CAN SELF-EFFICACY AND MOTIVATION TO PARTICIPATE IN PHYSICAL ACTIVITY PREDICT HEALTH RELATED QUALITY OF LIFE IN GIRLS?

By

TARYN RIVERA BUCKLEY

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To my inspiration and greatest accomplishment yet, my son Xavier.
To my supportive and loving husband Dante, you’re next!
To my Girls Place girls, may you always be motivated to achieve your dreams.
To Mama, my guardian angel, forever in my heart.
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LIST OF ABBREVIATIONS

CET  Cognitive Evaluation Theory; a mini theory within the Self Determination Theory where intrinsic motivation is emphasized (R. M. Ryan & Deci, 2000).

GCT  Goal Contents Theory; a mini theory within the Self Determination Theory that grows out of the distinctions between intrinsic and extrinsic goals and their impact on motivation and wellness (R. M. Ryan & Deci, 2000).

HHS  Department of Health and Human Services

HRQoL  Health Related Quality of Life; A subset of general quality of life, focusing on elements of health including physical, social, emotional levels of an individual’s health (U.S. Department of Health and Human Services, 2012).

OIT  Organismic Integration Theory; a mini theory within the Self Determination Theory where extrinsic motivation and consequences are determined (R. M. Ryan & Deci, 2000).

PEDSQL  Pediatric Quality of Life Inventory; an instrument used to measure health related quality of life in participants (Varni, Seid, & Rode, 1999)

PI  Principal Investigator; the lead researcher of the project.

QoL  Quality of Life multidimensional concept that can be defined as general well-being of individuals and societies. The term is used in the fields of international development, healthcare, and politics (Siegrist & Junge, 1989).

SCT  Social Cognitive Theory; developed by Albert Bandura, explains how people acquire and maintain certain behavioral patterns (Bandura & Schunk, 1981).

SDT  Self Determination Theory; a broad framework for the study of human motivation and personality (R. M. Ryan & Deci, 2000)

SEQ-C  Self Efficacy Questionnaire for Children; an instrument used to measure participant overall self-efficacy in performing tasks related to social and emotional aspects of life, applied to a specific sport (Muris, 2001).

SRQ-E  Self Regulation Questionnaire on Exercise; an instrument used to measure motivation of participation in physical activity and specific sport (Deci & Ryan, 1985)
A steady increase in the number of obese children over the past decade has led to an outpouring of social and political support to find ways to keep the youth of America healthy. Inadequate PA has been targeted as a key factor causing the obesity problem. In an effort to maintain or achieve good health, many parents enroll their children in recreational and competitive sports leagues in their local community. Many parents of females seek an opportunity for their daughters to participate in a recreational sport environment without the pressures of competing against males. These all female programs have emerged in cities across America, but very little research exists to support the impact of female participation in recreationally structured PA on participant health related quality of life (HRQoL). The purpose of this research is to determine if motivation and self-efficacy of physically active young females can predict their HRQoL.

A convenience sample of females (n=167) aged 8-18 at an all-girls recreational facility in northwest Florida were recruited to voluntarily participate in the study. Research participants were asked to complete a packet of surveys including the
Pediatric Quality of Life Inventory (PedsQL), Self Regulation Questionnaire (SRQ-E) and Self Efficacy Questionnaire for Children (SEQ-C) which have been validated in previously published research. The surveys were administered in person, with pencil and paper.

All participants were given the opportunity to participate in a one-on-one tape-recorded interview to provide greater detail on the motivational factors contributing to self-efficacy and the social and emotional aspects of HRQoL. Twenty-one young females provided insight on their specific experiences. Thematic analysis, constant comparison, analysis and code intensiveness were used to derive themes from the interview data. The following themes emerged as contributing factors to motivation and self-efficacy: exercise outside of volleyball, coping with stressful situations, network of friends, extrinsic motivators, intrinsic motivators, and self-efficacy through leadership and experience.

The mean HRQoL score for this sample was 88.26 (on a scale from 0 to 100), indicating good HRQoL level for female PA participants. There was a moderate, positive correlation between self-efficacy and HRQoL (r=.35, p < .0005) with high levels of perceived self-efficacy associated with high levels of HRQoL. There was a weak, positive correlation between HRQoL and motivation (r=.21, p < .0005), with high levels of perceived autonomy marginally associated with high levels of HRQoL. Additionally, moderate correlation was also found with the intrinsic motivation subscale of autonomy and HRQoL, r = .31, p < .0005, with high levels of perceived intrinsic motivation correlated with high levels of HRQoL. After running a multiple regression analysis on lunch status, grade level, skill level race, ethnicity and length program participation, only grade level
(r = -0.21, p = .004) and skill level (r = -.162, p = .035) were found to make significant, unique contributions to the prediction of HRQoL.

Results of an ANOVA indicated HRQoL decreased as participants got older, and HRQoL increased with self-reported skill level, yet these results were not statistically significant.

Relative autonomy was moderately, positively correlated with intrinsic motivation (r = .54) and identified regulation (r = .20) and strongly, negatively correlated with introjected regulation (r = -.54), external regulation (r = -.670) and amotivation (r = -.075). All subscales of autonomy were significantly correlated to one another, with the exception of amotivation which was not significantly correlated to any other autonomy subscale.

Mixed methods demonstrated support between the quantitative and qualitative data. Qualitative data provided specific intrinsic and extrinsic motivators for youth sport participation, which include financial compensation, parental support, knowledge of the coach and memorable moment recall. These findings support the need for special consideration of motivation—most notably intrinsic and extrinsic motivators—and self-efficacy of participating in sport when planning PA programs for girls.
CHAPTER 1
INTRODUCTION AND LITERATURE REVIEW

Introduction

The Centers for Disease Control and Prevention (CDC) defines HRQoL as a broad multidimensional concept that usually includes self-reported measures of physical and mental health (Centers for Disease Control, 2010). HRQoL encompasses the perceived, valued health attributes such as the sense of comfort or well-being, the ability to maintain good physical, emotional, and intellectual functions, and the ability to satisfactorily take part in social activities (Bize, Johnson, & Plotnikoff, 2007). It also serves as an index of physical and psychological functioning in youth (Sawyer et al., 2004; Williams, Wake, Hesketh, Maher, & Waters, 2005) and is positively associated with PA (Vuillemin et al., 2005). Measuring and tracking HRQoL is an important way to bridge the gap between research and application of health related programs in a community. Evaluating HRQoL generally relies on the patient’s subjective evaluation of their own well-being and functioning within the different domains comprising the overall construct (Solans et al., 2008) Research in the area of HRQoL is new and plentiful in the areas of specific adult and child disease morbidity. A testament to this rapid growth is the production of over 65 instruments—in the last decade alone—for self-reporting HRQoL in children and adolescents (Quittner, Davis, & Modi, 2003).

The majority of instruments created were developed to address specific diseases and their impact on youth HRQoL. Several studies found direct correlation of low HRQoL and those children who have chronic diseases such as diabetes, cystic fibrosis, cancer, hypertension and asthma (Schwimmer, Burwinkle, & Varni, 2003; Sikdar, Wang, MacDonald, & Gadag, 2010; Soni, Porter, Lash, & Unruh, 2010; Ziaian et al., 2006).
This research suggests that the rapidly growing area of health promotion is taking its aim at exploring and identifying early factors specific to children that could impact their quality of life. Following this trend, there is now literature documenting a strong and consistent relationship between deteriorating HRQoL and obesity in children and adolescents. Much of this research links youth obesity to poorer youth HRQoL, and youth PA to better youth HRQoL, including effects on self-reported health, as well as physical, emotional, and social health and functioning (Friedlander, Larkin, Rosen, Palermo, & Redline, 2003; Sagatun, Søgaard, Bjertness, Selmer, & Heyerdahl, 2007; Swallen, Reither, Haas, & Meier, 2005; J. Williams, Wake, Hesketh, Maher, & Waters, 2005).

Previous work has quantified the impact of specific illnesses and examined potential strategies to improve HRQoL. Among those strategies, Speyer et al. (2010) found that participation in adapted PA during hospital stays increased HRQoL among children and adolescents with cancer. Similarly, a systematic review of the literature found seven cross-sectional studies that showed a consistently positive association between PA level and HRQoL, indicating that PA could have a positive impact on HRQoL (Bize, Johnson, & Plotnikoff, 2007).

Longitudinal data has found the majority of overweight youth remained overweight as adults; however, the majority of overweight adults were not overweight youth (Herman, Craig, Gauvin, & Katzmarzyk, 2009). In an effort to address this crisis and get Americans healthy, many people—including parents, teachers, community leaders and even policy makers—decided to first start fighting the obesity battle with the next generation of leaders: American youth. As America witnessed an upward trend in the
proportion of obese children and adolescents, *Healthy People 2020* – a federal interagency workgroup designed to address and establish science-based, 10-year national objectives for improving the health of all Americans—addressed this concern by adding specific objectives for PA and childhood development. It has long been noted that exercise is scientifically linked with health benefits for most who participate in regular PA. Studies involving children and adolescents found that those who participate in frequent PA have improved cardio respiratory and muscular fitness, improved bone health, favorable body composition, a reduction in symptoms of depression, and positive influences on concentration, memory, and, classroom behavior (Strong, et al., 2005; Trudeau & Shepard, 2008; U.S. Department of Health and Human Services, 2011; Warburton, Nicol & Bredin, 2006).

The *Healthy People 2020* objective PA-3, aims at increasing the proportion of adolescents and elementary school children to meet current federal PA guidelines for aerobic PA (U.S. Department of Health and Human Services, 2012). This objective stems from data from the 2009 Youth Risk Behavior Surveillance System (YRBSS), which showed that only 18% of adolescents met current PA guidelines for aerobic PA. *Healthy People 2020* has set an objective to increase this percentage to 20.2% by empowering community partners like schools and youth recreation centers to develop programs based around these objectives (U.S. Department of Health and Human Services, 2012).

Unfortunately, current trends depict a different story than the recommended guidelines. Over the last decade, there has been no significant change in the number of adolescents reporting 60 minutes of daily PA (23.1% reported no exercise at all in
2009), but there has been an increase in the number of obese and overweight (12% and 15.8% in 2009, respectively) adolescents (Centers for Disease Control, 2008). In 2008, HHS issued PA Guidelines for Americans, paying particular attention to children and adolescents. The guidelines recommend 60 minutes of daily, moderate to vigorous PA with an emphasis on aerobic activity, and muscle and bone building (Centers for Disease Control, 2009).

A popular way for children and adolescents to meet the recommended PA guidelines is through participation in organized team sports. The 2011 YRBSS indicates that 52.3% of females surveyed in 2009 participated in an organized sport team in the past 12 months. This number was down 5% from the previous year (U.S. Department of Health and Human Services, 2012). There are a plethora of benefits linked with team sport participation. The most obvious benefit is the health effect PA has on team sport participants. For example, children who regularly participate in recreational sports throughout the year may gain higher levels of muscular strength and anaerobic power, than their non-physically active counterparts (Hoffman, Kang, Faigenbaum, & Ratamess, 2005). Additionally, there is new research that studied the impact that team sports have had on health behaviors of their participants. Bruner & Spink (2011) found evidence for the positive influence of a group-based team building intervention on the PA adherence of youth. They found support for the positive relationship between team building and work out session attendance in a youth population. This supports the notion that youth who exercise in a team setting, as opposed to exercising on their own, are more likely to adhere to routine PA, which supports the impact that team sports can have on PA.
Early research supports the concept that sports involvement is related to positive youth development. Some of the outcomes associated with adolescent sports involvement include higher self-esteem and self-efficacy, more intimate and supportive peer relationships, lower rates of sexual activity, enhanced social skills, and greater academic achievement (Eccles & Barber, 1999; Hoffman, Kang, Faigenbaum, & Ratamess, 2005; Larson, 2000; Miller, Sabo, Farrell, Barnes, & Melnick, 1998; Patrick et al., 1999; Pedersen & Seidman, 2004; Richman & Shaffer, 2006; J. Williams, Wake, Hesketh, Maher, & Waters, 2005). Delisle et al. (2010) suggested that adolescents participating in increased levels of PA—especially team sports—would be less likely to engage in health risk behaviors and more likely to engage in health promoting behaviors, demonstrating that adolescents who engaged in high levels of vigorous PA, via team sports, were using less marijuana, had a healthier dietary intake, greater stress management skills, and healthier sleep patterns than those engaged in low or no PA.

