate them on the opportunity of joining a collegiate athletic team, have them complete the try-out process, and then teach them the mechanics of rowing in a group setting. Freshmen are sought for the novice squad with the goal of developing their competence in rowing so that they are capable of competing with the varsity team for each subsequent season. The investment of time and resources to teach these student-athletes how to row at the collegiate level is another factor influencing many coaches' desire to find freshmen student-athletes. Coaches seek the greatest return on their investment and it is important that student-athletes become eligible for three more years of competition at the varsity level. Successful recruiting efforts for the novice squad will help build a strong varsity team by finding and training student-athletes who are a good fit for the sport, but may never have been exposed to it in the past.

A challenge in recruiting for novice squads is in the number of competing student organizations which also target incoming freshmen (Hartsuff, 2012). Though novice recruitment

takes place over several months, incoming students often receive information from dozens of other organizations and clubs across campus, which can infringe upon the ability of rowing teams to garner their attention and interest. When one is able to make a connection with potential novice student-athletes, it is vital that information relevant to their needs is conveyed. In other words, rowing teams must be aware of the main reasons novice rowers are drawn to the sport, and use that information to successfully target and attract new student-athletes.

Another challenge lies in recruiting student-athletes who are willing to return to the sport after the completion of their first year. Just because a novice student-athlete is offered a varsity position is no guarantee that they will choose to accept. Therefore, in order for the novice program to be successful, a team must first effectively attract student-athletes interested and able to join the novice squad, and then create an environment where those student-athletes are driven to persist in the sport.

Collegiate rowing is uniquely constructed when compared to other sport structures. The two-squad design is not utilized in other sport programs so existing research on sport participation, motivation, and predicted retention does not encompass student-athlete behaviors in this environment. It is imperative for rowing programs to understand how to best identify potential student-athletes for their novice squads, connect with them in a meaningful way, and provide an environment where their needs are being met so student-athletes are willing to persist in the sport beyond their first year. By doing so, rowing programs will have increased retention, improved recruiting efforts, and therefore help build the sport of women's rowing in the NCAA.

Statement of the Problem

Collegiate rowing is unique to other varsity sports in that they foster a beginner's program. Though this novice squad is widely understood to provide foundational team members, there is no existing research to understand the reasons why novice rowers choose to join collegiate rowing teams. Challenges arise when attempting to achieve a sizable class of novice student-athletes who are capable of excelling at the sport of rowing, preparing them for varsity level training and competition, and retaining them beyond their first year. In order to facilitate the sustainability and ongoing growth of varsity rowing programs, sport administrators and coaches must become aware of the motivational factors driving novice rowers to join and persist in the sport.

The purpose of this study is to shed light on the motivational factors influencing novice rowers to join collegiate rowing programs in hopes to nurture the growth of collegiate rowing. Once this is understood, recommendations for more effective recruiting strategies can be made as well as methods to increase student-athlete retention.

Research has shown that motivational profiles are strong indicators of motivational consequences for adults (Vlachopoulos, Karageorghis & Terry, 2000), though existing research on why adults choose to participate in sport has resulted in some conflicting outcomes. Therefore, this study will contribute to the body of literature of motivation theory as it pertains to college varsity rowing team members.

There is practical relevance for this study in university athletic departments specifically as it offers insight into the sport of rowing. First, by understanding novice motivation, rowing programs can better orient recruiting efforts to cater to potential student-athlete desires. The results of this study can be used to help assess whether traditional recruiting efforts are

effectively marketing to appeal to future novice rowers' needs. If not, rowing programs can develop new recruiting techniques or tailor their recruiting message to better align with potential novice student-athlete interests. By ensuring that recruiting messages align with motivational factors that are most likely to influence novice student-athletes to try the sport, it is hypothesized that a rowing team is more likely to draw newcomers.

Secondly, this research can be applied to the current novice team environment to assess whether the motivational climate developed by the coaches is appropriately aligned with how these student-athletes are driven. Research has shown environments that reinforce self-determined forms of motivation predict student-athlete retention and behavioral persistence (Deci & Ryan, 2000). In other words, there is evidence that sport persistence and growth can be foreseen when student-athletes have certain motivational profiles, particularly when those motivational profiles align with the sporting environment. By providing an environment that aligns these motivational profiles with day-to-day participation in the sport, teams are more likely to reduce student-athlete dropout and maximize individual growth, thus realizing the greatest potential for the novice squad.

Finally, the implications of this study extend beyond the sport of rowing. Schools that are seeking ways to increase women's overall participation in collegiate sports would benefit from considering the addition of a women's rowing team. Collegiate rowing has the largest potential for offering women opportunities to participate in NCAA Division I sports for three reasons. First, rowing teams can facilitate, and thrive upon, a larger roster size than any other female collegiate sport. The average size of a women's rowing team is nearly double that of the next largest female sport, e.g., track and field (Irick, 2013). This roster size is still considerably lower than the comparative largest men's sport, football, which averages 110 student-athletes on their

rosters at the Division I level (Irick, 2013). This figure alone further illuminates the persisting gender disparity found in collegiate sports. Second, rowing has the largest number of scholarship opportunities for female student-athletes compared to other collegiate sports. This opens doors to higher education for those with limited financial resources, and can help ease the burden of the rising cost of college attendance. Finally, rowing is unique in that teams are designed to educate and train student-athletes with no prior experience. Therefore, understanding the motivation of the best-fit student-athletes is crucial to targeting, training and retaining team members, creating a team where student-athletes thrive, and developing a rowing program that will flourish. By combining these qualities, it is clear that universities that choose to foster this sport will be better equipped to provide more opportunities for women in sport. As such, this study has value to sport administrators, athletic departments, and compliance personnel alike.

CHAPTER II

Literature Review

Theories on human motivation have grown and developed substantially in the past 75 years, and so it is necessary to limit this thesis to focusing on the principles outlined in one, empirically grounded and well established framework. For this reason, this project will be based upon the self-determination theory (Deci & Ryan, 2000).

Self-Determination Theory

Self-determination theory (SDT) was developed by Edward Deci and Richard Ryan beginning in the 1980s, and since then, SDT has grown into one of the most popular approaches used to understand motivation and behavior in the context of sport (Duda & Treasure, 2013). Studies have utilized this framework in a variety of situations, including identifying how and why people are committed to sport (Zahariadis, Tsorbatzoudis, & Alexandris, 2006), predicting sport participation and persistency (Pelletier, Fortier, Vallerand, & Brière, 2001; Standage, Duda, & Ntoumanis, 2003), the effect of sport environments on motivation (Fortier, Vallerand, Brière, & Provencher, 1995), examining the interaction between age and sport participation (Russell, 2014) as well as how gender impacts motivation (Kingston, Horrocks, & Hanton, 2006), to name a few. Self-determination theory has laid the groundwork for researchers to gain valuable insight into athlete motivation, which can be applied across all ages, sports, ability levels, and genders.

Self-determination theory is a multifaceted theoretical framework containing multiple subsections that can be used to explain specific motivational phenomena that occurs in different contexts. There are six formal mini-theories associated with SDT that are used to address specific areas of motivation. The first mini-theory is cognitive evaluation theory (CET), and is specific to exploring the impact of social environments on intrinsic motivation. Organismic

integration theory (OIT) explores how and why extrinsic motivation can be internalized given differing social contexts. The causality orientation theory (COT) focuses on describing how people tend to position themselves in different environments and adjust their behavior in various ways. The basic psychological needs theory (BPNT) delves into the three basic psychological needs (autonomy, relatedness, and competence) and relates how they interact with one's psychological health. The goal contents theory (GCT) investigates how goals that exist in different areas of the self-determination continuum impact motivation and overall well-being. Finally, the relationships motivation theory (RMT) focuses specifically upon the basic need of relatedness (Vansteenkiste, Niemiec, & Soenens, 2010).

For the purposes of this research, OIT will be used as the basis for analysis and discussion of the results for several key reasons. Primarily, OIT has been validated by researching the effects of internalization through daily life experiences rather than experimental manipulations, thus increasing the practical relevance and generalizability of OIT research (Vansteenkiste et. al, 2010). Furthermore, research utilizing the OIT principles of internalization has been conducted to predict behavioral outcomes resulting from the type of extrinsic motivation regulation reported from the sample population, which mirrors a goal of this study (Niemiec, Lynch, Vansteenkiste, Bernstein, Deci, & Ryan, 2006). For clarification, OIT will be described at length later in the literature review.

Fundamentally, SDT differentiates between behaviors performed autonomously versus behaviors performed for relatively controlled reasons. Autonomous actions are self-determined, such as freely choosing to take up a hobby or sport, while controlled actions tend to be non-self-determined, such as being pressured or forced to participate in an activity. Research has shown that self-determined forms of motivation tend to bring positive outcomes such as sport

commitment and adherence (Pelletier, Fortier, Vallerand, Brière, Tuson, & Blais, 1995; Vallerand, 1997; Zahariadis et al., 2006). Conversely, non-self-determined forms of motivation tend to bring about negative consequences (Pelletier et al., 1995; Pelletier et al., 2001). By understanding one's reasons for being motivated, sport participation and persistency can be anticipated.

Motivation is not simply dichotomous (self-determined or non-self-determined), but rather motivation lies upon the self-determination continuum (Deci & Ryan, 2000). Broadly, the types of motivation illustrated on the continuum (from low to high self-determination) are amotivation, extrinsic motivation, and intrinsic motivation (Deci & Ryan, 1985). In greater detail, motivation is impacted in relation to how the activity is regulated. In order to understand the varying degrees of motivation, each regulatory style of motivation will be identified along the self-determination continuum and discussed, starting with the most self-determined forms of motivation, and ending with the least self-determined forms of motivation.

The most self-determined form of motivation is "intrinsic motivation," where one's actions are derived from a sense of volition, choice, and free will. In other words, one is acting because there is an internal desire to partake in that activity, and one finds the activity inherently satisfying and pleasurable (Deci & Ryan, 2000). For example, if a student-athlete describes playing a sport simply for the love of the game, they are expressing that they are intrinsically motivated. The only regulatory style associated with intrinsic motivation is known as "intrinsic regulation." Research has shown that athletes who are intrinsically motivated to participate in their sport have positive associations with sport commitment (Zahariadis et al., 2006).

In the broad category of "extrinsic motivation," four different types of regulation have been identified which vary in their level of self-determination (Deci & Ryan, 2000). The most

highly self-determined form of extrinsic motivation is known as "integrated regulation." Here, one fully accepts and understands the importance of their behavior, and makes a cognitive choice to continue participating in the activity for personal reasons. Actions are self-determined and one chooses to fully integrate their decision to participate in sport with their core needs and beliefs: therefore, it is not considered to be a type of intrinsic motivation. "Identified regulation" is another form of self-determined motivation, where the participant understands and appreciates the purpose of the activity, but acts more for the outcome than for the activity itself (Deci & Ryan, 2000; Duda & Treasure, 2013). For example, a rower may not enjoy lifting weights, but can appreciate the impact lifting weights will have on his or her performance during a competition. Again, this is not intrinsically based, as the activity is not partaken with pure pleasure and satisfaction toward the activity itself.

Shifting to less self-determined forms of motivation, extrinsic motivation can also have "introjected regulation." In this case, one's reasons for action are tied to internal rewards such as pride and out of feelings of guilt (Deci & Ryan, 2000; Duda & Treasure, 2013). For example, a student-athlete may participate in sport because they would feel guilty if he or she quits. The least self-determined form of extrinsic motivation is known as "external regulation," where one is driven specifically by a desire to receive external rewards (Deci & Ryan, 2000; Duda & Treasure, 2013). A student-athlete who participates in sport in order to receive a reward, social recognition, or financial gain is externally regulated.