The benefits of sport-related PA are tremendous and have the ability to impact HRQoL at multiple levels, but still a large segment of youth choose not to participate in team sports. The barriers to team sport participation and reasons for abandoning team sports have been previously studied among youth; however, there is a gap in the literature that fails to examine reasons why youth who are current participants choose to remain active as team sport participants. Some preliminary research has suggested considering self-efficacy and motivation as possible factors influencing continued participation in sport.

Motl and Snook (2008) examined the relationship between PA and QoL and found PA to be positively associated with QoL in multiple sclerosis through an indirect
association, accounted for by self-efficacy. McAuley and Knopach (2006) studied a sample of older adult women and also found that PA is related to physical and psychological aspects of QOL through a pathway that includes self-efficacy. Furthermore, to support the idea that youth sport participation has a reciprocal impact on self-efficacy, Ashford, Edmunds and French (2010) found that PA self-efficacy was significantly higher when vicarious experience was included as an efficacy-building technique. This specifically supports the view that watching a similar other (i.e., teammate) perform the behavior (i.e., playing recreational sport) can raise the individual’s belief that they too possess the capabilities to master the same activity (Bandura & Schunk, 1981). These findings emphasize how PA programs might be more strongly linked with QoL under conditions that maximize the likelihood of improvements in self-efficacy. This can be addressed at the planning and implementation phase of programming, by designing developmentally-focused, youth PA programs that maximize performance accomplishments, vicarious experience, and verbal encouragement as sources of efficacy for its participants.

The concept of motivation as a vehicle to youth PA participation has been studied extensively over the years, with results indicating that peer relationships have some impact on participation rates. Salvy et al. (2009) investigated how the presence of peers and friends impact youth’s motivation to be physically active as well as their actual physical activity levels. They found that the presence of a friend increased youth motivation to be physically active, and in turn increased the amount of time spent participating in PA. Stunz and Weiss (2009) found that participants measure of success—and continued motivation in sport—was greater when factors such as having
meaningful friendships, being accepted by a peer group, and receiving praise from a coach (alongside learning, mastery, and improvement). These factors predicted greater perceived physical competence, enjoyment, and preference for optimally challenging tasks. Ullrich-French and Smith (2006) found that having two or more positive relationships (i.e., with parent, peer or coach) corresponded with more optimal motivational outcomes. Their follow up study in 2009 confirmed previous findings from the three-way interaction between perceived peer acceptance, friendship quality, and mother relationship quality. Interestingly, they also found that when perceived mother relationship was low, the probability of continuation in sport was low except when both peer acceptance and friendship quality were high (Ullrich-French & Smith, 2009), adding yet another dimension to the complicated area of youth motivation to participate in PA, but more specifically team sport participation.

Motivation and self-efficacy to participate in team sports play a critical role in achieving recommended levels of PA needed to impact HRQoL among youth.

**Research Problem**

Determinants of youth participation in PA have been studied in the literature and can vary widely, with a few of the most frequently explored areas including gender, age, race, and income. It is of specific interest of the researcher to explore how these determinants—combined with self-efficacy and motivation of the participant to engage in PA—play a role in overall HRQoL among youth female participants.

Research suggests that a decline in PA from childhood into adolescence is a trend that is more prominent in girls (Centers for Disease Control, 2010; Pate et al., 2002). Although the causes of gender-related differences in PA remain unclear, several factors have been suggested to contribute to lower PA levels that are commonly observed in
girls. These include low self-esteem and body image, lack of motivation, enjoyment, interest or valuation of PA, low athletic competence, and lack of parental and peer support (Camacho-Miñano, LaVoi, & Barr-Anderson, 2011; Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009; Dwyer et al., 2006; Vu, Murrie, Gonzalez, & Jobe, 2006). Youth physical activity is a major indicator of adult physical activity (Kjønniksen, Fjørtoft, & Wold, 2009); thus it is critical to identify the gender related differences in PA since its implications can have lifelong effects.

Race and family income also play a role in PA throughout childhood and into adulthood. Studies of African American girls found that, in comparison to their white counterparts, they experience a steeper drop in PA, report higher levels of physical inactivity in middle adolescence and are at even greater risk for low levels of PA and engagement in team sports (Kimm et al., 2002; National Center for Youth Statistics, 2012). Additionally, low-income girls tend to participate in team sports at relatively low rates (Quinn, 2004). One explanation of this may be the cost of equipment. Studies indicate that mothers and fathers purchase more equipment for boys than girls for sport-related activity (Fredricks & Eccles, 2005). The long-term beneficial consequences of reducing financial barriers to activity during childhood are the development of positive activity-related memories, which may contribute to greater levels of adult activity participation, especially for women (Thompson et al., 2003). Research has found that, for young female minorities, some important predictors of self-efficacy to participate in future PA include access to community PA outlets and positive beliefs regarding PA, are especially important for minorities, including girls (Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009; Trost et al., 1997).
Very little evidence exists that examines the relationship between self efficacy, motivation and overall QoL when controlling for a participant’s age, race, socioeconomic status. Furthermore, research studies in the aforementioned areas are virtually nonexistent in all-girl populations, especially in populations that have diverse incomes and races.

Recent reports of longitudinal, cohort studies suggest that declines in PA during the period from late middle school through late high school are inversely associated with self-efficacy for overcoming barriers to PA and also with perceived support from family (Dowda, Dishman, Pfeiffer, & Pate, 2007) and friends (Duncan, Duncan, Strycker, & Chaumeton, 2007). These studies did not examine whether the relationships were direct or indirect, as posited by social cognitive theory (Dishman, et al., 2008). Qualitative methods, such as interviews, can help to closely examine and explain these associations with early and middle adolescents who are currently participating in team sports. Additionally, the need to collect rich qualitative data in this subject area is important to support and help explain quantitative findings. Schunk explored different models and goal setting ideas and how they affected self-efficacy. He found that regardless of the domain, research shows that self-efficacy helps to predict motivation and performance. (Shunk & Zimmerman, 2008). In his conclusion he states:

Researchers typically have conducted short-term correlational or experimental studies. There is a need … for alternative forms of data collection (e.g., case studies, oral histories). Although such studies might include fewer subjects, they would yield rich data.

This study aims to further close the gap in the literature by providing some insight—both quantitatively and qualitatively—into young female self-efficacy and
motivation to participate in PA and how these factors affect their overall health related quality of life.

**Theory**

It is generally agreed that QoL is a multidimensional concept that can be defined as general well-being of individuals and societies. The term is used in a wide range of contexts, including the fields of international development, healthcare, and politics (Siegrist & Junge, 1989). HRQoL is defined as the physical, psychological, and social domains of health, influenced by personal experience, beliefs, preferences, and expectations (Testa & Simonson, 1996). HRQOL is acknowledged as an essential health outcome measure in clinical trials and health services research and evaluation. It allows measurements on multiple health dimensions, focusing on the individual’s health status as a whole, and not in just terms of physically health status (Varni, Seid, & Rode, 1999). HRQOL reflects the individual's subjective evaluation of their own well being and functioning (Zeller & Modi, 2012). The researcher will use a calculated score of participant self-reported HRQoL as the dependent variable of measure.

**Social Cognitive Theory**

Another theory component utilized in this study is the self-efficacy construct in Bandura’s Social Cognitive Theory (SCT). SCT was developed by Albert Bandura, and explains how people acquire and maintain certain behavioral patterns, while also providing the basis for intervention strategies (Bandura & Schunk, 1981). The basis of SCT is that three general factors—environment, people and behavior—are all connected to one another, constantly influencing each other (Bandura, 1997). There are several concepts that help explain SCT more thoroughly, but for the purposes of this research, the construct of self-efficacy will be used to predict and explain behavior. Self-
efficacy is defined as the person’s confidence in performing a particular behavior and can be achieved when the learner identifies his or her ability to perform the behavior (Glanz, Rimer, & Viswanath, 2008). In this case, the behavior to be performed will be participation in PA.

Bandura found that by making self-satisfaction conditional on a certain level of performance, individuals create incentives for themselves to persist in their efforts until their performances match internal standards (Bandura & Schunk, 1981). Self-efficacy refers to one’s beliefs about accomplishing a task and can influence choice of activities, effort, persistence and achievement. People enter activities with varying levels of self-efficacy derived from prior experience, personal qualities, and social support (Schunk, 1995). As they work on tasks, they obtain information about their progress. This information influences their self-efficacy for continued learning and performance. These experiences also have the ability to translate over time and impact future feelings and decisions. For example, a volleyball player might successfully make the game-winning serve over the net during a very challenging match, where many of her teammates missed their serves. Her teammates, coaches and the fans will all cheer and congratulate her on this accomplishment and she will internalize this information. When it’s her time to serve again during subsequent volleyball games, she will recall these feelings and become confident that she has the ability to help her team win a game. This confidence can carry through with her over the course of her volleyball career. A good example of this type of process can be observed with the Richman and Schaffer (2006) study, which found evidence to suggest that athletic engagement was positively associated with long term self-esteem development among adolescent girls. Not to be
confused with the concept of self-efficacy, self-esteem—a youth’s perception that they have some control over the things that happen to them (Muris, 2002) –is another indicator of participant desire to take part in PA. Pedersen & Siedman (2004) also found girls’ team sports achievement experiences in early adolescence are positively associated with self-esteem in middle adolescence, supporting other findings that depict the trend of increased self-efficacy through PA. Interestingly, these achievement experiences have the ability to translate into life lessons outside of the sport atmosphere, allowing the participant to feel high self-efficacy when performing tasks as a part of a group project at school or work. These experiences ultimately shape adolescent youth development and potentially their adulthood (Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009).

**Self Determination Theory**

Self-Determination Theory (SDT), developed by Deci and Ryan (Figure 3), represents a broad framework for the study of human motivation and personality (Deci & Ryan, 1985). Perhaps more importantly SDT focuses on how social and cultural factors facilitate or undermine people’s sense of autonomy—volition and initiative—in addition to their well-being and the quality of their performance (Deci & Ryan, 1985; Deci & Ryan, 2000; Deci & Ryan, 2012). SDT differentiates types of behavioral regulation in terms of the degree to which they represent autonomous or self-determined (versus controlled) functioning. Intrinsic motivation is the driving force behind autonomous activity; when people are intrinsically motivated, they are by definition self-determined. Extrinsically motivated activity, in contrast, is often more controlled (i.e., less autonomous) (Deci & Ryan, 2012; Levesque et al., 2007; Ryan & Patrick, 2009).
Formally, SDT comprises five mini-theories, each of which was developed to explain a set of motivationally based phenomena. Those theories are: Cognitive Evaluation Theory (CET), Organismic Integration Theory (OIT), Causality Orientations Theory, Basic Psychological Needs Theory, and Goal Contents Theory (GCT) (Ryan & Patrick, 2009). A combination of three mini-theories will be used for this study: CET, OIT and GCT. The remaining mini-theories are outside of the scope of this study.

In CET, intrinsic motivation is emphasized. The general idea behind intrinsic motivation is that there is some reason that motivates a person to participate in an activity. Typically these reasons include the idea that participation in the particular activity is enjoyable, challenging and interesting to the individual (Frederick & Ryan, 1995). CET is a social psychology of intrinsic motivation; it is not concerned with what causes intrinsic motivation, but rather the conditions that facilitate intrinsic motivation versus those that diminish or undermine it (Ryan & Patrick, 2009). The theory argues that events perceived to negatively impact a person’s experience of autonomy (i.e., drills at practice are too challenging, leaving room for low success rate) will diminish intrinsic motivation, whereas events that support feelings of autonomy (i.e., practices that involve all players, regardless of skill level) will enhance it. The concepts of integration (i.e., identifying one’s self as a participant of PA) and identified regulation (i.e., accepting the value of participation in sport as personally important) are considered relatively autonomous (Deci & Ryan, 2000).

OIT addresses the topic of extrinsic motivation in its various forms, with their properties, determinants, and consequences (Deci & Ryan, 2000). Broadly speaking, extrinsic motivation is behavior that aims toward outcomes outside of the behavior itself
Extrinsically motivated activity is often more controlled by something or someone other than the participant (i.e., less autonomous). However, SDT differentiates types of extrinsic motivation in terms of the degree to which it has been internalized, suggesting that the more fully it is internalized and integrated within one’s self, the more it will be the basis for autonomous behavior. (Ryan & Patrick, 2009). External regulation (i.e., rewards or punishments for performance) and introjected regulation (i.e., behaviors that make an individual feel better about their self-worth or to avoid disapproval from someone) are considered to be at the “controlled” end of the extrinsic motivation spectrum.

SDT has helped make great empirical strides in the area of motivation and sport participation. Pelletier, Fortier, Vallerand, & Briere (2001) found that elite swimmers who were more autonomously motivated persisted at their sport longer than those who were more controlled in their motivation. This indicates the need for developmentally focused
youth sport (DYS) programs to address the motivations of its participants, so that they can achieve autonomy. Additionally, research has shown how autonomy has the power to guide health behaviors that impact general wellness. For example, autonomous motivation (as well as perceived competence) in both German and American college students positively predicted their well-being (Levesque et al., 2007). Furthermore, there are outcomes specifically related to HRQoL. Studies have shown that when people are more autonomously motivated for changing their health-risk behaviors (ie, stopping smoking, adopting a healthier diet, exercising more regularly) they are more successful in changing such behaviors and maintaining those changes over time (Deci & Ryan, 2012).

These concepts imply that motivation and self-efficacy together could impact participation in PA, thereby affecting overall HRQoL in the participant.

**Qualitative Interviews**

Just as quantitative research uses theory to guide the researcher with a framework or model for behavior change, so does qualitative research. A critical step to selecting a qualitative theory for research design and analysis is to take into consideration the approach, or role the researcher wishes to play in the research process. For example, one approach is constructivism. In constructivism, the researcher understands that the learner is an information constructor where people actively construct or create their own subjective representations of objective reality (Fosnot, 2005). New information is linked to prior knowledge, thus mental representations are subjective. For example, when asking a question the researcher might already know “the answer”, but instead of revealing the answer, they help the constructor find a way to the answer they believe to be correct based off of their past experiences and prior
beliefs. It recognizes that learning is an active process of piecing together information, rather than being told a piece of information is valid (Bereiter, 1994; Phillips, 1995). This knowledge is constructed based on personal experiences and hypotheses of the environment. Learners continuously test these hypotheses through social negotiation (Fosnot, 2005). Each person has a different interpretation and construction of knowledge process. Jean Piaget and John Dewey developed theories of childhood development and education that led to the evolution of constructivism. The constructivist approach is an ideal approach to use for children because it is primarily based off of childhood development and also emphasizes the development of a learner’s abilities in solving a real-life problem (Huang, Rauch, & Liaw, 2010). Dewey believed that problem solving and free discovery were joined together; in other words, knowledge is a dynamic quality, built around the process of discovery (Hickman & Reich, 2009). These same concepts are the foundation of popularly used theories surrounding youth development and education.

**Purpose**

There is a gap in the literature when it comes to HRQoL of healthy children and factors that influence health status. There are factors such as motivation and self-efficacy to participate in PA, which may play a large part in overall physical health of young children. An even larger gap exists when the child population is narrowed down to only females. Although some research does exist, it fails to support quantitative findings with qualitative data to further explain motivation and self-efficacy among young PA participants. The purpose of this study is to close the gap in the literature by exploring factors and determinants of young female athlete participation in structured PA. This will allow the possibility for creating comprehensive programming by
determining physical, social, emotional HRQoL and motivational factors of participation in recreational sports programs. This comprehensive programming, also referred to as a DYS program, is critical to address the total health of the individual, not just specific dimensions of wellness. By exploring participant extrinsic and intrinsic motivations and self-efficacy programming for all-female sports leagues can address a wide variety of program participant needs, so that participation in team sports impacts participant HRQoL.

**Research Questions**

This study seeks to provide evidence that may explain the following research questions (RQ):

**RQ1:** Is there a relationship between self efficacy in performing physically active tasks and young female HRQoL?

**RQ2:** Is there a relationship between motivational factors (autonomy) and self-reported HRQoL of physically active young females?

**RQ3:** Which construct of the Self Determination Theory (external regulation, introjected regulation, identified regulation, intrinsic motivation or amotivation) is a better predictor of HRQoL among young female athletes?

**RQ4:** Is there a relationship between HRQoL and independent variables (i.e., grade level, income (lunch status), race, length of time participated in recreational programming, reported skill level, etc.)?

**RQ5:** Which is the best predictor of perceived HRQoL: Does motivation to participate in physical activity or self-efficacy for participating in physical activity predict HRQoL among young females participating in a recreational sports league?

**RQ6:** How do physically active young females perceive their HRQoL? What factors contribute to physically active young females HRQoL?

**RQ7:** How do HRQoL factors affect young female self-efficacy to participate in physical activity?

**RQ8:** How do young females perceive their extrinsic and intrinsic motivational experiences when participating in physical activity?
Methodology

Site

The research took place at an all-female organization in North Central Florida. The organization serves approximately 650 girls annually through three programs: after school, athletics and summer day camp. The study consists of the athletics program participants who play volleyball, although there was some cross-over with girls who participate in two (n=54) or all three programs (n=22). For the purposes of this research, volleyball players are referred to as PA participants. An all-female site was selected to help close the gap indicated previously in the literature review. Additionally, an athletics program was selected to target physically active girls who already might be meeting the CDC’s PA guidelines of 60 minutes of moderate to vigorous daily PA. The athletics program has been well established in the community as a prominent facility for all-girl, recreational sports programs. Over that last 15 years, the organization has served over 10,000 area girls athletic needs.

Site Geographical Makeup and Demographics

In comparison to the study site, these demographics reflected slightly different patterns. In 2011, the facility served 566 girls aged 5-18; 41% were black, 36% white, 14% mixed race with the remaining 9% of races falling into Hispanic, Asian, other or unknown categories. A large number of family income goes unreported—due mostly in part to parent/guardian refusal to report income—but of the reporting group (84% of members) the median family income is $35,000-$38,000 annually.

An interesting dynamic exists between members of different programs within the organization. For example, in the athletics program 68% of the athletes are white, with 49% of families reporting an income over $50,000 annually. In the after school program
61% of members are black, with 56% of families reporting annual income under $30,000.

**Procedures**

The appropriate paperwork was submitted and accepted by the University of Florida’s (UF) Institutional Review Board-02 in early May 2012. Data collection was completed in June 2012.

Research participants were recruited from the largest program within the organization, the volleyball program. In the spring volleyball season 237 participants were given information about taking part in the study. Of this convenience sample, 167 girls aged 8-17 decided to participate. Participants were asked to complete three sets of surveys: the PedsQL (Appendix G) to determine health related quality of life, the Self-Regulation Questionnaire (Appendix F) on Exercise (SRQ-E) to determine motivation to participate in exercise and sport, and finally the Self Efficacy Questionnaire for Children (SEQ-C) (Appendix E) to determine social and emotional self-efficacy of the participants. UF IRB-02 states that individuals under the age of 18 cannot legally consent to participate in research, therefore a parent or legal guardian must supply consent. However, the researcher felt that the child should be involved in the consent process in some way. UF suggests that at a minimum, children should be told that research is voluntary, and their verbal assent to participate should be obtained. In accordance with these guidelines, written parental informed consent (Appendix A) was first obtained, followed by verbal assent from each individual child participant. After consent was obtained, the surveys were administered in person, with pencil and paper. Proctors were present to help any child who could not read or understand questions in the surveys. Children who were interested in participating in a tape-recorded, one-on-
one personal interview had the option to select a check box at the end of their survey to follow up on any potential findings the researcher had after preliminary data analysis. The PI then scheduled a 10-20 minute tape recorded, one-on-one, semi-structured interview for those who were interested. These follow up interviews were scheduled to provide in depth insight into specific reasons for motivation and self-efficacy for young females participating in PA. In an effort to reduce interviewer response bias, the researcher trained two health education interns in constructivist interview styles and approaches (Knapik, 2008). Unlike the PI, both interns had limited prior experience with the population and therefore were able to elicit honest, unbiased responses from the participants. Informed consent (Appendix C) and verbal assent (Appendix B) were also obtained prior to the start of the interview.

Questions were read off of an interview script (Appendix D). All responses were kept confidential and participants were given a unique randomly assigned participant number to ensure confidentiality. The researcher and supervisor have exclusive access to study data and will destroy all recordings and surveys after the completion of the study.

**Instrument Selection**

Since combinations of constructs in different theories were utilized for this study, three instruments were needed to conduct this study: PedsQL, SRQ-E and SEQ-C.

**PedsQL**

To determine participant HRQoL, the PedsQL Inventory was used. Varni developed this modular approach to measuring HRQoL in healthy children and adolescents and those with acute and chronic health conditions (Varni, Seid, & Rode, 1999). In this instrument, participants read statements about their health (i.e., It's hard
for me to run; I have trouble getting along with other kids, etc.) and respond to the statement using a Likert scale to determine how much they agree with the statement (i.e., 0= never, 1= almost never, 2= sometimes 3= often and 4= almost always). Multiple researchers found this instrument to be valid and reliable for child self-assessment of HRQoL (Amiri et al., 2012; Carle, Dewitt, & Seid, 2011; Davis et al., 2010; Seid et al., 2010; Varni, Limbers, & Burwinkle, 2007). In Varni’s 1999 study, the four PedsQL 4.0 Generic Core Scales (Physical, Emotional, Social, School) were administered to 963 children and 1,629 parents (1,677 subjects accrued overall) recruited from pediatric health care settings. Internal consistency reliability for the Total Scale Score (α = 0.88 child, 0.90 parent report), Physical Health Summary Score (α = 0.80 child, 0.88 parent), and Psychosocial Health Summary Score (α = 0.83 child, 0.86 parent) were acceptable for group comparisons. Validity was demonstrated using the known-groups method, correlations with indicators of morbidity and illness burden, and factor analysis (Varni, Seid, & Rode, 1999).