Finally, the least self-determined form of motivation is known as "amotivational," or rather, a lack of motivation altogether (Deci & Ryan, 2000). When student-athletes identify as amotivational, they are likely already (or will soon be) reaching a phase of burnout, where they may be prone to drop the sport entirely. The only form of regulation associated with amotivation

is “non-regulation.” At this point, there is no internal or external motivational drive, and generally no perceived reason to participate in the activity at all (Duda & Treasure, 2013). Figure 3 (see Appendix C) illustrates the continuum and depicts how the forms of motivation are interrelated relative to the amount of self-determination one feels when partaking in an activity.

An important concept of this theory is that motivation can shift along the continuum. There are certain ways to help motivation develop toward more self-determined forms of regulation. Though it is believed extrinsic motivation can never cross over into becoming intrinsic motivation, there are highly internalized forms of extrinsic motivation that bring positive outcomes such as positive well-being, enjoyment, and greater health (Deci & Ryan, 2000). Conversely, certain environments are able to undermine self-determined forms of motivation, reducing the likelihood of a positive experience and behavioral internalization (Deci & Ryan, 2000). Therefore, it is of value to understand the components of what fosters self-determined forms of motivation as well as what can inhibit such development.

An integral component of SDT is that it argues all humans share three innate and universal needs. Self-determination theory identifies these three needs as autonomy, relatedness, and competence, and postulates these needs as essential for one’s well-being (Deci & Ryan, 2000). Autonomy is described as having the perception to act based on one’s free will, and to have the ability to make choices. Relatedness is the connection one feels with others in a respectful and supportive environment. Competence is the need to feel capable of interacting successfully with the surrounding environment (Deci & Ryan, 2000). It is argued that these three needs are the basis for every human’s mental health and that the degree to which these needs are satisfied will promote the internalization and integration of a behavior (Deci & Ryan, 2000). To apply this concept to rowing, it can be argued that when the sport environment can satisfy these

needs, there is a greater chance that student-athletes will have more self-determined motivational habits, as well as experience improved well-being and an increased likelihood of investment in the activity (Duda & Treasure, 2013). On the other hand, when an environment fails to satisfy these needs (or actively thwarts them), there are negative effects upon one's performance, well-being, and detrimental forms of motivation are promoted (Deci & Ryan, 2000). The interaction with valued people in a given situation will determine whether needs are either satisfied or hindered and is known as the motivational climate (Gagné, Ryan, & Bargmann, 2002).

In summary, people are drawn to activities that satisfy their innate, universal needs. When these needs are being met through the participation of an activity like sport, one is more likely to persist, take ownership, and internalize their involvement in the activity (Deci & Ryan, 2000; Pelletier, Rocchi, Vallerand, Deci, & Ryan, 2013). Motivation is not stagnant but rather is influenced by the environment. This can lead to positive or negative outcomes depending on how needs are addressed. When needs are fostered, levels of self-determined motivation have been shown to increase, leading to satisfaction and positive behavioral intentions.

Organismic Integration Theory. The focus of this SDT mini-theory is to examine the process of internalizing extrinsically motivated endeavors to bring value and meaning to one's actions. To achieve this, one must endorse the significance of such behaviors despite not being intrinsically motivated to participate in the activity itself (Vansteenkiste et al., 2010). As mentioned in the previous section, extrinsic motivation is a broad spectrum that varies in regard to levels of self-determination. The more ownership one feels over participating in an activity, the more one develops feelings of autonomy. Therefore, even though one's motivation may be extrinsic, having free-will and choice leads to motivation regulations that foster personal growth and positive experiences.

It is natural for one to internalize the values as established by their social group according to OIT (Vansteenkiste et al., 2010). This is driven by the need for relatedness with others, as well as competence regarding the structure of group values. Autonomy is essential as it is necessary for integration to take place. Though a social group may influence one's values, the act of personally processing and endorsing such values must happen through free will (Deci & Ryan, 2000). Therefore, social groups have the power to guide the acceptance and internalization of values.

External regulation, the least self-determined form of extrinsic motivation, is not internalized at all. This type of motivation is purely based on obtaining rewards and/or avoiding punishments. The value of one's actions are completely external to the self and in order to maintain one's motivation at this level, constant reinforcements are required. If the reinforcements end, one's motivation to participate will also cease (Vansteenkiste et al., 2010). Introjected regulation shows partial internalization. This form of regulation is evident when people seek to gain pride from an activity or avoid feeling shame by failing to do so. These associations of how one constantly surmising how they are being perceived by others shows the nature of introjected regulation as being interpersonal (Vansteenkiste et al., 2010). The exhausting effect of constant stress and perceived pressure predicts short-term persistence for those with this form of regulation (Pelletier et al., 2001). Identified regulation is the stage where people begin to truly internalize their extrinsic behavior. This is where one finds meaning and choice in their actions regardless of challenges. There is a sense of freedom and personal significance attached to a behavior, which corresponds to one's values (Vansteenkiste et al., 2010). Finally, the most internalized form of motivation is integrated regulation. This requires

substantial work to build meaningful coherence between external actions, deeply valued goals, and one's sense of self (Vansteenkiste et al., 2010).

There are several ways to facilitate internalization according to OIT. Just as satisfying universal needs is necessary for intrinsic motivation, realizing autonomy, competence and relatedness are key elements to internalization. Social contexts that are need-supportive rather than controlling, demeaning, and rejecting facilitate this process (Vansteenkiste et al., 2010). A specific method of creating an autonomy-supportive environment is in providing rationales for activities, particularly when uninteresting or rote. This act has been shown to increasingly benefit one's motivation over time leading to stronger behavioral engagement (Vansteenkiste et al., 2010).

Overall, this theory explains in greater detail the complexities of extrinsic motivation according to SDT. Internalization is not instantaneous, but rather a process. Internalization is fostered or diminished by social environments and greater internalization predicts heightened global wellness, greater persistence, and improved performance (Deci & Ryan, 2000; Vansteenkiste et al., 2010). Therefore, as this process can provide a wealth of positive outcomes, the importance of working to develop internalization is abundant.

Motivations to Sport Participation

Once the basis for motivation is understood, researchers examine if individuals are driven to select into sport in order to satisfy their needs. If the sport is perceived to provide the landscape where innate needs are satisfied, it is posited that people will internalize the behavior (Deci & Ryan, 2000). One's desire to take ownership and responsibility for their actions leads to autonomy and autonomous forms of motivation are linked with many positive outcomes including long-term commitment (Pelletier et al., 2001; Pelletier et al., 2013).

Research identifying the primary reasons adults are motivated to participate in sport has provided some contradictory results although there are a few findings that are of benefit to consider. Kilpatrick, Hebert, and Bartholomew (2005) found there tended to be different motivational factors for adults who participate in sport versus exercise, where exercise consists of frequenting a gym or participating in self-led physical activity and sport is identified as a team-based activity with the intent to participate with others and with the ability to compete. Results indicated those who are drawn to sport tend to be intrinsically motivated. Conversely, those who partake in exercise tend to do so for some type of desired outcome, for instance to look a certain way, because one feels health related pressures, or for social recognition. People who choose to exercise are more likely to be extrinsically motivated (Kilpatrick, Hebert, & Bartholomew, 2005).

From these findings, one may assume that athletes across the board tend to be more intrinsically motivated than non-athletes. However, variances occur when taking into consideration the level of competition. Studies have shown that at the elite level, athletes are generally more extrinsically motivated when compared to recreational athletes (Fortier et al., 1995). A competitive environment, where the key element of participation hinges on the goal of winning contests or events, has proven to undermine intrinsic motivation because the focus of participation shifts from being internal to external in nature (Fortier et al., 1995). Some research suggests sport success can be facilitated by external forms of motivation, particularly identified regulation. This is because identified regulation may be indicative of long term sport goals and can explain the choice to invest time in demanding sport activities (Fortier et al., 1995).

Research has found women partake in physical activity and sport for different reasons than men, though there is conflict in the literature regarding whether males or females are more

likely to be intrinsically motivated or if their motivation profiles are the same (Amarose & Horn, 2000; Fortier et al., 1995; López-Fernández, Merino-Marbán, & Fernández-Rodriguez, 2014). Koivula (1999) found that adult females are more prone to participate as a means to manage their weight, for a way to cope with stress, and to maintain their appearance. Other research found that as women progress through adolescence, their goals shift from focusing on skill acquisition to focusing on obtaining peer approval (Lee, 1993). As young athletes become more concerned with peer-involvement, how they are perceived by peers, and their ability to spend satisfactory amounts of time socializing, their motives for sport involvement may change or deteriorate (Slater & Tiggemann, 2010). This shift in motivation sheds light on why there is such a high drop-out rate for athletes as they progress to higher levels of training and competition, which is particularly evident for females (Slater & Tiggemann, 2010).

Research has identified the most notable motives behind female athletic dropout include time commitments, level of competence, and lost interest (Slater & Tiggemann, 2010). When comparing this to the fact that more females leave sport than males, it was found that adolescent females identify that playing sports does not conform to social norms and that other, more "typical" social activities (such as shopping and socializing) become more important (Slater & Tiggemann, 2010). Therefore, females are more likely to leave sport as they age due to social pressures and desire to "fit-in" to the expectations of other females in their social group (Slater & Tiggemann, 2010).

Unfortunately, by dropping out of sport in adolescence, girls are losing out on an opportunity to build their self-esteem (Richman & Shaffer, 2000). Specifically, Richman and Shaffer found that participating in precollege sport can promote females' self-worth by nurturing physical competencies, favorable body images, and gender flexibility later in life (2000). As

females are more likely to drop out of sport during this pivotal age, they are losing an opportunity to realize such positive psychological benefits that can impact them for the rest of their lives. Thus, successfully encouraging female participation in sport is not only a benefit to athletic programs, but to the individual female student-athletes as well.

In sum, there is great variation regarding the motivational factors behind why individuals choose to participate in sport. It appears that there are additional challenges when it comes to recruiting females, particularly since their likelihood of dropout is much higher at this age. Therefore, this research is of particular importance to rowing programs to clarify the reasons novice rowers choose to join the sport in order to direct future recruiting and retention efforts.

CHAPTER III

Methodology

This section will explain in detail how this study was designed and implemented, including documenting the requisite university procedures, detailing how data collection was instigated and occurred, and thoroughly describing the survey in use. Further, this section will identify the measures used to perform data analysis and outline the research questions. This section is intended to provide structural transparency of this study.

IRB Process

The Institutional Review Board (IRB) Form A was submitted for expedited review in January 2015 (see Appendix E). The study began upon receiving approval from university IRB.

Sampling

Data were sought from NCAA Divisions I and II schools that sponsor women's rowing in major rowing conferences, including the Atlantic 10 Conference, American Athletic Conference, Atlantic Coast Conference, Big 10 Conference, Big 12 Conference, Colonial Athletic Conference, Pacific 12 Conference, Patriot League, and West Coast Conference. Furthermore, schools in the Northeast 10 Conference, Sunshine State Conference, Mountain East Conference, Northwest Collegiate Rowing Conference, Pennsylvania State Athletic Conference, and Western Intercollegiate Rowing Association were also contacted for participation. All contacted schools are located within the United States. These schools were selected by researching the collegiate team database on a reputable rowing website (www.row2k.com) and then verifying contact information and current sport participation on each school's university sanctioned website. The criteria for selection was that a school must sponsor NCAA Division I or II women's rowing and have current novice student-athletes. A total of 84 collegiate teams were contacted to participate

in this study. Of student-athletes currently a member of those teams, only novice rowers were asked to participate.