This scale has been used in other published research because of its accessibility, readability and ability to expand its questions to children from ages 2-18 (Amiri et al., 2012). In the child self-assessment instrument of HRQoL, questions are broken up into four subscales of functioning: physical, emotional, social and school. These scales are then scored into three separate categories: physical health summary, psychosocial health summary and total health summary. The items are reversed scored, where higher scores indicate better HRQoL (Varni, Seid, & Rode, 1999). For the purposes of this research, these scores were then assigned a number to correspond with level of HRQoL. Scores between 0-10 were assigned the number 4 and
categorized as a participant with “very poor HRQoL”, scores of 11-25 were assigned the number 3 and indicated “poor HRQoL”, scores of 26-50 were assigned the number 2 and indicated that “HRQoL needed improvement”, scores of 51-75 were assigned the number 3 and reflected “good HRQoL”, and finally scores from 76-100 were assigned a 4 and those participants were deemed to have “very good HRQoL”. The categorization of the scores allowed the researcher to make inferences between HRQoL level and self-efficacy/ motivation. The PedsQL Measurement Model used for this research design was the basic generic core scale, since the purpose of this research is to determine general HRQoL of healthy participants and not HRQoL for a specific disease or condition.

**SRQ-E**

The SRQ-E questionnaires, developed by Deci & Ryan (1985), assess domain-specific individual differences in the types of motivation or self-regulation (Levesque et al., 2007). That is, the questions assess the regulation of a particular behavior (e.g., exercising regularly) or class of behaviors (e.g., engaging in team sport activities). This scale has frequently been used to have participants assess their reasons for exercising or playing a sport. Other researchers have noted its consistency and validity in PA motivation (Puenta & Anshel, 2010; Saebu & Sørensen, 2010; Silva et al., 2010). Validation of the scale—conducted recently by Levesque in 2007 to find if the scale was suitable for use across sites and health behaviors (tobacco use, diet and exercise)— was obtained from four different geographical sites with a total of 2731 participants completing the SRQ-E. Invariance analyses supported the validity of the SRQ across all four sites and all three health behaviors. Overall, the internal consistency of each subscale was acceptable (most a values >0.73) (Levesque et al., 2007). The scale has
also been used to help identify sedentary behaviors and barriers to PA for children and minority girls, making this scale a suitable choice to help determine young female motivation to participate in exercise or specific sport (Spruijt-Metz, Nguyen-Michel, Goran, Chou, & Huang, 2008; Wang, Chia, Quek, & Liu, 2006).

The format for these questionnaires was introduced by Ryan and Connell in 1989. Each questionnaire asks why the participant does a behavior (or class of behaviors) and then provides several possible reasons that have been preselected to represent the different styles of regulation or motivation. For example, on the questionnaire for motivation for volleyball, the main question is “Why do you practice volleyball?” The respondent then answers follow up question with a Likert scale to offer their feedback (i.e., I would feel bad about myself if I was not taking time to play volleyball). The answer options are on a seven point Likert scale with not at all true, somewhat true and very true at the beginning, middle and end.) It is structured so that it asks one question and provides responses that represent amotivation, external regulation, introjected regulation (taking in a regulation but not accepting it as one’s own), identified regulation (accepting the value of the activity as personally important), and intrinsic motivation (Ryan & Patrick, 2009). The amotivation subscale measures not being motivated; the remaining four subscales are combined to determine the degree to which one feels autonomous with respect to engaging in PA. The more internalized the motivation, the more autonomous the person will be when enacting the behaviors (Ryan & Deci, 2000). In that sense, having “autonomy” and being “motivated” to engage in PA can be considered synonymous with one another.
Scoring the SRQ-E can be done in two different ways: computing one of the five subscale scores (external regulation, introjected regulation, identified regulation, intrinsic motivation or amotivation) or by finding the Relative Autonomy Index (RAI). The amotivation subscale is not used in RAI, because the RAI concerns the degree to which one’s motivation is self-determined, and the amotivation subscale measures not being motivated (Ryan & Deci, 2000). To form the RAI, the external subscale is weighted -2, the introjected subscale is weighted -1, the identified subscale is weighted +1, and the intrinsic subscale is weighted +2. In other words, the controlled subscales are weighted negatively, and the autonomous subscales are weighted positively. The more controlled, the larger its negative weight; and the more autonomous, the larger its positive weight (Deci & Ryan, 2012). The formula used to calculate RAI is:

\[ 2x \text{Intrinsic} + \text{Identified} - \text{Introjected} - 2x \text{External} \]

(\text{R. M. Ryan & Patrick, 2009})

SEQ-C

The SEQ-C, developed by Paul Muris in 2001, explores three main areas of self-efficacy: academic self-efficacy that refers to children’s perceived capability to master academic affairs; social self-efficacy that pertains to children’s capability to deal with social challenges; and emotional self-efficacy that has to do with children’s capability to deal with emotional challenges (Muris, 2001). For the purposes of this study, only social self-efficacy and emotional self-efficacy were measured.

A factor analysis in a recent study which examined the reliability and validity of the SEQ-C in a sample of young adolescents (\(n = 330\)) revealed three factors that were in keeping with the intended subscales: social self-efficacy, academic self-efficacy, and emotional self-efficacy. Furthermore, results showed that the SEQ-C has satisfactory internal consistency. Cronbach’s \(\alpha\) were 0.88 for the total self-efficacy
score, 0.86 for the emotional self-efficacy subscale and 0.85 for the social self-efficacy subscale (Muris, 2001). Several other studies that assessed self-efficacy in children also used these two subscales of measurement to determine the role of participant self-efficacy in regards to specific HRQoL concerns (i.e., anxiety, learning disabilities, adolescent alcohol consumption, mental health of high achieving students) which further supports this instrument’s use for SE in young physically active participants (Lackaye, Margalit, Ziv, & Ziman, 2006; Landon, Ehrenreich, & Pincus, 2007; McKay, Sumnall, Cole, & Percy, 2012; Suldo, Shaunessy, & Hardesty, 2008).

Participants answered situational questions on a likert scale. (i.e., How well can you tell other youth that they are doing something that you don’t like?) In the scoring process of the SEQ-C, the responses for items range from 1 (not very well) to 5 (very well). There are no items that needed to be reversed scored. Responses are summed to produce the total score. Scores were broken down by subscales and as a total self-efficacy score. Higher scores were associated with higher self-efficacy (Muris, 2001).

**Demographic Information**

Grade level, race, length of time participating in programming, type of program participation (i.e., athletics, after school or summer camp) self-assessment of skill level (i.e., beginner, intermediate or advanced), and socioeconomic status (based on school lunch status-free, reduced or regular pay) was collected from each child participant.

Since many children are unaware of their actual family income level, but aware of the price they pay for school lunch on a daily basis, school lunch status was used to determine their socioeconomic status. This status directly reflects family income. The School Board in which the county is located follows federal guidelines on free or reduced lunch status provided by the U.S. Department of Agriculture (USDA). The
USDA’s guidelines take into consideration all income before taxes and number of people living in the home before applying a sliding scale to determine eligibility status for free or reduced lunch.

**Qualitative Interviews**

The interviews are a critical component of the research because they allow more in-depth responses to the issues surrounding motivation and self-efficacy for young female athletes. The questions asked in the surveys are specific and pre-determined; the interview process will allow the researcher help explain trends found in the survey data by eliciting detailed responses from the participant with regard to engaging in PA.

Tape-recorded, semi-structured interviews were used to determine the factors associated with HRQoL in young female PA participation and to assess the factors contributing to athlete movitation/amotivation to participate in PA. Interviews were conducted on a volunteer basis and continued until saturation of themes occurred. A semi-structured interview design was used to elicit honest responses and to allow the participants to discuss topics of importance that may be unknown to the researcher.

Participants who completed the series of quantitative surveys were given an option at the end of the survey to take part in an interview. The researcher contacted interested participants within 48 hours of completing the survey and scheduled interviews with 21 individuals, which took place in a private room at the program’s facility. In order to reduce bias, the researcher trained two volunteers to conduct the interview process using the constructivist approach when eliciting answers.

Prior to the start of the interview, the researcher collected signed parental consent forms and provided the participant with a unique identifier, so to keep the interviewee’s identity confidential. The researcher started tape-recording the session
upon giving the participant their identifier and prefaced the interview by reading the interview script listed in Appendix D. The participant was asked to read the informed consent and to ask any questions if they arise. At the completion of the interview, the researcher thanked the participant and reminded them to contact the researcher with any questions or concerns.

**Analytic Techniques**

To better understand if self-efficacy and motivation play a role in young female PA participant HRQoL, the following statistical analyses were conducted. The Statistical Package for Social Sciences (SPSS) was used for all quantitative data analysis. First, descriptive statistics determined frequencies, measures of central tendency (mean, median), and spread (standard deviation) of the surveyed population. Second, multiple regression assessed whether demographical data (i.e., grade level, income (lunch status), race, length of time participated in recreational programming, reported skill level, etc.) predicted HRQoL. Third, multiple regression was used to determine if motivation (autonomy) or self-efficacy and which SDT subscale better predicted perceived HRQoL. Fourth, Spearman correlations were performed to assess associations between participant self-efficacy and HRQoL and participant motivation and HRQoL. Fifth, thematic and constant comparison analysis were performed to derive themes from the qualitative interviews and code intensiveness was done to illustrate quantitative saturation of common data across the interviews. Finally, the themes found during this analysis were compared to the survey data to determine if the qualitative data supported the quantitative data.
**Delimitations**

The following delimitations should be considered when interpreting results of this investigation:

- This study was delimited to female participants, in grades 4-12, who took part in a volleyball program in North Central Florida.

- This population was selected because it was a convenience sample that the researcher had access to. This study does not assess motivation or self-efficacy of young males, of physical activity participants outside of the organization, or children who do not participate in physical activity.

- Respondents in this study agreed to voluntarily participate and may not be representative of those who chose not to participate.

**Limitations**

The following limitations should be considered when interpreting results of this investigation:

- Data collected from this cross-sectional study reflects responses from participants at a specific point in time. It will not follow respondents longitudinally to view personally normative behaviors and therefore direct causation cannot be established.

- Selection bias may occur with the population of interest, because it is a convenience sample of young females at an organization familiar to the researcher. Because of this, generalizing is a major limitation of this study. Though the researcher feels confident that this study can be replicated in many all-female, youth athletic programs throughout the country, the results may not be the same for every community. This organization is different in that it belongs to a very large network of collaborating nonprofit organizations. Communities wishing to replicate this design might not get the same results if they lack the resources needed to collaborate with other non-profit agencies.

- It is important to note that the researcher has a very close relationship with the organization and is well respected and trusted within the community. This could play a role in participant responses during surveys and interviews, as participants may not be forthcoming with information to the researcher. The researcher will attempt to remain neutral during the course of the survey and interviews.

- Participants may experience recall bias, as a bad recollection of events could overshadow the good events, and vice versa. Just as bias can occur in volunteering
participants, it can also be present in those participants who chose not to take part in the interview portion.

- Nonrespondent bias could impact the information collected during interviews because participants with valuable information could have refused to participate in the study. Every effort was made by the researcher to schedule interviews with any willing participant.

Assumptions

For the purposes of this investigation, the following assumptions were made:

- The children who participated in the study answered the survey questions honestly. The parental consent form, verbal assent from children and email reminders assured participants of their anonymity and encouraged them to answer truthfully.

- Every participant of the study had some experience participating in physical activity. Some participants were brand new to team sports, but had at least participated in some type of physical activity either at home or at school.

- The foundation of this study is sound. The theoretical framework is assumed to be an accurate reflection of the phenomena being studied, the variables have been clearly defined and are measurable, and the instruments being used are valid and reliable.

- The data was normally distributed and the size of the sample is sufficient to detect significant differences/relationships if they exist in the population.