The precise number of novice student-athletes in the sample size is unable to be determined. Should teams sustain an average of 15 novice student-athletes, approximately 1,260 student-athletes were in the pool of potential participants. Of those 84 teams, 26 coaches responded affirmatively that they would be willing to distribute their survey to their student-athletes, totaling a pool of approximately 390 potential participants with a greater likelihood of receiving and completing the study.

Instrumentation

This study gathered data through the administration of a web-based survey. There were five sections in this survey. The first section contained one demographic question to identify whether the respondent is qualified to complete the survey by verifying they are a current novice rower. This filter question ensured only novice rowers would respond to the survey.

The second section was the Sport Motivation Scale II (SMS-II) containing 18 questions. The original Sport Motivation Scale (SMS) is a multi-dimensional measurement tool used to assess sport motivation in relation to SDT, as SDT has been proven to be an appropriate theoretical framework to understand and promote ideal motivation in sport (Pelletier et al., 2013; Vallerand, 2007). This scale provides a way to measure all types of sport related motivation by building upon SDT's comprehensive theoretical base (Pelletier, et al., 2013). Studies have proven the SMS can predict a variety of athlete behaviors including likelihood of sport participation and sport persistence (Pelletier, et al., 2001; Standage, et al., 2003). Broadly, research has shown autonomous forms of motivation tend to predict more positive outcomes, such as positive emotions, while non-autonomous forms of motivation are indicative of negative

outcomes, such as athlete dropout (Pelletier, et al., 2001; Pelletier et al., 2013). Due to the volume and variety of research conducted using the SMS and the fact that it "has had a significant impact on the measurement, prediction, and understanding of sport motivation" in a variety of contexts, it was chosen to be the foundation of this survey (Pelletier, et al., 2013, p. 331).

The SMS was initially created in 1995 and was revised in 2013. The SMS-II is recommended as a preferred alternative to the first version of the SMS, as it has been found to perform better than the original scale, is more efficient, and has fewer questions. Furthermore, the survey questions have been redeveloped to better align to the SDT framework on a theoretical basis (Pelletier, et al., 2013).

Questions in the SMS-II were answered on a 1 to 7 scale, with 1 indicating that the respondent feels the question "does not correspond at all" with how they feel about participating in novice rowing, and 7 indicating that the respondent feels the question "corresponds completely." In comparison to the original SMS scale, the SMS-II has ten fewer questions. Each question was coded to correspond with a specific form of motivational regulation. Questions 3, 9, and 17 indicate one's level of intrinsic regulation; questions 4, 11, and 14 indicate one's level of integrated regulation; questions 6, 12, and 18 indicate one's level of identified regulation; questions 1, 7, and 16 indicate one's level of introjected regulation; questions 5, 8, and 15 indicate one's level of external regulation; questions 2, 10, and 13 indicate whether one is non-regulated. Minor changes were made to the wording of the SMS-II in order to eliminate confusion. The respondents are asked to respond to the prompt "Why do you participate in novice rowing" rather than "Why do you practice your sport," and corresponding adjustments were made in the instructional paragraph prior to asking individual questions. Permission has

been received directly from the authors of the SMS-II scale to use this questionnaire as well as to edit the wording of the title and instruction section to specifically reference the sport of rowing (Pelletier, personal communication, 2015).

The third section of the survey contained five questions that were modified based on Ruihley and Hardin's (2011) scale to measure the level of satisfaction one feels as a member of the rowing team. The questions were answered on a Likert-type scale ranging from 1, "Strongly disagree" to 7, "Strongly agree."

The fourth section contained three questions that were modified based on Koo and Hardin's (2008) scale to measure the respondent's likelihood of persisting in the sport of rowing and remaining on the team beyond their current year of participation. These questions were answered on a scale ranging from 1, "Completely disagree" to 7, "Agree completely."

The final section contained five demographic questions. These questions asked if the respondent had any experience with rowing prior to their participation on the novice rowing team, how they heard about the novice rowing team, their current year of eligibility, to identify any prior sport experience, and name their current rowing conference.

In the survey instructions, the participants were informed of the time commitment to complete the survey, assured their confidentiality will be upheld, informed that the completion of the survey serves as informed consent and encouraged to answer the survey questions as honestly as possible. The goals of the research study were shared and contact information for both the researcher and University of Tennessee's Office of Research were provided should any questions arise. Any student-athlete that wished to receive a copy of the completed study will be provided the opportunity to do so. A copy of the survey and explanation are attached to this document (see Appendix D).

Procedures

Head coaches of each of the 84 identified teams were contacted via email to inform them of this study and ask if they are willing to encourage their student-athletes to participate. If they chose to participate, further explanation of the research goals and instructions on how to complete the survey were emailed to each head coach to distribute to their novice rowers for completion.

A follow-up email was sent to each head coach one week after the initial distribution of the survey in order to thank them for their interest in participating in this study as well as to serve as a reminder for them to distribute the survey to their student-athletes. A second follow-up email was distributed one week later. The survey was available for completion for two weeks.

The reason this survey was shared with novice rowers through their head coach was to build credibility and trust with the student-athletes in hopes to encourage their participation as well as ensure their confidentiality is maintained. Any coach or student-athlete who requested to receive a copy of this research project upon completion will be obliged.

Data Analysis

All data analysis was performed using SPSS Version 22 for Windows. Descriptive statistics were used to analyze the demographics information, such as previous sport experience, verifying whether the participant is a current novice rower, the number of respondents per conference, current year of athletic eligibility, and method the respondent learned about rowing. Correlation analysis was performed to examine links between types of motivation regulation and satisfaction, as well as behavioral intentions. A general linear model was used to isolate the most indicative forms of motivation regulation.

Research Questions

The research questions to be addressed in this study are as follows:

I. What are the motivations for novice rowers in intercollegiate athletics?

II. What is the relationship between the identified motivations and satisfaction?

III. What is the relationship between the identified motivations and behavioral intentions?

IV. What is the relationship between satisfaction and behavioral intentions?

CHAPTER IV

Results

This section will examine the data as collected from the survey process. This information will be identified and described for clarification and further transparency. Discussion and comprehensive application of the data will be conducted in the following chapter.

After the survey was available for two weeks, 328 responses were recorded. Of those responses, 249 were determined to be completed. The 79 incomplete responses were eliminated from the dataset prior to analysis.

The first question identified whether the respondent is currently a novice rower, which yielded a 96.9% (n = 241) positive response. The remaining 3.1% (n = 8) of respondents were removed from the data analysis. The resulting 241 responses were usable as the basis for analysis and 233 responses were recorded to be completed in entirety.

The second section was the SMS-II, containing 18 questions and measuring six types of motivation regulation. The results indicated that overall, the respondent group was highly motivated (see Table 1). The third section used five questions to measure satisfaction with rowing and the fourth section used three questions to measure behavioral intention to continue rowing. These three sections were analyzed together in a Pearson Correlation matrix to investigate the individual forms of motivation regulation and their relationship with satisfaction and/or behavioral intentions, as well as the relationship between satisfaction and behavioral intention (see Table 2).

Intrinsic regulation, the most self-determined form of motivation, returned a mean of 5.37 and standard deviation (SD) of 1.29. When analyzing the Pearson Correlation, it was determined to be significant at the 0.01 level for both behavioral intentions ($r = 0.468$, $n = 234$, $p = 0.000$)

and satisfaction ($r = 0.534$, $n = 237$, $p = 0.000$). This shows a large portion of survey respondents identified with this form of motivation regulation.

The most highly self-determined form of extrinsic motivation, known as integrated regulation, returned a mean of 4.96 and SD of 1.52. When analyzing the Pearson Correlation, it was determined to be significant at the 0.01 level for both behavioral intentions ($r = 0.455$, $n = 234$, $p = 0.000$) and satisfaction ($r = 0.461$, $n = 237$, $p = 0.000$). This information also shows a large number of participants identified with this form of motivation regulation.

Identified regulation, also a self-determined form of extrinsic motivation, returned a mean of 5.40 and SD of 1.44. When analyzing the Pearson Correlation, it was determined to be significant at the 0.01 level for both behavioral intentions ($r = 0.549$, $n = 234$, $p = 0.000$) and satisfaction ($r = 0.613$, $n = 237$, $p = 0.000$). This mean score is the highest of all forms of regulation, showing many participants identified with this motivation profile.

Introjected regulation, a non-self-determined form of extrinsic motivation, returned a mean of 3.55 and SD of 1.28. When analyzing the Pearson Correlation, it was determined to be significant at the 0.01 level for both behavioral intentions ($r = 0.195$, $n = 234$, $p = 0.000$) and satisfaction ($r = 0.266$, $n = 237$, $p = 0.000$). This information shows there is an average number of respondents who identified with introjected regulation.

External regulation, the least self-determined form of extrinsic motivation, returned a mean of 2.35 and SD of 1.27. When analyzing the Pearson Correlation, it was determined to be significant at the 0.05 level for behavioral intentions ($r = -0.157$, $n = 234$, $p = 0.016$) and was not significant when correlated with satisfaction ($r = -0.127$, $n = 237$, $p = 0.051$). Both comparisons showed an inverse relationship with extrinsic regulation, meaning as one part of the relationship increases, the other decreases.

Table 1

Descriptive Statistics for Regulation Types

Form of Regulation	N	Mean	Std. Deviation
Intrinsic Regulation	241	5.3721	1.29113
Integrated Regulation	241	4.9557	1.52202
Identified Regulation	241	5.4025	1.43817
Introjected Regulation	241	3.5491	1.28001
External Regulation	241	2.3472	1.26520
Non-Regulation	241	1.9682	1.21351

Finally, non-regulation, which denotes the absence of motivation altogether, had a mean of 1.94 and SD of 1.21. When analyzing the Pearson Correlation, it was determined to be significant at the 0.01 level for both behavioral intentions ($r = -0.634$, $n = 234$, $p = 0.000$) and satisfaction ($r = -0.622$, $n = 237$, $p = 0.000$). Both comparisons showed an inverse relationship with non-regulation.

The Pearson Correlation between behavioral intentions and satisfaction was significant at the 0.01 level ($r = 0.749$, $n = 234$, $p = 0.000$). Table 2 summarizes this information. A general linear model (GLM) repeated measures with the Bonferroni correction was conducted with the six motivational factors. Results showed a significant difference ($p < .000$) in all comparisons except for intrinsic regulation and identified regulation.

The fifth and final section gathered demographic information from each respondent. Of the 233 respondents who completed the survey to this point, 201 (86.3%) indicated they had no prior rowing experience, while 32 (13.7%) indicated they did indeed have some experience with rowing in the past.

Table 2

Correlation Analysis

		Intrinsic Regulation	Integrated Regulation	Identified Regulation	Introjected Regulation	External Regulation	Non-Regulation	Behavioral Intentions	Satisfaction
Intrinsic Regulation	Pearson Correlation	1	.554**	.734**	.359**	.056	-.263**	.468**	.534**
	Sig. (2-tailed)		.000	.000	.000	.386	.000	.000	.000
	N	241	241	241	241	241	241	234	237
Integrated Regulation	Pearson Correlation	.554**	1	.609**	.459**	.114	-.218**	.455**	.461**
	Sig. (2-tailed)	.000		.000	.000	.077	.001	.000	.000
	N	241	241	241	241	241	241	234	237
Identified Regulation	Pearson Correlation	.734**	.609**	1	.450**	.101	-.303**	.549**	.613**
	Sig. (2-tailed)	.000	.000		.000	.117	.000	.000	.000
	N	241	241	241	241	241	241	234	237
Introjected Regulation	Pearson Correlation	.359**	.459**	.450**	1	.453**	.085	.195**	.266**
	Sig. (2-tailed)	.000	.000	.000		.000	.191	.003	.000
	N	241	241	241	241	241	241	234	237
External Regulation	Pearson Correlation	.056	.114	.101	.453**	1	.427**	-.157*	-.127
	Sig. (2-tailed)	.386	.077	.117	.000		.000	.016	.051
	N	241	241	241	241	241	241	234	237
Non-Regulation	Pearson Correlation	-.263**	-.218**	-.303**	.085	.427**	1	-.634**	-.622**
	Sig. (2-tailed)	.000	.001	.000	.191	.000		.000	.000
	N	241	241	241	241	241	241	234	237
Behavioral Intentions	Pearson Correlation	.468**	.455**	.549**	.195**	-.157*	-.634**	1	.749**
	Sig. (2-tailed)	.000	.000	.000	.003	.016	.000		.000
	N	234	234	234	234	234	234	234	234
Satisfaction	Pearson Correlation	.534**	.461**	.613**	.266**	-.127	-.622**	.749**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.051	.000	.000	
	N	237	237	237	237	237	237	234	237

Note: **. Correlation is significant at the 0.01 level (2-tailed); *. Correlation is significant at the 0.05 level (2-tailed).

Table 3

Method Used for Recruitment

Method	Frequency	Percent
On-Campus Recruiting	100	40.0
Email	100	40.0
Friend	80	32.0
Flyer	63	25.2
Informational Meeting	63	25.2
Other	41	16.4
Website	40	16.0
Off-Campus Recruiting	17	6.8

The vast majority of respondents (n = 195, 83.7%), indicated they are in their freshman year of eligibility, which is expected as rowing teams often target freshmen to join the novice squad. Twenty-seven (11.6%) student-athletes reported they are currently in their sophomore year of eligibility, seven (3.0%) reported they are currently in their junior year of eligibility, three (1.3%) reported they are currently in their senior year of eligibility, and one (0.4%) reported their eligibility status as "other."

When asked how the student-athletes learned about the novice rowing team, respondents were given the option to select as many choices as were applicable. Both on-campus recruiting (n = 100, 40.0%) and email (n = 100, 40.0%) were highly reported. The next most popular method was learning about rowing through a friend (n = 80, 32.0%). The use of flyers (n = 63, 25.2%), and informational meetings (n = 63, 25.2%) were equally scored. The least popular forms of recruitment were via website (n = 40, 16.0%), other (n = 41, 16.4%), and off-campus recruiting (n = 17, 6.8%). Table 3 summarizes this data from most to least common recruitment methods.

Table 4

High School Sport Experience

Sport	Frequency	Percent
Track Field	81	32.4
Other	70	28.0
Basketball	53	21.2
Swimming & Diving	47	18.8
Cross Country	45	18.0
Soccer	42	16.8
Volleyball	37	14.8
Rowing	25	10.0
Softball	24	9.6
Tennis	22	8.8
Lacrosse	14	5.6
None	16	6.4
Competitive Spirit Squad	5	2.0

Participants were asked to indicate what, if any, sport(s) they had experience with in high school. The sports listed as options were chosen because they were reported as the top ten most popular sport for high school girls during the 2013-14 year (National Federation of State High School Associations, 2014). Again, the question was designed for respondents to be able to indicate multiple answers as they may have participated in various sports. The most common sport these student-athletes reported affiliation with was track and field (n = 81, 32.4%), followed by basketball (n = 53, 21.2%), swimming and diving (n = 47, 18.8%), cross country (n = 45, 18.0%), soccer (n = 42, 16.8%), volleyball (n = 37, 14.8%), rowing (n = 25, 10.0%), softball (n = 24, 9.6%), tennis (n = 22, 8.8%), lacrosse (n = 14, 5.6%), and competitive spirit squads (n = 5, 2.0%). A large amount of respondents indicated they participated in a sport that was not listed ("other," n = 70, 28.0%) and 16 (6.4%) reported they did not participate in high school sports. Table 4 summarizes this information from most to least popular sport.

Table 5

Represented Conferences

Conference	Frequency	Percent
Atlantic 10 Conference	29	12.9
American Athletic Conference	13	5.8
Atlantic Coast Conference	13	5.8
Big 10 Conference	74	33.0
Big 12 Conference	23	10.3
Colonial Athletic Association	10	4.5
Pacific 12 Conference	9	4.0
Patriot League	15	6.7
West Coast Conference	13	5.8
Other	26	11.2

The final demographic question asked participants to identify their rowing conference. While this helps to categorize respondents, it protected their anonymity by refraining from identifying their specific school. The largest response was from the Big 10 Conference (n = 74, 33.0%), followed by Atlantic 10 Conference (n = 29, 12.9%), Big 12 Conference (n = 23, 10.3%), and the Patriot League (n = 15, 6.7%). The Atlantic Athletic Conference, Atlantic Coast Conference, and West Coast Conference each had 13 responses (5.8%), followed by the Colonial Athletic Association (n = 10, 4.5%) and Pacific 12 Conference (n = 9, 4.0%). Of the 224 respondents who completed this question, 26 (11.2%) indicated they are in a conference that was not listed. These results are summarized alphabetically in Table 5.

CHAPTER V

Discussion

The purpose of this study was to determine why women are drawn to collegiate novice rowing and to understand the relationships between motivation, satisfaction, and behavioral intentions. Self-determination theory suggests there are different levels of motivation regulation ranging from non-self-determined to completely self-determined. Self-determined forms of motivation regulation lead to positive outcomes such as increased well-being and likelihood to continue participating in activities (Deci & Ryan, 2000). According to SDT's mini theory OIT, levels of self-determination change in regard to how deeply a behavior is internalized and need satisfaction via environmental experience is integral to internalization (Deci & Ryan, 2000; Vansteeniste et al., 2010). Four research questions were developed to address these topics, the first being to understand what motivates novice rowers in intercollegiate athletics.

Motivations to Row

Overall, it is found that the sample of novice rowers are comprised of highly motivated individuals. The data shows the researched population is generally highly motivated to participate in rowing, with few instances of amotivation. There are four motivation profiles that arose to explain the reasons why novice rowers are motivated, namely intrinsic, integrated, identified, and introjected regulation.

Intrinsically regulated rowers are compelled to participate for the joy and happiness they feel toward the sport (Deci & Ryan, 2000). Integrated regulation describes identifying, understanding, and integrating the act of rowing as corresponding to one's values and identity and it is known as the most internalized form of extrinsic motivation (Deci & Ryan, 2000). Identified regulation means that one accepts and deeply internalizes rowing as a willful action

because the underlying value of the behavior is understood. For instance, one may identify with the importance of being healthy and see exercise as a means to achieve that outcome, whether or not they inherently enjoy the act of exercising (Deci & Ryan, 2000). Finally, introjected regulation describes feeling like one "must" or "should" participate in rowing to satisfy feelings of pride or avoid shame. In other words, self-worth is contingent upon being a rower. This type of motivation shows the behavior has not been fully internalized but rather is dependent upon self-imposed pressures and therefore unstable in the long-run (Deci & Ryan, 2000; Vansteenkiste et al., 2010). Of these four types of motivation regulation, the data analysis revealed intrinsic regulation and identified regulation to be particularly strong indicators of why this population chooses to row.

Relationship Between Motivation and Satisfaction

The second research question aims to uncover relationships between student-athlete motivation regulation and overall satisfaction with the sport of rowing. The results show satisfaction is highly correlated with each motivation regulation except extrinsic regulation. For the self-determined forms of motivation as well as introjected regulation the correlation is positive, meaning student-athletes with those forms of motivation tend to be satisfied with their participation in rowing. Non-regulation, or the lack of motivation altogether, has an inverse correlation with satisfaction describing that as this form of motivation increases satisfaction decreases.

This information explains why one's motivation has a strong influence on satisfaction and vice versa. Past research has found self-determined forms of motivation are associated with sport satisfaction. Therefore, if self-determined forms of motivation are developed and facilitated through the sport experience, people are more likely to be satisfied with their experience.

Self-determined forms of motivation arise through an inherent enjoyment of the activity or when there is personal value placed on the act of participation. Therefore, it makes sense for self-determined forms of motivation to align with satisfaction as people who enjoy the activity for the sake of the activity itself and people who understand and integrate the value of the experience into their core being are receiving personal fulfillment through participation. Student-athletes with non-self-determined forms of motivation are not seeking the activity for personal fulfillment but rather to avoid external or internal pressure or for some external gain. Therefore, personal satisfaction through active participation is less likely.

Relationship Between Motivation and Behavioral Intentions

The third research question looked to identify the relationships between motivation and behavioral intentions. This study confirms previous findings that more self-determined forms of motivation lead to greater adherence within the novice rowing population (Pelletier et al., 1995; Zahariadis et al., 2006).

Intrinsic regulation is the most self-determined form of motivation, so it would make sense to seek and develop that form of motivation in novice rowers. However, research shows elite level athletes tend to display less intrinsic motivation than recreational athletes and higher instances of identified regulation, which may ultimately be of greater benefit to athletic success (Fortier et al., 1995). The population surveyed indicated high levels of both of these forms of regulations, so it is important for coaches to consider which motivation profile is most beneficial to seek and develop to gain the greatest return on investment.

Though this study has clearly indicated the myriad of benefits linked to intrinsic motivation, existing literature suggests it may not be the best for long-term sport commitment, especially when it involves a rigorous training program (Fortier et al., 1995). Intrinsic motivation

is concerned with enjoyment of the act in and of itself, within the moment, and with little pause to consider the future. Short-term goals that are involved within the present activity may be developed, yet there is little indication this type of regulation spurs active planning for long-term sport participation (Vansteenkiste et al., 2010). Though such fulfillment leads to behavioral repetition, training to be a rower at the collegiate level requires completing workouts in adverse conditions, being put under pressure, completing cross-training (such as running, lifting weights, etc.), and dedicating a large amount of time away from other social experiences to fulfill the requirements of being on the team, all of which extend beyond learning the skill of rowing. Even the act of competition, which is integral to any collegiate sport, has been found to undermine intrinsic motivation (Fortier et al., 1995). Training in such conditions may not be seen as favorable or enjoyable, which can detract from one's desire to continue participating in the sport if intrinsically motivated, and ultimately result in de-selection from sport.

People with identified regulation are more likely to view challenges as building blocks for the future, thus developing long-term sport goals. This type of regulation helps one looks past the immediate challenges, focus on the bigger picture, and consider how behaviors align with overarching values. It is a willful determination to persist with a behavior in the face of adversity in order to accomplish something of personal significance (Deci & Ryan, 2000; Fortier et al., 1995).

Competing at the collegiate level is far from a recreational environment, so this poses the issue of how to achieve high performance and ongoing behavioral intentions while maintaining student-athlete well-being. When considering this information in light of OIT, motivation regulations can shift along the self-determination continuum depending on the environment's ability to satisfy basic needs and the level of internalization of the activity, but regulations do not

spill over across the extrinsic/intrinsic motivation border (Deci & Ryan, 2000; Vansteenkiste et al., 2010). Research suggests there is a strong possibility that internalization of extrinsic motivation is able to happen simultaneously with the development of intrinsic motivation because both are fostered by need satisfaction (Deci & Ryan, 1985; Vansteenkiste et al., 2010). Therefore, it is possible that strategies to strengthen both types of motivation regulation are mutually beneficial and do not undermine each other.