Definition of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>HEALTH RELATED QUALITY OF LIFE</td>
<td>refers to the subset of Quality of Life directly related to an individual's health, which as defined by the World Health Organization includes physical, mental, and social well-being</td>
</tr>
<tr>
<td>GRADE LEVEL</td>
<td>Elementary, middle or high school</td>
</tr>
<tr>
<td>LUNCH STATUS (INCOME) RACE</td>
<td>Free, Reduced or regular rates for lunch status at public school.</td>
</tr>
<tr>
<td>RACE</td>
<td>Hispanic, White (non Hispanic), American Indian/ Alaska Native, Asian, Black/ African American, Native Hawaiian/ Other Pacific Islander</td>
</tr>
<tr>
<td>YEARS PARTICIPATED IN PROGRAMMING</td>
<td>New participant, less than a year, more than a year.</td>
</tr>
</tbody>
</table>
**Type of Program Participation**  
After School, Summer Camp, Athletics programs

**Motivations**  
external regulation, introjected regulation, identified regulation, intrinsic motivation and amotivation (R. M. Ryan & Deci, 2000)

**Self Efficacy**  
Self-efficacy is a person's level of confidence in their ability to perform particular behaviors to produce desired outcomes (Bandura, 1997).

**Summary**

The purpose of this research is to determine if motivation and self-efficacy of physically active young females can predict their HRQoL. This will ultimately explore social and emotional HRQoL and guide programming for comprehensive, health conscious, all-female recreational PA programs. This chapter describes the overall focus of this research and includes a description of the research problem, purpose of the study, significance, applicable theories, research questions, statistical analyses, delimitations, limitations, assumptions, and definition of terms. The present study provided a comprehensive description of motivation and self-efficacy of young female PA participants, and the factors that cause or contribute to their HRQoL statuses. The results help to provide a clearer understanding of the relationship between HRQoL and self-efficacy/motivation and will aid in the planning and implementation of Developmental focused Youth Sport (DYS) programs.
CHAPTER 2
SELF-EFFICACY, MOTIVATION AND HEALTH RELATED QUALITY OF LIFE IN PHYSICALLY ACTIVE GIRLS

Background

In an effort to get Americans healthy, many people including parents, teachers, community leaders and even policy makers decided to first start fighting the obesity battle with the next generation of leaders: American youth. As America witnessed an upward trend in the proportion of obese children and adolescents, Healthy People 2020 – a federal interagency workgroup designed to address and establish science-based, 10-year national objectives for improving the health of all Americans—addressed this concern by adding specific objectives for PA and childhood development. It has long been noted that exercise is scientifically linked with health benefits for most who participate in regular PA. Studies involving children and adolescents found that those who participate in frequent PA have improved cardio respiratory and muscular fitness, improved bone health, favorable body composition, a reduction in symptoms of depression, and positive influences on concentration, memory, and, classroom behavior.

The Healthy People 2020 objective PA-3, aims at increasing the proportion of adolescents and elementary school children to meet current federal PA guidelines for aerobic PA (U.S. Department of Health and Human Services, 2012). This objective stems from data from the 2009 Youth Risk Behavior Surveillance System (YRBSS), which showed that only 18% of adolescents met current PA guidelines for aerobic PA. Healthy People 2020 has set an objective to increase this percentage to 20.2% by empowering community partners like schools, and youth recreation centers to develop programs based around these objectives (U.S. Department of Health and Human Services, 2012).
Unfortunately, current trends depict a different story than the recommended guidelines. Over the last decade, there has been no significant change in the number of adolescents reporting 60 minutes of daily PA (23.1% reported no exercise at all in 2009), but there has been an increase in the number of obese and overweight (12% and 15.8% in 2009, respectively) adolescents (Centers for Disease Control, 2008). In 2008, HHS issued PA Guidelines for Americans, paying particular attention to children and adolescents. The guidelines recommend 60 minutes of daily, moderate to vigorous PA with an emphasis on aerobic activity, and muscle and bone building (Centers for Disease Control, 2009).

The YRBSS results indicate that 52.3% of females surveyed in 2009 participated in an organized sport team in the past 12 months, this number was down 5% from the previous year (U.S. Department of Health and Human Services, 2012). There are a plethora of benefits from team sport participation. The most obvious benefit is the health effect PA has on team sport participants. For example, children who regularly participate in recreational sports throughout the year may gain higher levels of muscular strength and anaerobic power, than their non-physically active counterparts (Hoffman, Kang, Faigenbaum, & Ratamess, 2005). Additionally, there is new research that studied the impact that team sports have on health behaviors of their participants. Bruner & Spink (2011) found evidence for the positive influence of a group-based team building intervention on the PA adherence of youth. They found support for the relationship between team building and work out session attendance in a youth population. This supports the idea that youth who exercise in a team setting, as opposed to exercising
on their own, are more likely to adhere to routine PA, which validates the impact of team sports on PA.

Early research supports the concept that sports involvement is related to positive youth development. Some of the outcomes associated with adolescent sports involvement include higher self-esteem and self-efficacy, more intimate and supportive peer relationships, lower rates of sexual activity, enhanced social skills, and greater academic achievement (Eccles & Barber, 1999; Hoffman, Kang, Faigenbaum, & Ratamess, 2005; Larson, 2000; Miller, Sabo, Farrell, Barnes, & Melnick, 1998; Patrick et al., 1999; Pedersen & Seidman, 2004; Richman & Shaffer, 2006; J. Williams, Wake, Hesketh, Maher, & Waters, 2005). Recently, Delisle et al., (2010) reconfirmed that adolescents participating in increased levels of PA—especially team sports—would be less likely to engage in health risk behaviors and more likely to engage in health promoting behaviors. The main findings of this research demonstrated that adolescents who engaged in high levels of vigorous PA, via the avenue of team sports, were using less marijuana, had a healthier dietary intake, greater stress management skills, and better quantity of sleep than those engaged in low or no PA.

The most obvious benefit of increased PA is improved physical health. However, physical health is only one part of the six dimensions that comprise general wellness (Hettler, 1979). The other dimensions include intellectual, emotional, social, occupational, and spiritual. Quality of Life is another way to have these six dimensions of wellness represented, as they apply not only to the length of one’s life, but the manner in which it was lived. Health related quality of life (HRQoL) helps to narrow down wellness to only dimensions of health. The Centers for Disease Control and
Prevention (CDC) defines HRQoL as a broad multidimensional concept that usually includes self-reported measures of physical and mental health. (Centers for Disease Control, 2010). HRQoL encompasses the perceived, valued health attributes such as the sense of comfort or well-being, the ability to maintain good physical, emotional, and intellectual functions, and the ability to satisfactorily take part in social activities (Bize, Johnson, & Plotnikoff, 2007).

The benefits of sport related PA are tremendous and have the ability to impact HRQoL at multiple levels, but still a large segment of youth choose not to participate in team sports. These barriers to participation and reasons for abandoning team sports have been previously studied. However there is a gap in the literature that fails to examine the reasons why youth who are current participants choose to remain active team sport participants. Some preliminary research has identified reasons for considering self-efficacy and motivation as a possible intermediates of the PA and HRQOL relationship.

Motl and Snook (2008) examined the relationship between PA and QOL and found that PA might be positively associated with QOL in multiple sclerosis through an indirect association, accounted for by self-efficacy. McAuley and Knopach (2006) studied a sample of older adult women and also found that PA is related with physical and psychological aspects of QOL through a path that includes self-efficacy. Furthermore, to support the idea that youth sport participation has a reciprocal impact on self efficacy, Ashford, Edmunds and French (2010) found that PA self-efficacy was significantly higher when vicarious experience was included as a technique. This specifically supports the view that watching a similar other (i.e., teammate) perform the
behavior (i.e., playing recreational sport) can raise the individual’s belief that they too possess the capabilities to master the same activity (Bandura & Schunk, 1981). These findings emphasize how PA programs might be more strongly linked with QOL under conditions that maximize improvements in self-efficacy.

The concept of motivation as a vehicle to youth PA participation has been studied at length over the years, with results mostly indicating peer relationship having some impact on participation. Salvy et al. (2009) investigated how the presence of peers and friends impact youth's motivation to be physically active and their actual activity levels. They found that the presence of a friend increased overweight and non-overweight youth’s motivation to be physically active as well as the amount of time spent participating in PA. Stunz & Weiss (2009) found that participants measure of success—and continued motivation in sport—was greater when factors such as having meaningful friendships, being accepted by a peer group, and receiving praise from a coach (alongside learning, mastery, and improvement). These factors predicted greater perceived physical competence, enjoyment, and preference for optimally challenging tasks. Ullrich-French and Smith (2006) found that having two or more relatively positive relationships (i.e., with parent, peer or coach) linked with more optimal motivational outcomes.

**Purpose**

This study seeks to close gaps in the literature by answering the following research questions (RQ):

**RQ1**: Is there a relationship between self efficacy in performing physically active tasks and young female HRQoL?
RQ2: Is there a relationship between HRQoL and independent variables (i.e., grade level, income (lunch status), race, length of time participated in recreational programming, reported skill level, etc.)?

RQ3: Which is the best predictor of perceived HRQoL: Does motivation to participate in physical activity or self-efficacy for participating in physical activity predict HRQoL among young females participating in a recreational sports league?

Methods

Site

The research took place at an all-female organization in North Central Florida. The organization serves approximately 650 girls annually through three programs: after school, athletics and summer day camp. The study consists mostly of the athletics program participants who play volleyball, although there was some cross-over with girls who participate in two (n= 54) or all three programs (n= 22). For the purposes of this research, volleyball players are referred to as PA participants. An all-female site was selected to help close the gap indicated previously in the literature review. Additionally, an athletics program was selected to target physically active girls who already might be meeting the CDC’s PA guidelines of 60 minutes of moderate to vigorous daily PA. The athletics program has been well established in the community as a prestigious facility for all-girl, recreational sports programs. Over that last 15 years, the organization has served over 10,000 area girls athletic needs.

Procedures

A cross-sectional, descriptive research design was used. The University of Florida’s Institutional Review Board and the organization’s board of directors granted the researcher permission prior to the start of the study. Surveys were administered to convenience samples of girls who gave verbal assent, were present at practice on the
data collection day, and had submitted parental consent. Proctors were present to help any child who could not read or understand questions in the surveys.

**Sample**

Research participants were recruited from the largest program within the organization, the volleyball program. In the spring 2011 volleyball season 237 participants were given information about taking part in the study. Of this convenience sample, 167 girls (70% response rate) ages 8-17 submitted parental consent and verbally assented to participation in the study. An almost even representation of elementary (n= 78, 46.7%) and middle school girls (n=74, 44.3%) participated in the study. A small number of high school girls (n=15, 9%) also participated in the study. The majority of participants had played volleyball at the organization for over a year (n= 80, 47.9%) and described themselves as having intermediate skill level (n= 95, 56.9%) of playing the sport.

**Variables**

The independent variables included motivation (i.e., to participate in PA or to participate in volleyball itself as a form of PA), self-efficacy (i.e., social and emotional), and other demographical data including lunch status, race, length of time participated in recreational programming, reported skill level. The dependent variable was HRQoL.

**Instrumentation**

A survey booklet was developed using a compilation of items selected from pre-established surveys. All surveys have been used with similar populations and were found to be valid and reliable with youth populations with Cronbach’s Alpha Scores of (.88 (PedsQL), .73 (SRQ-E), AND .88 (SEQ-C). Internal consistency across these three scales was also measured and found the 65-item scale to have good internal
consistency with a Cronbach’s Alpha Score of .81. A brief description and rational for selection of the instrumentation follows.

**PedsQL Inventory**

To determine participant HRQoL, the PedsQL Inventory was used. Varni developed this modular approach to measuring HRQoL in healthy children and adolescents and those with acute and chronic health conditions (Varni, Seid, & Rode, 1999). This 23-item, 5-point Likert scale ranging from 0 (never) to 4 (almost always) measures physical and psychosocial health. After reverse scoring, the sum total was use to reflect a child’s HRQoL.