A distinction from existing literature has emerged specifically as it pertains to this population in that novice student-athletes most strongly correlate feelings of satisfaction and behavioral intention with intrinsic and identified regulation, thus bypassing integrated regulation. Existing literature has stated that as people move along the motivation continuum toward intrinsic regulation, the more one is likely to be satisfied and persist in an activity (Deci & Ryan, 2000). Integrated regulation is the most highly self-determined form of extrinsic motivation and is theoretically assumed to be the most ideal form of motivation regulation behind intrinsic motivation. However, this research indicates a different outcome. This is perhaps because integrated regulation links to feeling the activity and purpose for participation aligns with one's core identity and values. Novice rowers, however, are new to the activity and have not yet developed the capacity to feel this way about rowing. At this point, they do not have the depth, commitment, and time to have developed this type of relationship with the sport.

Another reason for this discrepancy may arise from the fact that the SMS model was not always capable of measuring integrated regulation on earlier versions of the survey. Since the redevelopment and release of the SMS-II in 2013, integrated regulation is now a distinct category for analysis (Pelletier et al., 2013). More research must be conducted using the revised

SMS-II scale to better understand the impact of integrated regulation on satisfaction and behavioral intentions.

It is clear the results of this study have multifaceted importance for coaches. What can be learned from this information is that a recruiting message that aligns with integrated regulation may not be as effective as one that aligns with intrinsic or identified regulation. Furthermore, the motivational tactics coaches employ during training and competition may more adequately increase satisfaction if fostering intrinsic and identified regulation.

Relationship Between Satisfaction and Behavioral Intentions

According to the results of this study, there is a positive relationship between satisfaction and behavioral intentions. Both elements positively influence each other, meaning when a student-athlete is satisfied, they are inclined to continue participating in the activity and vice versa.

This shows the value of working to ensure student-athletes are satisfied with their experience in sport. If satisfaction leads to student-athlete retention, this should be considered a high priority for rowing teams to consider. As discussed in the literature review, SDT argues for the satisfaction of specific needs to improve one's well-being, specifically autonomy, relatedness, and competence (Deci & Ryan, 2000). The more successfully a novice program can meet these needs, the more likely student-athletes will perceive that environment to be satisfactory.

Another element of novice satisfaction can be determined through a student-athlete's specific goal pursuits. This involves analysis of both what the goal itself consist of as well as why that specific goal is being sought. The achievement of certain goals over others can provide more comprehensive satisfaction of basic needs, which in turn leads to behavioral persistency

(Duda, 1992; Ryan, Sheldon, Kasser, & Deci, 1996). Research shows that when people place a higher value on aspirations that are intrinsic in nature, their pursuit of such goals is more autonomous resulting in positive outcomes such as enhanced well-being and vitality (Deci & Ryan, 2000). Such goals include skill development or task mastery such as learning to hold the oar properly and being in-time with the other rowers in the boat.

When people place high value on extrinsic goals, such as material possessions, financial reward, fame, or others' approval, overall well-being suffers (Deci & Ryan, 2000). It is imperative to understand the novice population's goals for participation and emphasize setting personal goals that are self-determined in nature in order to maximize the chance of ongoing participation and global satisfaction. The process and selection of team goals should be considered in light of this information.

Applications for Coaches

Coaches can benefit from this information in several ways. The key point is to understand that coaches will influence a student-athlete's environment, which can lead to positive or negative outcomes. Research on the motivational impacts coaches have on Division I collegiate student-athletes has confirmed that different coaching styles can lead to or damage self-determined forms of motivation (Amarose & Horn, 2000). Coaches must be aware of the ways to strengthen satisfaction and self-determined forms of motivation, as well as avoid need thwarting actions in order to effectively retain student-athletes. The goal is to obtain the tools to create positive outcomes, resulting in student-athlete satisfaction and a desire to continue rowing.

Broadly, this study shows people who find the act of rowing to be inherently enjoyable are likely to persist over time and be satisfied by the experience. Also, people who identify with the underlying value of being involved in sport, such as for improving their health, are also likely

to be satisfied and persist in the sport. When recruiting new student-athletes, it will be most efficacious to seek individuals who naturally align with these motivation profiles.

It is important to tailor the recruiting message to appeal to these types of student-athletes as the results of this study show these motivation profiles exhibit the most satisfaction and strongest intention to continue. Furthermore, student-athletes with self-determined motivation are more likely to take the initiative to train in the off-season, when coaches have no control over their training (Borzi, 2015). By describing the novice experience as learning a new skill and making friends would be a way to reach student-athletes who are intrinsically motivated. To appeal to those with identified regulation, coaches could express the health benefits, the opportunity to be a collegiate student-athlete, and the opportunity to seek a new challenge. Specifically marketing "rowing" to college freshmen may not be as effective, as this study suggests novice rowers are not as likely to identify being a rower among their core values.

Once student-athletes have joined the team, coaches must build an environment that strengthens the student-athlete's relationship with the sport of rowing. As the literature review mentions, social groups facilitate the internalization of values, and therefore the values of the novice program must be based on the facilitation of positive growth. For instance, if the values of the novice program are "working hard," "learning new skills," and "being the best I can be," new student-athletes will internalize those values as their own, which will more likely lead to positive outcomes.

Both satisfaction and behavioral intention positively influence each other. This means if people are satisfied, they are likely to want to spend more time participating in the activity and vice versa. As mentioned in the literature review, research has found one's environment influences motivation regulation and motivation regulation may shift according to environmental

experiences over time (Vansteenkiste et. al, 2010). Therefore, it is of utmost importance to deliberately create an ongoing environment that fosters self-determined forms of motivation by focusing on satisfying the universal needs of competence, autonomy, and relatedness.

Coaches who are autonomy supportive have been shown to positively predict universal need satisfaction (Duda & Treasure, 2013). Further, student-athletes who perceive their coaches to be autonomy supportive tend to develop autonomous forms of motivation themselves (Gagné et al., 2002). Asking for student-athlete input, democratic coaching styles, providing positive feedback, giving justification for their actions, and offering significant choices are ways coaches can demonstrate that they are autonomy supportive (Amarose & Horn, 2000; Duda & Treasure, 2013; Pelletier et al., 1995).

The inverse of being autonomy supportive is being highly controlling, demonstrated by the use of intimidation, autocratic leadership, and controlling team members through the use of extrinsic rewards (Duda & Treasure, 2013). Special care must be taken when offering scholarships to student-athletes, as research has shown that student-athletes who receive athletic scholarships tend to exhibit lower self-determined forms of motivation than non-scholarship student-athletes (Kingston et al., 2006). If scholarships are perceived as a means to have power over a student-athlete, the scholarship will undermine self-determined forms of motivation (Kingston et al., 2006). Controlling behaviors and extreme external pressures stunt the process of giving personal meaning and value to one's experience (Deci & Ryan, 2000).

Coaches who facilitate ongoing need satisfaction will be more likely to increase student-athlete satisfaction with rowing, foster self-determined forms of motivation, and retain student-athletes over time. Coaches who thwart need satisfaction are more likely to decrease satisfaction and increase the likelihood of student-athlete burnout (Duda & Treasure, 2013).

Applications for Student-athletes

It is important for student-athletes to understand some key elements of motivation. First, student-athletes must be aware that motivation may change over time and it is largely influenced by one's environment. It is not unusual to transition from one form of motivation to another, though the goal is to move toward more self-determined forms of motivation. To accomplish this, student-athletes must look for ways to satisfy their innate needs of competence, autonomy, and relatedness. Seeking skill improvement over winning an event is a way to build competence, seeking positive relationships with team mates is a way to build relatedness, and keeping in mind that it is one's own choice to participate is a way to reinforce autonomy.

Social groups strongly influence personal values and feelings of motivation. If a student-athlete is surrounded by team mates who value hard work, skill mastery, and sportsmanship, one will more likely integrate those values into their core beliefs over time. If one chooses to spend time with team mates who are willing to complete only the minimum requirement, those will become the internalized values. Therefore, an athlete must carefully consider their close social group's ideals to make sure the group's values align with the direction the student-athlete hopes to grow.

Applications for Teammates

Teammates can benefit from this information by understanding how to assist in recruiting new student-athletes as well as help foster need satisfaction by building a positive, growth oriented environment. When recruiting new student-athletes, it is most effective to express the opportunity to learn a new skill, make friends, and to take on a challenge. Using guilt or shaming someone into trying the sport, or to convince a student-athlete to stay on the team through such tactics, leads to non-self-determined forms of motivation, dissatisfaction, and detracts from internalization.

As mentioned previously, teammates must be willing to bring new members into their social group to foster connection with others. Research has shown relatedness is a universal need, integral to behavioral integration (Deci & Ryan, 2000; Vansteenkiste et. al., 2010). Student-athletes who are not welcomed onto the team will lose the opportunity to develop feelings of relatedness with others, feel alienated, and have difficulty integrating the values of the group. Teammates who offer positive encouragement and reinforcement will assist the development of competence. The novice team must understand that they build and thrive off each other and their personal values and actions influence and shape the group. Any team member can serve as a role model, so it is imperative team members are aware of the message they are conveying.

Finally, varsity student-athletes can benefit from this information by considering how their interaction with novice student-athletes fosters cohesion and long-term integration. If varsity student-athletes are welcoming and encourage inter-squad socialization, novice student-athletes will begin to integrate that group's values into their own, feel more connected to the entire team, and set their sights beyond their novice year of training. If varsity student-athletes shun novice student-athlete participation and treat them as inferior, it is likely novice student-athletes will not view themselves as connected to the varsity squad, detracting from the satisfaction of their need to build relatedness.

Applications for Parents

Parental involvement has been found to impact sport participation at both a competitive and recreation level. Research has shown parents are key influencers in motivation enhancement or detraction (Gagné et al., 2002). In order to positively influence motivation, parents must not only be involved in the activity, but also be autonomy supportive such as by supporting the

initiative and choice making of one's child (Gagné et al., 2002; Reeve, 1998). Parents who are autonomy supportive rather than attempting to control their child's behavior will help develop internalization and enhance self-determined forms of motivation, such as identified, integrated, or intrinsic regulation (Niemiec et al., 2006). Research has further shown that autonomy supportive parents develop student-athlete behavioral involvement, such as increasing practice attendance (Gagné et al., 2002).

Applications for Sport Administrators

Sport administrators and athletic departments are tasked with the management and development of athletic teams. Gender equality in public education requires athletic departments to provide opportunities for both men and women to participate in sport. As stated in the literature review, there is still a major disparity in the number of male to female student-athletes in the NCAA (Irick, 2013). Through the ongoing development of collegiate rowing, sport administrators have the opportunity to make meaningful strides toward increasing the number of female student-athletes in their athletic departments.

Sport administrators can use this information to understand the value of sound coaching education opportunities. The availability of clinics or educational resources can help shape communication styles within coach-athlete relationships to be autonomy supportive, nurturing self-determined forms of motivation and ultimately increasing the number of female student-athletes. By understanding the importance of providing such resources to coaches, administrators will facilitate student-athlete well-being and team success.

Limitations

Despite the value that can be gained from this research, a few limitations were encountered. First, the entire collegiate rowing population was not sampled. In order to obtain the largest number of responses per each school contact, this research was limited to Division I and Division II schools in the U.S. Therefore, Division III schools were not included in this study, though their responses may have an effect on the research outcomes.

Second, a limitation is found in the communication method used to reach the sample population. Though there is value in communicating via a trusted source, in this case head coaches, the issue lies in whether or not the coach followed through in sending the survey on to their student-athletes. A large portion of potential respondents who may have been interested in voicing their opinion may never have been aware of the opportunity.