**Self-Regulation Questionnaire**

The SRQ-E questionnaires, developed by Deci and Ryan, assess domain-specific individual differences in the types of motivation or self-regulation (Levesque et al., 2007). It is structured so that it asks one question and provides responses that represent amotivation (not being motivated), external regulation (i.e., rewards or punishments for performance), introjected regulation (i.e., behaviors that make an individual feel better about their self-worth or to avoid disapproval from someone), identified regulation (i.e., accepting the value of participation in sport as personally important), and intrinsic motivation (some reason that motivates someone to participate in an activity) (R. M. Ryan & Patrick, 2009). The amotivation subscale measures not being motivated; The remaining four subscales combined help determine the degree to which one feels autonomous with respect to engaging in PA. The 27-item Likert scale, ranges from 1 (not at all true) to 7 (very true) measures autonomy. After weighing internal regulations (more autonomy) positively and external regulations (less
autonomy) negatively, a total Relative Autonomy Index is found for each participant.

The formula used to calculate RAI is:

\[ 2 \times \text{Intrinsic} + \text{Identified-Introjected} - 2 \times \text{External} \]

(R. M. Ryan & Patrick, 2009)

**Self Efficacy Questionnaire for Children**

The SEQ-C, developed by Muris in 2001, taps three main areas of self-efficacy: academic self-efficacy that refers to children’s perceived capability to master academic affairs; social self-efficacy that pertains to children’s capability to deal with social challenges; and emotional self-efficacy that has to do with children’s capability to deal with emotional challenges (Muris, 2001). For the purposes of this study, only social self-efficacy and emotional self-efficacy were measured. Participants answered 15 situational questions on a Likert scale, ranging from 1 (not very well) to 5 (very well). In the scoring process of the SEQ-C responses are summed to produce the total score.

**Data Analysis**

Data were imported into Statistical Package for the Social Sciences (SPSS) version 20.0 for analyses. Blank items were coded as “." to represent missing data. Items where the marking was unclear were coded as “9” to represent unknown data. Children’s responses were high for the survey with less than 5% of missing data on all items, therefore listwise deletion method was employed to analyze complete cases. A significance value of \( \alpha = 0.05 \) was set for analyses in this study. Descriptive statistics were calculated for all independent variables and determined frequencies, measures of central tendency (mean, median), and spread (standard deviation) of the surveyed population. Second, standard multiple regressions, and their respective assumptions testing (sample size, multicolinearity and singularity, outliers, normality, linearity, homoscedasticity and independence of residuals) were performed to assess
associations between motivational factors, self-efficacy and HRQoL (Pallant, 2010). Third, a one way analysis of variance (ANOVA) was conducted to find if there are any differences in HRQoL between groups in which a relationship was present.

**Results**

This group was made up of 167 female participants. An almost even representation of elementary (n= 78, 46.7%) and middle school girls (n=74, 44.3%) participated in the study. A small number of high school girls (n=15, 9.0%) also participated in the study. The majority of participants had played volleyball at the organization for over a year (n= 80, 47.9%) and described themselves as having intermediate skill level (n= 95, 56.9%) of playing the sport (Table 2-1 for more demographic information). Comparable to the demographics of the county in which the organization operates, 61% of the all-female sample was white, while 29.5 % described themselves as black or mixed race. Surprisingly, a large number of participants did not know their lunch status (n= 83, 49.7%), while the next largest part of the sample reported paying regular prices for lunch (n= 50, 29.9%) and a smaller portion on the sample reported paying free/ or reduced fees for lunch (n= 33, 19.8%). The majority of the participants had some experience playing volleyball (n= 114, 68.3%), while this was the first season playing volleyball for some (n= 51, 30.5%).

Multiple regression was used to determine if a relationship existed between HRQoL and self-efficacy, motivation and other demographical data (Tables 2-2 and 2-3 for complete statistics). The relationship between perceived HRQoL (as measured by the PedsQL Inventory) and perceived self-efficacy (as measured by the SEQ-C) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality,
linearity and homoscedasticity. There was a moderate, positive correlation between the two variables, \( r = .35, p < .0005 \), with high levels of perceived self-efficacy associated with high levels of HRQoL. Similar analysis was run to determine motivation (autonomy as measured by SRQ-E) and HRQoL. Results found there was a weak, positive correlation between the two variables, \( r = .21, n = 167, p < .0005 \), with high levels of perceived autonomy weakly associated with high levels HRQoL. The total variance explained by the model as a whole was 19%, \( F (5, 161) = 7.56, p < .001 \). Of these two variables, self-efficacy made the largest unique contribution (beta = .325) at a significant level. After running a multiple regression analysis on demographical data, only grade level \( (r = -.21, p = .004) \) and skill level \( (r = -.162, p = .035) \) were found to have significant, unique contributions to the prediction of HRQoL (Pallant, 2010).

A one-way ANOVA was run to determine HRQoL differences between grade level (elementary, middle and high school) and skill level (beginner, intermediate, experienced). Results showed that elementary students had the best HRQoL (\( M = 89.46, p = .173 \)), followed by middle school (\( M = 87.68, p = .173 \)), then high school students (\( M = 84.90, p = .173 \)); indicating HRQoL decreased as participants got older. These results, however, were not statistically significant. ANOVA results for skill level proved similar results. Advanced skill participants had the highest HRQoL scores of the group (\( M = 90.17, p = .078 \)), followed by intermediate players (\( M = 88.43, p = .078 \)) then beginners (\( M = 85.07, p = .078 \)); indicating HRQoL increased with skill level. These results, however, were also not statistically significant (Table 2-5 for ANOVA results). Effect size (partial eta\(^2\)) was also determined using ANOVA in order to estimate the variability of HRQoL that could be attributed to participant grade and skill level (Trusty, Petrocelli,
Grade level explained 2% (p = .173) of variability in HRQoL scores, while skill level explained 4% (p = .078) of variability. In Cohen’s terms, these both would be considered a small effect size, and were also not statistically significant (Pallant, 2010).

**Discussion:** The physically active girls in this study exhibited very good levels of HRQoL, and high scores in social and emotional self-efficacy. Youth HRQoL research tends to focus in the area of children that have a disease or condition which limits their HRQoL (Quittner, Davis, & Modi, 2003). This study contributes to the field of HRQoL, as it provides insight into behaviors and levels of health for relatively healthy young populations. It also provides more information on how self-efficacy and motivation have the ability to impact HRQoL.

Self-efficacy does play a role in performing physically active tasks. This study found that self-efficacy could be used to predict HRQoL in young female PA participants. This information is important to those practitioners planning Developmentally focused Youth Sports programs (DYS). These programs teach sport and life skills concurrently, using sport as a medium for providing youth with opportunities for psychological, emotional, social, and intellectual growth (Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009). Using DYS in the development and implementation of programming, will help achieve good HRQoL for its participants. Hartwig and Meyers (2003) observed that the real strength as well as popularity of these approaches lies in their ability to address both healthy and unhealthy behaviors while simultaneously empowering clients to build upon their own strengths and develop in positive ways (Watson & Lemon, 2011).
Interestingly, elementary students were more likely to have a better HRQoL, and as females grew older, their HRQoL decreased. A possible explanation of this phenomena can potentially be addressed by the growing number of young girls that stop participating in sports and other physically active extracurricular activities as they age (Centers for Disease Control, 2010; Pate et al., 2002). Since PA has direct implications on the physical health dimension of HRQoL, Another explanation of this pattern of behavior might lie within the other dimensions of health—more notably emotional and social health. Adolescence is a challenging time marked by myriad psychological, behavioral, emotional, and cognitive changes (Rowley, Roesch, Jurica, & Vaughn, 2005). Many adolescents manage these changes successfully. However, a growing number of adolescents are finding that the stress associated with these changes proves too much to handle, leaving them susceptible to future problems (Watson & Lemon, 2011). Understanding the patterns of risks to good HRQoL and teaching young females how to identify and problem solve these risks, can help circumvent future health problems. This idea is illustrated by the findings in this study that as youth continue to master their skills (i.e., progress from beginner to advanced volleyball player) they have the opportunity to continually improve their HRQoL.

This study found that when comparing self-efficacy and motivation to participate in PA, self-efficacy was the better predictor of HRQoL. This relationship has been hypothesized before, but has never been confirmed in a study of all females. In addition to the direct and positive association between self-efficacy and different health outcomes, Bandura has suggested that self-efficacy might function as a mediator between stress experience and negative health and well-being outcomes (Kvarme,
Haraldstad, Helseth, Sørøm, & Natvig, 2009). This concept is critical to understand for development of future PA programs.

**Limitations**

There were several limitations to this study. First, data collected from this cross-sectional study reflects responses from participants at a specific point in time. It will not follow respondents longitudinally to view personally normative behaviors and therefore direct causation cannot be established. Additionally, selection bias could have occurred with the population of interest, because it was a convenience sample of young females at an organization familiar to the researcher. Because of this, generalizing is a major limitation of this study. Though the researcher feels confident that this study can be replicated in many all-female, youth athletic programs throughout the country, the results may not be the same for every community. This organization is different in that it belongs to a very large network of collaborating nonprofit organizations. Communities wishing to replicate this design, might not get the same results if they lack the resources needed to collaborate with other nonprofit agencies.

It is suggested that a longitudinal study of the population be observed for direct causation. If possible, it would also be ideal to survey a similar sample of non-physically active female youth as a control group for a more experimental design. Additionally, further groups of comparison might include an all-male population, a broader variety of sports, and different levels of play (i.e., recreational versus competitive sports). Finally, the reasons behind lack or excess of self-efficacy and motivation need to be explored further to fully understand from the participant point of view what drives or deters them from participating in PA, especially team sports. Interviews and focus groups with players, parents and coaches could help investigate this issue further.
Summary, Conclusion, and Implications for Future Research

The physically active girls in this study exhibited very good levels of HRQoL, and high scores in social and emotional self-efficacy. This supports the idea that PA has a proven impact on HRQoL, which means the self-efficacy needed to participate in PA also plays a critical role in achieving high levels of PA.

This study found that self-efficacy could be used to predict HRQoL in young female PA participants. This information is important to those practitioners planning Developmentally focused Youth Sports programs (DYS). Using DYS in the development and implementation of programming, will help achieve good HRQoL for its participants.

Elementary students were more likely to have a better HRQoL, and as females grew older, their HRQoL decreased. This could be due to a multitude of reasons, but most importantly it highlights the problems with retention rate of young female athletes and the social and emotional changes they go through as they age. It is important to give young females the tools they need to cope with these issues as they arise, since these issues have the ability to affect long term HRQoL.

This study found that when comparing self-efficacy and motivation to participate in PA, self-efficacy was the better predictor of HRQoL. This relationship has been hypothesized before, but has never been confirmed in a study of all females. This concept is critical to understand for development of future PA programs.

It is suggested that a longitudinal study of the population be observed for direct causation. If possible, it would also be ideal to survey a similar sample of non-physically active female youth as a control group for a more experimental design. Finally, the reasons behind lack or excess of self-efficacy and motivation need to be explored further to fully understand from the participant point of view what drives or deters them...
from participating in PA, especially team sports. Interviews and focus groups with players, parents and coaches could help investigate this issue further.
Table 2-1. Sample demographics by grade level

<table>
<thead>
<tr>
<th></th>
<th>Total Sample</th>
<th>K-5th Grades</th>
<th>6-8th Grades</th>
<th>9-12th Grades</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>K-5th Grades</td>
<td>6-8th Grades</td>
<td>9-12th Grades</td>
</tr>
<tr>
<td>Hispanic</td>
<td>167</td>
<td>78 (46.7%)</td>
<td>74 (44.3%)</td>
<td>15 (9%)</td>
</tr>
<tr>
<td>No: 148 (88.6%)</td>
<td>No: 72 (92.3%)</td>
<td>No: 65 (87.8%)</td>
<td>No: 11 (73.3%)</td>
<td></td>
</tr>
<tr>
<td>Yes: 17 (10.2%)</td>
<td>Yes: 5 (6.4%)</td>
<td>Yes: 8 (10.8%)</td>
<td>Yes: 4 (26.7%)</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White: 102 (61.1%)</td>
<td>White: 44 (56.4%)</td>
<td>White: 46 (62.2%)</td>
<td>White: 12 (80%)</td>
<td></td>
</tr>
<tr>
<td>Black: 28 (16.8%)</td>
<td>Black: 19 (24.4%)</td>
<td>Mixed: 11 (14.9%)</td>
<td>Black: 1 (6.7%)</td>
<td></td>
</tr>
<tr>
<td>Mixed: 21 (12.6%)</td>
<td>Mixed: 8 (10.3 %)</td>
<td>Black: 8 (10.8%)</td>
<td>Mixed: 2 (13.3%)</td>
<td></td>
</tr>
<tr>
<td>Asian: 10 (6%)</td>
<td>Asian: 4 (5.1%)</td>
<td>Asian: 6 (8.1%)</td>
<td>Indian: 3 (1.8%)</td>
<td></td>
</tr>
<tr>
<td>Am. Indian: 3 (1.8%)</td>
<td>Am. Indian: 1 (1.3%)</td>
<td>Am. Indian: 2 (2.7%)</td>
<td>Native Hawaiian: 1 (0.6%)</td>
<td></td>
</tr>
<tr>
<td>Native Hawaiian: 1 (0.6%)</td>
<td>Native Hawaiian: 1 (1.3%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch status</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not Sure: 83 (49.7%)</td>
<td>Not Sure: 41 (52.6%)</td>
<td>Not Sure: 40 (50.4%)</td>
<td>Regular Pay: 11 (73.3%)</td>
<td></td>
</tr>
<tr>
<td>Regular Pay: 50 (29.9%)</td>
<td>Regular Pay: 20 (25.6%)</td>
<td>Regular Pay: 23 (31.1%)</td>
<td>Not Sure: 2 (13.3%)</td>
<td></td>
</tr>
<tr>
<td>Free/ Reduced: 33 (19.8%)</td>
<td>Free/ Reduced: 16 (20.5%)</td>
<td>Free/ Reduced: 11 (14.9%)</td>
<td>Free/ Reduced: 2 (13.3%)</td>
<td></td>
</tr>
<tr>
<td>Years playing volleyball at organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than a year: 80 (47.9%)</td>
<td>More than a year: 31 (39.7%)</td>
<td>More than a year: 37 (50.0%)</td>
<td>More than a year: 12 (80%)</td>
<td></td>
</tr>
<tr>
<td>First Season Playing: 51 (30.5%)</td>
<td>First Season Playing: 27 (34.6%)</td>
<td>First Season Playing: 22 (29.7%)</td>
<td>First Season Playing: 2 (13.3%)</td>
<td></td>
</tr>
<tr>
<td>Less than a year: 34 (20.4%)</td>
<td>Less than a year: 19 (24.4%)</td>
<td>Less than a year: 14 (18.9%)</td>
<td>Less than a year: 1 (6.7%)</td>
<td></td>
</tr>
<tr>
<td>Skill level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intermediate: 95 (56.9 %)</td>
<td>Intermediate: 38 (48.7%)</td>
<td>Intermediate: 48 (64.9%)</td>
<td>Intermediate: 9 (60%)</td>
<td></td>
</tr>
<tr>
<td>Advanced: 39 (23.4%)</td>
<td>Beginner: 23 (29.5%)</td>
<td>Advanced: 18 (24.3%)</td>
<td>Advanced: 5 (33.3%)</td>
<td></td>
</tr>
<tr>
<td>Beginner: 32 (19.2%)</td>
<td>Advanced: 16 (20.5%)</td>
<td>Beginner: 8 (10.8%)</td>
<td>Beginner: 1 (6.7%)</td>
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</tr>
</tbody>
</table>
Table 2-2. Relationship between Grade Level, Skill Level, Self-Efficacy and Motivation to HRQoL.

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.066</td>
<td>.049</td>
<td>9.10690</td>
<td>.066</td>
<td>3.841</td>
</tr>
<tr>
<td>2</td>
<td>.190</td>
<td>.165</td>
<td>8.53253</td>
<td>.124</td>
<td>12.342</td>
</tr>
</tbody>
</table>

Table 2-3. Independent Variable Strength of Relationships with HRQoL

<table>
<thead>
<tr>
<th>Variable</th>
<th>Standardized Coefficient (Beta)</th>
<th>Significance Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>GradeLevel</td>
<td>-.211</td>
<td>.004*</td>
</tr>
<tr>
<td>SkillLevel</td>
<td>.115</td>
<td>.207</td>
</tr>
<tr>
<td>VolleyballatGP</td>
<td>.028</td>
<td>.754</td>
</tr>
<tr>
<td>RAlvball</td>
<td>.103</td>
<td>.175</td>
</tr>
<tr>
<td>SEtotal</td>
<td>.325</td>
<td>.000*</td>
</tr>
</tbody>
</table>

* p<.05

Table 2-4. Relationships between all independent variables and HRQoL

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation (r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy</td>
<td>0.350*</td>
</tr>
<tr>
<td>Motivation (autonomy)</td>
<td>0.214*</td>
</tr>
<tr>
<td>Experience</td>
<td>0.071</td>
</tr>
<tr>
<td>Skill Level</td>
<td>-0.162*</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-0.210*</td>
</tr>
<tr>
<td>Race</td>
<td>0.079</td>
</tr>
<tr>
<td>Lunch Status</td>
<td>0.173</td>
</tr>
</tbody>
</table>

* p<.05

Table 2-5. Grade and Skill Level composite score and HRQoL

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Between Groups Sum of Squares (df)</th>
<th>Within Groups Sum of Squares (df)</th>
<th>Total Sum of Squares (df)</th>
<th>F</th>
<th>Significance</th>
<th>Mean (Standard Deviation) of variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Level</td>
<td>306.856 (2)</td>
<td>14167.267 (164)</td>
<td>14474.123 (166)</td>
<td>1.78</td>
<td>.173</td>
<td>Elementary (n= 78) 89.46 (8.57)</td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Middle School (n= 74) 87.68 (9.92)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>High School (n=15) 84.91 (9.75)</td>
</tr>
<tr>
<td>Skill Level</td>
<td>591.971 (3)</td>
<td>13882.152 (163)</td>
<td>14474.123 (166)</td>
<td>2.32</td>
<td>.078</td>
<td>Beginner (n= 32) 85.07 (9.19)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Intermediate (n= 95) 88.43 (9.44)</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Advanced (n=39) 90.19 (8.17)</td>
</tr>
</tbody>
</table>

A mean score of 80 indicates a good HRQoL.
Background: PA—and its benefits, especially via the avenue of team sports—has the ability to impact health on multiple levels. This multilevel approach is a popular model for general wellness. Hettler’s Six Dimensions of Wellness model includes dimensions on physical, intellectual, emotional, social, occupational, and spiritual health (Hettler, 1979). Quality of Life is another way to have these six dimensions of wellness represented, as they apply not only to the length of one’s life, but the manner in which it was lived. Health Related Quality of Life (HRQoL) encompasses the perceived, valued health attributes such as the sense of comfort or well-being, the ability to maintain good physical, emotional, and intellectual functions, and the ability to satisfactorily take part in social activities (Bize, Johnson, & Plotnikoff, 2007).

It has long been noted that exercise is scientifically linked with health benefits for most who participate in regular PA. Studies involving children and adolescents found that those who participate in frequent PA have improved cardio respiratory and muscular fitness, improved bone health, favorable body composition, a reduction in symptoms of depression, and positive influences on concentration, memory, and, classroom behavior (Strong, et al., 2005; Trudeau & Shepard, 2008; U.S. Department of Health and Human Services, 2011; Warburton, Nicol & Bredin, 2006).

In 2008, Health and Human Services issued PA Guidelines for Americans, paying particular attention to children and adolescents. The guidelines recommend 60 minutes of daily, moderate to vigorous PA with an emphasis on aerobic activity, and muscle and bone building (Centers for Disease Control, 2009). Unfortunately, current
trends depict a different story than the recommended guidelines. Over the last decade, there has been no significant change in the number of adolescents reporting 60 minutes of daily PA (23.1% reported no exercise at all in 2009), but there has been an increase in the number of obese and overweight (12% and 15.8% in 2009, respectively) adolescents (Centers for Disease Control, 2008).

Of those children that do exercise, one of the popular ways for them to meet the recommended PA guidelines is through participation in organized team sports. Participants can reap a plethora of benefits from team sport participation. The most obvious benefit is the impact on the participant’s physical health. For example, children who regularly participate in recreational sports throughout the year gain higher levels of muscular strength and anaerobic power, than their non-physically active counterparts (Hoffman, Kang, Faigenbaum, & Ratamess, 2005). Research in this area has also found evidence for the positive influence of a group-based team building intervention on the PA adherence of youth. There is support for the relationship between team building and work out session attendance in a youth population. This supports the idea that youth who exercise in a team setting, as opposed to exercising on their own, are more likely to adhere to routine PA (Bruner & Spink, 2011). In turn, the youth who adhere to routine physical activities are more likely to continue PA into their adulthood (Kjønniksen, Fjørtoft, & Wold, 2009).

Additionally, there is new research that studied the impact that team sports have on social and emotional health behaviors of their participants. Early research supports the concept that sports involvement is related to positive youth development. Some of the outcomes associated with adolescent sports involvement include higher self-esteem
and self-efficacy, more intimate and supportive peer relationships, lower rates of sexual activity, enhanced social skills, and greater academic achievement (Eccles & Barber, 1999; Hoffman, Kang, Faigenbaum, & Ratamess, 2005; Larson, 2000; Miller, Sabo, Farrell, Barnes, & Melnick, 1998; Patrick et al., 1999; Pedersen & Seidman, 2004; Richman & Shaffer, 2006; J. Williams, Wake, Hesketh, Maher, & Waters, 2005).

Some preliminary research has identified reasons for considering self-efficacy and motivation as possible intermediates of the PA and HRQOL relationship. Motl and Snook (2008) examined the relationship between PA and quality of life and found that PA might be positively associated with quality of life in multiple sclerosis through an indirect association, accounted for by self-efficacy. Furthermore, to support the idea that youth sport participation has a reciprocal impact on self-efficacy, Ashford, Edmunds and French (2010) found that PA self-efficacy was significantly higher when vicarious experience was included as a technique. This specifically supports the view that watching a similar other (i.e., teammate) perform the behavior (i.e., playing recreational sport) can raise the individual’s belief that they too possess the capabilities to master the same activity (Bandura & Schunk, 1981). Research has found that some of the important predictors of self efficacy to participate in future PA include the social-cognitive constructs, such as self-efficacy in performing the actual task, access to community PA outlets, and positive beliefs regarding PA, are especially important for minority children, including females (Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009; Trost et al., 1997). These findings emphasize how PA programs might be more strongly linked with HRQoL under conditions that maximize improvements in self-efficacy (Ashford, Edmunds, & French, 2010).
The concept of motivation as a vehicle to youth PA participation has been studied at length over the years, with results mostly indicating peer relationship having some impact on participation. Salvy et al. (2009) investigated how the presence of peers and friends impact youth's motivation to be physically active and their actual activity levels. They found that the presence of a friend increased overweight and non-overweight youth's motivation to be physically active as well as the amount of time spent participating in PA. Stunz and Weiss (2009) found that participants measure of success—and continued motivation in sport—was greater when factors such as having meaningful friendships, being accepted by a peer group, and receiving praise from a coach (alongside learning, mastery, and improvement). These factors predicted greater perceived physical competence, enjoyment, and preference for optimally challenging tasks. Ullrich-French and Smith (2006) found that having two or more relatively positive relationships (i.e., with parent, peer or coach) linked with more optimal motivational outcomes. The follow up study in 2009 confirmed previous findings from the three-way interaction between perceived peer acceptance, friendship quality, and mother relationship quality. Interestingly, they also found that when perceived mother relationship was low, probability of continuation was low except when both peer acceptance and friendship quality were high (Ullrich-French & Smith, 2009), adding yet another dimension to the complicated area of youth motivation to participate in PA, but more specifically team sport participation.