Finally, more participants would have been available should the survey have been distributed in the fall semester rather than the spring semester. This is because many teams cut members after the fall season and some student-athletes quit the team before returning in the spring. Further, the spring season has more scheduled events than the fall season, meaning coaches and student-athletes have less time to partake in the survey during this time. Distributing the survey in the fall semester could have increased participation rates.

CHAPTER VI

Conclusions and Recommendations

Investigating the interaction of motivation regulations, satisfaction, and behavioral intentions of novice rowers contributes to the literature of motivation theory, specifically pertaining to SDT and OIT. This study examines a unique set of individuals, namely sport newcomers on the fast-track to elite level competition and analyzes the best methods to maximize student-athlete and team success. The importance of this study extends beyond studying another facet of applying motivation theory in sport to providing a framework to improve motivational strategies for student-athletes, team mates, and coaches. Furthermore, there is value for this study in athletic departments as it exposes a way to increase the number of female student-athletes on campus.

The inherent nature of sport environments are controlling, demonstrated by rigid competition schedules, the focus on outcome oriented goals, constant evaluation by coaches, parents and team mates, and the limited ability for student-athletes to make choices (Conroy & Coatsworth, 2007). Despite this being considered the norm, controlling environments have been repeatedly proven to undermine self-determined forms of motivation ultimately leading to underperformance, decreased well-being, and burnout. The ongoing mismatch between scientifically proven data and day-to-day sport environments does nothing to develop long-term, mutually beneficial sport involvement.

Steps can be taken to challenge this environmental norm while simultaneously increasing athletic output and success. Coaches are integral to creating a team culture and by adopting autonomy-supportive behaviors will increase self-determined forms of motivation within student-athletes. Coaches who are educated on the variances and benefits of motivation

regulation can adapt their techniques to foster positive forms of motivation, enhance recruiting success, and create inspirational environments (Borzi, 2015). It is highly recommended that coaches take into consideration the plethora of data demonstrating how autonomy-supportive environments maximize athletic performance, interest, and ability.

Team mates and parents also highly influence athletic ability and overall well-being. Research shows that values within social groups are adopted and integrated to an individual's personal values and vice versa. This means personal principles and beliefs inherently spill over and influence the group's actions and beliefs, just as the group's ideals are likely to become internalized by each individual. Teammates must be aware of their own influence and ability to nurture basic need satisfaction through being respectful, leading by example, and encouraging relatedness among team members. Parents can also foster athletic success by adopting autonomy-supportive behaviors rather than attempting to overtly control their child's involvement in sport.

Universities must be willing to seek tools to make strides toward increasing female student-athlete participation in collegiate sport. Sponsoring women's rowing is a deliberate way for schools to demonstrate their commitment to provide more opportunities for women, in large part due to novice rowing programs. Therefore, sport administrators are recommended to support the development of rowing programs by providing coaches with the necessary education to improve recruitment and retention of novice student-athletes.

Future Research

Future research is vital for ongoing theory development and to help cultivate best practices for industry success. Research suggests mutually beneficial interactions between athletic programs and student-athletes results in the greatest success for both. Therefore, if

athletic programs are willing to utilize the plethora of information available both student-athletes and sports teams will maximize their benefits. Should programs turn a blind eye to understanding motivational consequences, the longevity and success of such programs will be jeopardized.

It is possible to consider that student-athletes who are more intrinsically motivated to row view the experience as recreational, while those who experience identified regulation view the experience as a sport. Those who view rowing as a recreational activity may not be adequately prepared to bridge the gap from the learning experience of the novice program to the harsh demands of the varsity squad, so perhaps rowing programs would be more successful with long-term student-athlete retention by recruiting student-athletes oriented to an identified regulation motivation profile. Further research examining this theory is needed.

Another avenue for future research is to uncover the point at which novice student-athletes progress along the motivation continuum, if at all. Little research has been done to uncover the benefits of integrated regulation compared to identified regulation because the two have been difficult to distinguish from each other in prior SMS scales. Since development of the SMS-II, researchers are able to separate the two for more specific analysis (Pelletier et al., 2013).

It may be of benefit to consider alternative theoretical frameworks to gain a deeper understanding of this population. Specifically, the serious leisure perspective (SLP) could offer unique insight to understanding the novice student-athlete population (Stebbins, 1982). Other frameworks to consider include but are not limited to the self-efficacy theory and achievement goal theory (Bandura, 1977; Duda, 1992; Nicholls, 1989).

Further areas of future research include examining the type of environment created by coaches and staff members, identifying senior student-athlete forms of motivation, conducting qualitative interviews with novice rowers, and analyzing specific reasons for athlete drop-out.

Research on the relationship and perception of inclusion between the varsity and novice squads could shed light on whether relatedness with the team as a whole is a factor for novice rowers when deciding whether or not to return to the sport after the first year. It could be hypothesized that teams fostering inter-squad bonding versus keeping the squads separated may have higher instances of student-athlete retention. Further research is needed to assess the validity of this hypothesis.

Summary of Findings

Novice rowers are an integral component to collegiate rowing team's success, though no research has been administered to specifically understand this population's reasons for participation in the sport. This study has uncovered key findings regarding this unique population of student-athletes. Of particular significance is that novice rowers highly identify with both intrinsic and identified motivation regulation and these motivation profiles are strong indicators of sport satisfaction and positive behavioral intentions. The rowing environment shapes student-athlete's perceptions of basic need acquisition through sport, ultimately leading to or diminishing the opportunity of behavior internalization. This indicates the value of critically evaluating the team environment to ensure student-athletes are driven to persist rather than abandon the sport. Specific guidance is given to coaches, student-athletes, teammates, parents, and sport administrators on how each group can best help foster positive forms of student-athlete motivation, satisfaction, and adherence.

LIST OF REFERENCES

Acosta, R. V., & Carpenter, L. J. (2014). Women in intercollegiate sport. *A longitudinal, national study: 37 year update.* Retrieved from http://www.acostacarpenter.org

Amarose, A. J. & Horn, T. S. (2000). Intrinsic motivation: Relationships with collegiate athletes' gender, scholarship status, and perceptions of their coaches' behavior. *Journal of Sport & Exercise Psychology, 22,* 63-84.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215.

Borzi, P. (2015). Coach's Ph.D. in psychology is applied on court and in classroom. *The New York Times.* Retrieved from http://nyti.ms/1CF1kek

Conroy, D. E., & Coatsworth, J. D. (2007). Assessing autonomy-supportive coaching strategies in youth sport. *Psychology of Sport and Exercise, 8*(5), 671–684. doi:10.1016/j.psychsport.2006.12.001

Deci, E. L. & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Press.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*(4), 227-268.

Duda, J. L. (1992). Motivations in sport settings: A goal perspective approach. In G. C. Roberts (Ed.), *Motivation in Sport and Exercise* (pp. 57-91). Champagn, IL: Human Kinetics.

Duda, J. L. & Treasure, D. C. (2013). The motivational climate, athlete motivation, and implications for the quality of sport engagement. In J. M. Williams & V. Krane (Ed.), *Applied Sport Psychology: Personal Growth to Peak Performance* (pp. 57-77). New York, NY: McGraw Hill.

Fortier, M. S., Vallerand, R. J., Brière, N. M., & Provencher, P. J. (1995). Competitive and

recreational sport structures and gender: A test of their relationship with sport motivation. *International Journal of Sport Psychology, 26,* 24-39.

Gagné, M., Ryan, R. M., & Bargmann, K. (2002). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology, 15,* 372-390.

Hartsuff, G. (2012). Building a successful collegiate club rowing program. *American Collegiate Rowing Association.* Retrieved from http://www.americancollegiaterowing.com/Files/Coaching_Manual/The%20Art%20of%20Recruiting.pdf

Irick, E. (2013). NCAA sports sponsorship and participation rates report. *NCAAPublications.com.* Retrieved from http://www.ncaapublications.com/productdownloads/PR2014.pdf

Kilpatrick, K., Hebert, E., & Bartholomew, J. (2005). College students' motivation for physical activity: Differentiating men's and women's motives for sport participation and exercise. *Journal of American College Health,* 54(2), 87-94. http://dx.doi.org/10.3200/JACH.54.2.87-94

Kingston, K. M., Horrocks, C. S., & Hanton, S. (2006). Do multidimensional intrinsic and extrinsic motivation profiles discriminate between athlete scholarship status and gender? *European Journal of Sport Science, 6*(1), 53-63. http://dx.doi.org/10.1080/17461390500440889

Kirschman, L. (2014). Vanderbilt lays claim as the true 'birthplace of college basketball'. *The Beaver Times.* Retrieved from http://www.ncaa.com/news/basketball-men/article/2014-11-29/vanderbilt-lays-claim-true-birthplace-college-basketball

Koivula, N. (1999). Sport participation: Difference in motivation and actual participation due to gender typing. *Journal of Sport Behavior, 22*(3), 360-380.

Koo, G. Y., & Hardin, R. L. (2008). Difference in interrelationship between spectators' motives and behavioral intentions based upon emotional attachment. *Sports Marketing Quarterly, 17*(1), 30-43.

Lee, M. (1993). *Coaching children in sport: Principles and practice.* London, England: Routledge.

López-Fernández, I., Merino-Marbán, R., & Fernández-Rodriguez, E. (2014). Examining the relationship between sex and motivation in triathletes. *Perceptual & Motor Skills: Exercise & Sport, 119*(1), 42-49. http://dx.doi.org/10.2466/30.19.PMS.119c11z1

Macur, J. (2004, May 28). Rowing scholarships available. No experience necessary. *The New York Times*. Retrieved from http://www.nytimes.com/2004/05/28/sports/othersports/28xrowing.html

National Federation of State High School Associations. (2014). *2013-14 high school athletics participation survey.* Retrieved from http://www.nfhs.org/ParticipationStatics/PDF/2013-14_Participation_Survey_PDF.pdf

Nicholls, J. G. (1989). *The competitive ethos and democratic education*. London: Harvard University Press.

Niemiec, C. P., Lynch, M. F., Vansteenkiste, M., Bernstein, J., Deci, E. L., Ryan, R. M. (2006). The antecedents and consequences of autonomous self-regulation for college: A self-determination theory perspective on socialization. *Journal of Adolescence, 29*, 761-775.

Pelletier, L. G., Fortier, M. S., Vallerand, R. J., & Brière, N. M. (2001). Associations of

perceived autonomy support, forms of self-regulations, and persistence: a prospective study. *Motivation and Emotion, 25*(4), 279-306. http://dx.doi.org/10.1023/A:1014805132406

Pelletier, L. G., Fortier, M. S., Vallerand, R. J., Brière, N. M., Tuson, K. M., & Blais, M. R. (1995). Toward a new measure of intrinsic motivation, extrinsic motivation, and amotivation in sports: The Sport Motivation Scale (SMS). *Journal of Sport & Exercise Psychology, 17,* 35-53.

Pelletier, L. G., Rocchi, M. A., Vallerand, R. J., Deci, E. L., & Ryan, R. M. (2013). Validation of the revised sport motivation scale. *Psychology of Sport and Exercise, 14,* 329-341.

Reeve, J. (1998). Autonomy support as an interpersonal motivating style: Is it teachable? *Contemporary Educational Psychology, 23,* 312–330.

Richman, E. L., & Shaffer, D. R. (2000). "If you let me play sports": How might sport participation influence the self-esteem of adolescent females? *Psychology of Women Quarterly, 24,* 189-199.

Riesman, D., & Denney, R. (1951). Football in America: A cultural diffusion. *American Quarterly, 3*(4), 309-325.

Rosner, S. R. (2001). The growth of NCAA women's rowing: a financial, ethical and legal analysis. *Seton Hall Journal of Sport Law, 11*(2), 297-329.

Ruihley, B. J., & Hardin, R. L. (2011). Beyond touchdowns, homeruns, and 3-pointers: An examination of fantasy sport participation motivation. *International Journal of Sport Management and Marketing, 10*(3/4), 232-256.

Russell, W. D. (2014). The Relationship between youth sport specialization, reasons for

participation, and youth sport participation motivations: A retrospective study. *Journal of Sport Behavior, 37*(3), 286-305.

Ryan, R. M., Sheldon, K. M., Kasser, T., & Deci, E. L. (1996). All goals are not created equal: An organismic perspective on the nature of goals and their regulation. In P. M. Gollwitzer & J. A. Bargh (Eds.), *The psychology of action: Linking cognition and motivation to behavior,* (pp. 7-26). New York: Guilford Press.

Slater, A., & Tiggemann, M. (2010). "Uncool to do sport": A focus group study of adolescent girls' reasons for withdrawing from physical activity. *Psychology of Sport and Exercise, 11,* 619-626. http://dx.doi.org/10.1016/j.psychsport.2010.07.006

Standage, M., Duda, J. L., & Ntoumanis, N. (2003). A model of contextual motivation in physical education: Using constructs from self-determination and achievement goal theories to predict physical activity intentions. *Journal of Educational Psychology, 95*(1), 97-110.

Stebbins, R. A. (1982). Serious leisure: A conceptual statement. *The Pacific Sociological Review, 25*(2), 251-272.

The Rower's Almanac Inc. (2008). *Rowing Statistics.* Retrieved from http://www.bhfinder.com/Rowing-Statistics

Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in experimental social psychology,* (pp. 271-360). San Diego, CA: Academic Press.

Vallerand, R. J. (2007). Intrinsic and extrinsic motivation in sport and physical activity: A review and a look at the future. In G. Tenenbaum, & E. Eklund (Eds.), *Handbook of sport psychology,* (3rd ed., pp. 59-83). New York: John Wiley.

Vansteenkiste, M., Niemiec, C. P., Soenens, B. (2010). The development of the five mini-theories of self-determination theory: An historical overview, emerging trends, and future directions. In T. Urdan & S. Karabenick (Eds.), *Advances in motivation and achievement: The decade ahead, 16,* 105-166. UK: Emerald Publishing.

Vlachopoulos, S. P., Karageorghis, C. I., & Terry, P. C. (2000). Motivation profiles in sport: A self-determination theory perspective. *Research Quarterly for Exercise and Sport, 71*(4), 387-397. http://dx.doi.org/10.1080/02701367.2000.10608921

Yale Heavyweight Crew. (2009). Retrieved from http://www.yalebulldogs.com/sports/m-crewhvy/2008-09/releases/2009regatta.pdf

Zahariadis, P., Tsorbatzoudis, H., & Alexandris, K. (2006). Self-determination in sport commitment. *Perceptual and Motor Skills, 102,* 405-420. http://dx.doi.org/10.2466/pms.102.2.405-420

APPENDICES

Appendix A

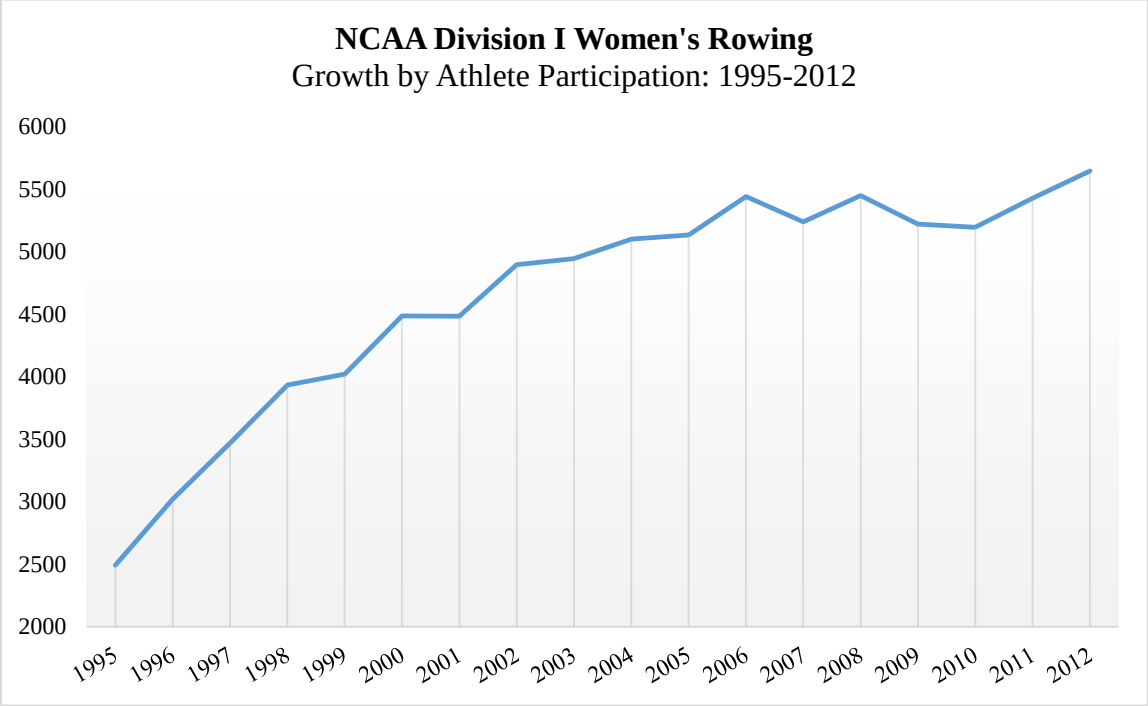


Figure 1. Women's rowing growth by number of student-athletes. Comprised of information from the 2013 NCAA Participation Report.

Appendix B

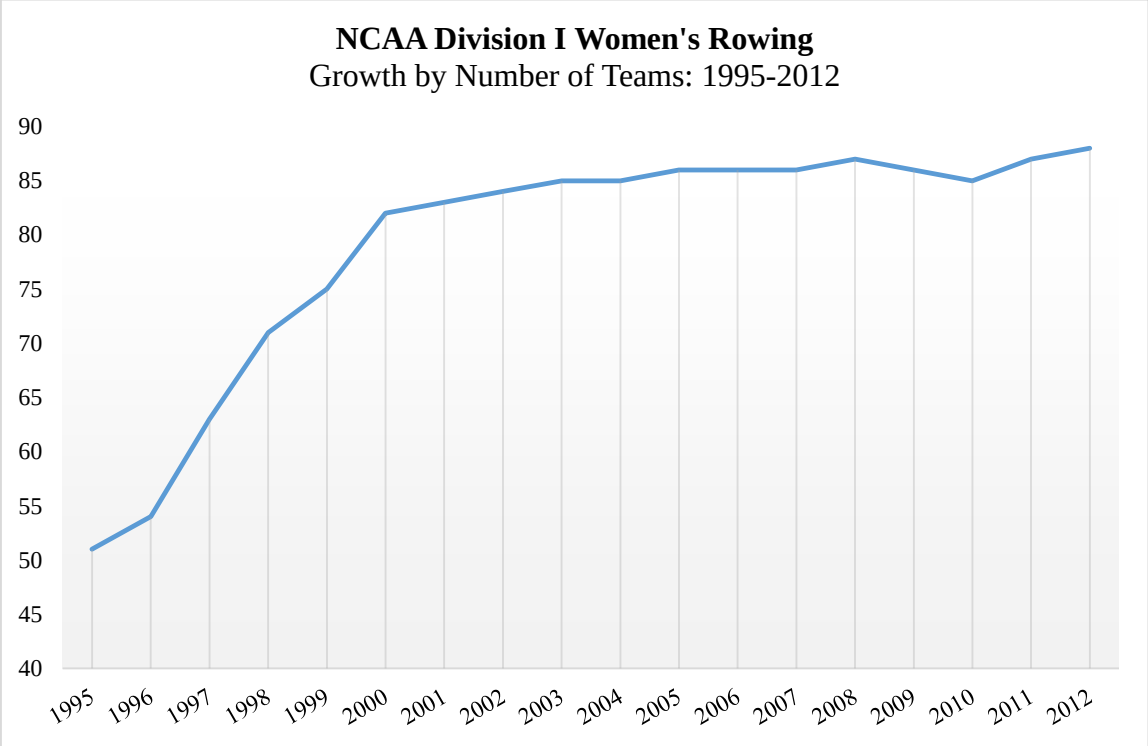


Figure 2. Women's rowing growth by number of teams. Data comprised of information from the 2013 NCAA Participation Report.

Appendix C

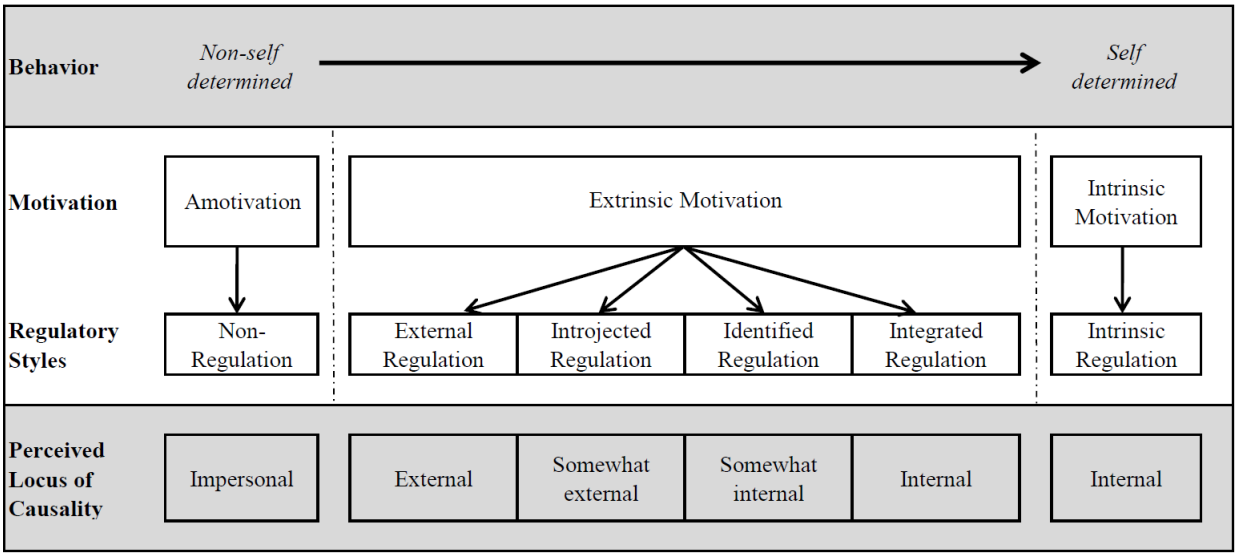


Figure 3. Adaptation of Deci & Ryan's self-determination theory continuum (2000).

Appendix D

Note to survey participant:

Thank you for participating in this research study!

This survey will identify the reasons why novice rowers choose to join collegiate rowing programs. This information will be used to strengthen recruiting efforts and increase athlete retention. Your participation is vital to the success of this project.

Please note all participants who complete this survey will remain anonymous, and so you are encouraged to answer as honestly as possible. Completing this survey is voluntary and you are able to exit the survey at any time. Please complete the survey only once.

This survey will take approximately 15 minutes to complete. The completion and submission of this survey constitutes your informed consent to participate in this study. You may contact the University of Tennessee Office of Research at 865-974-3466 with any questions about the study.

If you would like a copy of the completed research project, please contact Amy Kuuskoski.

Sincerely,

Amy Kuuskoski
University of Tennessee
M.S. Sport Management
akuuskos@vols.utk.edu
Tel: 910-795-9877

Q1: Are you currently on the novice rowing team at your college or university?

- **Yes**
- **No**

Q2: Why do you participate in novice rowing?

Please think about why you are a member of the rowing team and respond to the following statements. Please use the scale provided and indicate to what extent each of the following items applies to you.

Does not correspond at all 1	Corresponds very little 2	Corresponds a little 3	Corresponds moderately 4	Corresponds quite a bit 5	Corresponds quite a lot 6	Corresponds completely 7

1.	Because I would feel bad about myself if I did not take the time to do it.	1	2	3	4	5	6	7
2.	I used to have good reasons for doing sports, but now I am asking myself if I should continue.	1	2	3	4	5	6	7
3.	Because it is very interesting to learn how I can improve.	1	2	3	4	5	6	7
4.	Because practicing sports reflects the essence of whom I am.	1	2	3	4	5	6	7
5.	Because people I care about would be upset with me if I didn't.	1	2	3	4	5	6	7
6.	Because I found it is a good way to develop aspects of myself that I value.	1	2	3	4	5	6	7
7.	Because I would not feel worthwhile if I did not.	1	2	3	4	5	6	7
8.	Because I think others would disapprove of me if I did not.	1	2	3	4	5	6	7
9.	Because I find it enjoyable to discover new performance strategies.	1	2	3	4	5	6	7
10.	I don't know anymore; I have the impression that I am incapable of succeeding in this sport.	1	2	3	4	5	6	7
11.	Because participating in sport is an integral part of my life.	1	2	3	4	5	6	7
12.	Because I have chosen this sport as a way to develop myself.	1	2	3	4	5	6	7
13.	It is not clear to me anymore; I don't really think my place is in sport.	1	2	3	4	5	6	7
14.	Because through sport, I am living in line with my deepest principles.	1	2	3	4	5	6	7

15.	Because people around me reward me when I do.	1	2	3	4	5	6	7
16.	Because I feel better about myself when I do.	1	2	3	4	5	6	7
17.	Because it gives me pleasure to learn more about my sport.	1	2	3	4	5	6	7
18.	Because it is one of the best ways I have chosen to develop other aspects of myself.	1	2	3	4	5	6	7

Q3: How satisfied are you as a member of the rowing team?

Please think about your satisfaction as a member of the rowing team and respond to the following statements. Please use the scale provided and indicate to what extent each of the following items applies to you.

Strongly disagree 1	**Disagree 2**	**Slightly disagree 3**	**Neither agree nor disagree 4**	**Slightly agree 5**	**Agree 6**	**Strongly agree 7**

1.	In most ways my decision to be on the rowing team is close to my ideal situation	1	2	3	4	5	6	7
2.	The conditions of being on the rowing team are excellent.	1	2	3	4	5	6	7
3.	I am satisfied with my decision to be on the rowing team.	1	2	3	4	5	6	7
4.	So far I have gotten the important things I want out of my rowing experience.	1	2	3	4	5	6	7
5.	If I could decide again, I would still choose to be on the rowing team.	1	2	3	4	5	6	7

Q4: Do you plan to continue being a member of the rowing team?

Please think about your plans to continue being a member of the rowing team. Please use the scale provided and indicate to what extent each of the following items applies to you.

Completely disagree **1**	**Agree very little** **2**	**Agree a little** **3**	**Agree moderately** **4**	**Agree quite a bit** **5**	**Agree quite a lot** **6**	**Agree completely** **7**

1.	I plan to be on the rowing team next year.	1	2	3	4	5	6	7
2.	I want to keep being a member of the team.	1	2	3	4	5	6	7
3.	I am committed to the sport of rowing.	1	2	3	4	5	6	7

Demographic Information

Please answer a few questions regarding you.

Q5: Did you have any experience with the sport of rowing prior to joining your collegiate rowing team?

- *Yes*
- *No*

Q6: How did you hear about the novice rowing team? *Check all that apply.*

- Email
- On-campus recruiting
- Flyer
- Friend
- Informational meeting
- Website
- Off-campus recruiting
- Other

Q7: What is your current year of athletic eligibility?

- Freshman
- Sophomore
- Junior
- Senior
- Other

Q8: What sport(s) did you play in high school? *Check all that apply.*

- Track & field
- Basketball
- Volleyball
- Soccer
- Softball
- Cross country
- Tennis
- Swimming & diving
- Competitive spirit squads
- Lacrosse
- Rowing
- Other
- I did not play a sport in high school

Q9: In which conference does your rowing team compete?

- Atlantic 10 Conference
- American Athletic Conference
- Atlantic Coast Conference
- Big 10 Conference
- Big 12 Conference

- Colonial Athletic Conference
- Pacific 12 Conference
- Patriot League
- West Coast Conference
- Other

Thank you for your participation!

Appendix E

THE UNIVERSITY of TENNESSEE
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1534 White Ave.
Knoxville, TN 37996-1529
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February 26, 2015

Amy Nicole Kuuskoski
UTK - Kinesiology Recreation & Sport Studies

Re: UTK IRB-15-02104-XM
Study Title: Novice Rowing: Selecting into Collegiate Sport

Dear Dr. Kuuskoski:

The Administrative Section of the UTK Institutional Review Board (IRB) reviewed your application for the above referenced project. The IRB determined that your application is eligible for **exempt** review under 45 CFR 46. 101(b)(2). Your application has been determined to comply with proper consideration for the rights and welfare of human subjects and the regulatory requirements for the protection of human subjects. This letter constitutes full approval of your application version 1.0, for the above referenced study.

In the event that volunteers are to be recruited using solicitation materials, such as brochures, posters, webbased advertisements, etc., these materials must receive prior approval of the IRB.

Any alterations (revisions) in the protocol must be promptly submitted to and approved by the UTK Institutional Review Board prior to implementation of these revisions. You have individual responsibility for reporting to the Board in the event of unanticipated or serious adverse events and subject deaths.

Sincerely,

Colleen P. Gilrane

Colleen P. Gilrane, PhD
Chair
UTK Institutional Review Board

FORM A

Certification for Exemption from IRB Review for Research Involving Human Subjects

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A. PRINCIPAL INVESTIGATOR(s) and/or CO-PI(s) (For student projects, list both the student and the advisor.)**:**

Principal Investigator
Amy Kuuskoski

Faculty Advisor
Robin Hardin, PhD

B. DEPARTMENT: Kinesiology, Recreation, and Sport Studies

C. COMPLETE MAILING ADDRESS AND PHONE NUMBER OF PI(s) and CO-PI(s):

Principal Investigator
Amy Kuuskoski
1724 Laurel Ave.
Knoxville, TN 37916
910-795-9877
akuuskos@vols.utk.edu

Faculty Advisor
Dr. Rob Hardin
1914 Andy Holt Ave.
University of Tennessee
Knoxville, TN 37996
robh@utk.edu

D. TITLE OF PROJECT: Selecting Into Sport: Collegiate Rowing

E. EXTERNAL FUNDING AGENCY AND ID NUMBER (if applicable)**:** N/A

F. GRANT SUBMISSION DEADLINE (if applicable)**:** N/A

G. STARTING DATE (NO RESEARCH MAY BE INITIATED UNTIL CERTIFICATION IS GRANTED.)**:** Upon IRB Approval

H. ESTIMATED COMPLETION DATE (Include all aspects of research and final write-up.)**:** May 2015

I. RESEARCH PROJECT

1. **Objective(s) of Project** (Use additional page, if needed.)**:**
   The purpose of this study is to understand how different types of motivation to participate in the sport of rowing correlates with the degree of satisfaction one feels while participating, as well as to predict long-term athlete retention. The goal is to use this information to improve recruiting methods and materials to better target individuals who are likely to persist in the sport.

2. **Subjects** (Use additional page, if needed.)**:**
The population being surveyed is comprised of current novice rowers at colleges and universities in all major rowing conferences in the U.S. Contact will be made with each school's rowing head coach to discuss their interest in participating in this research project. Then, the survey will be shared with each coach via email who has agreed to participate in the study, who will then distribute the survey to the novice team for completion. All participants are at least 18 years old.

3. **Methods or Procedures** (Use additional page, if needed.)**:**
This study will employ an online survey hosted by Qualtrics. The survey is completely anonymous and no information being gathered can personally identify a respondent. The link to the survey will first be sent to head coaches, who will then forward the survey to their novice squads. Follow-up emails will be sent over several weeks to remind the head coaches to share the survey, as well as to encourage completion. The data will be stored on the Qualtrics website as well as downloaded to the researcher's personal computer and password protected. Data analysis will take place using statistical software such as SPSS.

4. **CATEGORY(s) FOR EXEMPT RESEARCH PER 45 CFR 46** (See instructions for categories.)**:**
(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior

J. CERTIFICATION: The research described herein is in compliance with 45 CFR 46.101(b) and presents subjects with no more than minimal risk as defined by applicable regulations.

Principal Investigator: Amy Kuuskoski
Name Signature Date

Student Advisor: Robin Hardin, PhD
Name Signature Date

Department Review Committee Chair: Steven Waller, PhD
Name Signature Date

APPROVED:
Department Head: Jeffrey Fairbrother, PhD
Name Signature Date

COPY OF THIS COMPLETED FORM MUST BE SENT TO COMPLIANCE OFFICE IMMEDIATELY UPON COMPLETION.

VITA

Amy Kuuskoski was born in Toronto, Ontario to Nancy Soward and Johannes Kuuskoski. She is the youngest of three, having Jonathan and Alexander as older brothers. Amy and her brothers were homeschooled throughout elementary, middle, and high-school in Wilmington, North Carolina. Amy attended Chatham University in Pittsburgh, Pennsylvania to pursue a bachelor's degree. At Chatham, she competed as a NCAA Division III swimmer and water polo player while a member of Chatham's honors program, Chatham Scholars. Amy completed her degree in three years, graduating in May 2009 with a Bachelor of Arts in business and a minor in professional writing.

Upon completion of her degree, Amy returned to North Carolina and began working for a medical consulting company in Chapel Hill. After nearly three years Amy was determined to return to athletics, so she took a leap of faith and began working in the cycling industry in 2012. Here, Amy fostered a budding passion for cycling and triathlon, competing in a Half-Ironman as a relay team with her brothers. The cycling industry brought her back to Wilmington, North Carolina for one year until she began her master's degree in sport management at the University of Tennessee in 2013.

Amy is currently in her final semester of her graduate degree. Amy works for Tennessee's women's rowing team as an administrative graduate assistant, supporting the Director of Operations in preparing for regattas, training trips, and daily practices. Furthermore, Amy provides direction and oversight for two undergraduate student managers, completes boat maintenance when needed, and attends races across the country. During her time at University of Tennessee, Amy has been an active member of the student organization Partners in Sports and is currently on the advisory board for one year. This experience facilitated her volunteerism for a

variety of events, including the Legacy Parks Annual Fundraiser Luncheon, Rev3 Triathlon, Partners in Sports Annual Golf Tournament, Big Brothers Big Sisters Fundraiser Gala, among others. Amy's areas of professional interest and academic research include researching motivation to participate in sport and best practices for transitioning out of sport. Amy's future goals are to return to work in Division III athletics, and compete in a full Ironman triathlon.