The Youth Risk Behavior Surveillance System results indicate that 52.3% of females surveyed in 2009 participated in an organized sport team in the past 12 months, down 5% from the previous year (U.S. Department of Health and Human
Research suggests a decline in PA from childhood into adolescence is a trend that is more prominent in girls (Centers for Disease Control, 2010; Pate et al., 2002). Although the causes of gender-related differences in PA remain unclear, several factors have been suggested which contribute to lower PA levels that are commonly observed in girls, including low self-esteem and body image, lack of motivation, enjoyment, interest or valuation of PA, low athletic competence, and lack of parental and peer support (Camacho-Miñano, LaVoi, & Barr-Anderson, 2011; Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009; Dwyer et al., 2006; Vu, Murrie, Gonzalez, & Jobe, 2006). It is critical to address the issues and identify the gender related differences in PA since its implications have lifelong effects, as youth PA is a major indicator of adult PA (Kjønniksen, Fjørtoft, & Wold, 2009). Race and family income equally play a role in PA throughout childhood and into adulthood. In comparison to their white counterparts, studies of African American girls found that they experience a steeper drop in PA, report higher levels of physical inactivity in middle adolescence (56% vs. 31%) and are at even greater risk for low levels of PA and engagement in team sports (Kimm et al., 2002; National Center for Youth Statistics, 2012). Additionally, low-income girls tend to participate in team sports at relatively low rates (Quinn, 2004).

The short term and long term benefits of PA are understood, and barriers to participation and reasons for abandoning team sports have been identified, but still a large segment of youth choose not to participate in team sports. It is necessary to close the gap in the literature and examine the reasons why female youth who are current participants choose to remain active team sport participants. This information could lead an understanding of how to keep youth engaged throughout their childhood, so that they
can remain physically active young adults. Qualitative methods, such as interviews, can help to closely examine and explain these associations with early and middle adolescents who are currently participating in PA. Additionally, the need to collect rich qualitative data in this subject area is in demand to support and help explain quantitative findings.

**Purpose**

This study hopes to accomplish this through one-on-one interviews with young female PA participants by answering the following research questions (RQ):

**RQ1**: How do physically active young females perceive their HRQoL? What factors contribute to physically active young females HRQoL?

**RQ2**: How do HRQoL factors affect young female self-efficacy to participate in physical activity?

**RQ3**: How do young females perceive their extrinsic and intrinsic motivational experiences when participating in physical activity?

**Methods**

**Design**

The first component, a quantitative HRQoL study conducted by Buckley, Stopka, Chaney, Chaney, Stellefson and Barnett (2013a), sought to assess the relationship between self-efficacy, motivation and HRQoL of young female PA participants, via three instruments: Pediatric Quality of Life Inventory (Varni, Seid, & Rode, 1999), Self Regulation Questionnaire (Deci & Ryan, 1985) and the Self-Efficacy Questionnaire for Children (Muris, 2001). Interested participants were then interviewed for their thoughts on the factors that cause or contribute to self-efficacy, motivation and HRQoL and how it contributed to their PA. These interviews occurred in private conference rooms at a mutually convenient time.
Just as quantitative research uses theory to guide the researcher with a frame or model for behavior change, so does qualitative research. A critical step to selecting a qualitative theory for research design and analysis is to take into consideration the approach, or role the researcher wishes to play in the process. For example, one unique qualitative approach is constructivism. In constructivism, the researcher understands that the learner is an information constructor where people actively construct or create their own subjective representations of objective reality (Fosnot, 2005). New information is linked to prior knowledge, thus mental representations are subjective. For example, when asking a question the researcher might already know “the answer”, but instead of revealing the answer, they help the constructor find a way to the answer they believe to be correct based off of their past experiences and prior beliefs. It recognizes that learning is an active process of piecing together information, rather than being told a piece of information is valid (Bereiter, 1994; Phillips, 1995). This knowledge is constructed based on personal experiences and hypotheses of the environment. Learners continuously test these hypotheses through social negotiation (Fosnot, 2005). Each person has a different interpretation and construction of knowledge process. Jean Piaget and John Dewey developed theories of childhood development and education that led to the evolution of constructivism. The constructivist approach is an ideal approach to use for children because it is primarily based off of childhood development and also emphasizes the development of a learner’s abilities in solving a real-life problem (H. M. Huang, Rauch, & Liaw, 2010). Dewey believed that problem solving and free discovery were joined together; in other words, knowledge is a dynamic quality, built around the process of discovery (Hickman & Reich, 2009). These same concepts
are the foundation of popularly used theories surrounding youth development and education.

Site

The research took place at an all-female organization in North Central Florida. The organization serves approximately 650 girls annually through three programs: after school, athletics and summer day camp. The study consists mostly of the athletics program participants who play volleyball, although there was some cross-over with girls who participate in two (n= 12) or all three programs (n= 7). For the purposes of this research, volleyball players are referred to as PA participants. An all-female site was selected to help close the gap indicated previously in the literature review. Additionally, an athletics program was selected to target physically active girls who already might be meeting the CDC’s PA guidelines of 60 minutes of moderate to vigorous daily PA. The athletics program has been well established in the community as a prestigious facility for all-girl, recreational sports programs. Over that last 15 years, the organization has served over 10,000 area girls athletic needs.

Sample

Research participants were recruited from the largest program within the organization, the volleyball program. In the spring 2011 volleyball season 237 participants were given information about taking part in the study. Of this convenience sample, 167 girls (70% response rate) ages 8-17 submitted parental consent and verbally assented to participation in the quantitative portion of the study. Of this group, 21 girls submitted parental consent and verbally assented to participation in the interview portion of the study. The interview sample consisted of elementary school (n=
10), middle school (n=7) and high school (n=4) girls. The majority of participants had played volleyball at the organization for over a year (n= 18, 86%) and described themselves as having intermediate skill level (n= 11, 53%) of playing the sport. Respondent races included White (n= 14, 67%), Black (n=4, 19%), mixed (n= 2, 10%) and Asian (n=1, 4%), with 19% (n=4) identifying Hispanic as their ethnicity. Lunch status—which is an easier way for children to define their socioeconomic status without knowing exact parent income—was reported mainly as regular pay (n= 15, 71%), with only 29% (n=6) reporting paying a reduced or no cost for lunch. Participants came from 8 different schools within the county in which the organization operates. All participants had at least played in 6 games, and had been practicing for 10 weeks. The combined win vs. loss record for all of the participants was 74 wins and 63 losses, with 2 (10%) of the participants not having won a game all season.

**Procedure and Data Analysis**

After Institutional Review Board (IRB) and approvals were obtained from the organization’s board of directors, parents of participants were sent emails from the athletic director of the organization to participate in the main quantitative study. Participants who completed the booklet of questionnaires were asked if they were interested in completing a follow up interview. All participants that were interested were sent an email to schedule an interview during a time that was convenient for them. Interviews were scheduled for 21 participants within 48 hours of contact information receipt and completed between May and July 2012. Tape-recorded, semi-structured interviews were used to determine the factors that cause and/or contribute HRQOL in young female PA participation and to assess the factors contributing to athlete self-efficacy and movitation/amotivation. Interviews were conducted on a volunteer basis
and continued until saturation of themes occurred. A semi-structured interview design
was used to elicit honest responses and to allow the participants to discuss topics of
importance that may be unknown to the researcher (Wengraf, 2001). In order to reduce
bias, the researcher trained two volunteers to conduct the interview process using the
constructivist approach when eliciting answers.

Prior to the start of the interview, the researcher collected signed parental
consent forms and provided the participant with a unique identifier, so to keep the
interviewee’s identity confidential. The researcher started tape-recording the session
upon giving the participant their identifier and prefaced the interview by reading the
interview script listed in Appendix D. The participant was asked to read the informed
consent and to ask any questions if they arise. After all interview prompts were asked,
the researcher read aloud their notes to confirm the opinions and ideas of the
participant to ensure validity. The participant was also given the option to add or remove
any information that was provided. At the completion of the interview, the researcher
thanked the participant and reminded them to contact the researcher with any questions
or concerns.

Interviews were transcribed and all transcripts were re-read and compared to the
researcher’s interview notes for validity. Qualitative analysis using ATLAS.ti Scientific
Software Development (2010) was conducted on the transcribed interviews.
Transcriptions were uploaded individually into ATLAS.ti and analyzed using constant
comparison analysis (Glaser & Strauss, 1967). Each transcript was read and broken
into smaller, more manageable chunks. Each chunk was then inductively coded. Once
all data were coded, they were reevaluated to ensure that similar codes were placed together and general themes were made.

The frequency of themes within the data was evaluated using thematic and constant comparison analyses. Code intensiveness was used to examine quantitative saturation of common data across the interviews. This was done to understand which codes were used most, eliciting a greater understanding of the most important concepts reported by the participants. The more information (e.g., data units) contained in a category, the greater relevance of the category. Certain categories were allowed to possess fewer data units, as long as they still possessed enough units to merit exclusive distinction (O’Callaghan, Barry, & Thompson, 2012).

Results

From participant data, the following themes emerged as factors that contribute for young female HRQoL, self-efficacy and movitation/amotivation: exercise outside of volleyball, coping with stressful situations, network of friends, extrinsic motivators, intrinsic motivators, self-efficacy through leadership and experience (Table 3-1 for thematic frequencies). Participants’ explanations were either personal accounts and/or what they have witnessed through their peers.

**Theme 1: Exercise outside of volleyball**

The theme “exercise outside of volleyball” was supported by 93 comments by 21 (100%) respondents. Exercise outside of volleyball included the following 2 subthemes:

- Other sports played
- Physical activity with friends and family members
Since this sample was strictly made up of volleyball players, many of the participants played on other individual or team sports. Comments made about the other forms of PA that impact participant HRQoL:

I do all the sports at XXXX. I play kickball, soccer and cheerleading and volleyball.

It depends on the time of year it is, but uh I um play volleyball in the fall and spring. In the spring I play here because of the high school league, but in the fall I play for my actual high school team. If I have time I play for the school basketball in the winter and then I run track in the spring too.

I don’t really have time for other sports. I like play volleyball in my backyard and then I run around at recess for school when it’s not volleyball season.

I’m trying to stay fit. Gotta get rid of this (points to stomach) so I can look good in my jeans, ya know? My practices and games are on Tuesday, Thursday and Saturday, so that means I gotta jog every Monday, Wednesday, and Friday.

I have played every single sport at XXXX. That’s why I got athlete of the year. I did cheerleading, track, basketball, soccer and both volleyballs. One year I even did all the clinics. That was something like, um 4—no5—maybe 6 sports in like 5 months.

I like to try as much as I can. I played t-ball once and it was dumb so I quit. I played soccer for a little bit, but it was too hot. I like playing volleyball now.

I’m new to the sports thing. I only did sports in PE, but I liked that because we uh get to try um a bunch of different sports in one week. PE is just a variety of sports we learn, and I do that every day.

I used to play soccer, but now I play volleyball and I like it because you have to work and practice everything that we know and try our hardest. Its about how hard you practice because then you win games.

Several participants mentioned exercising with friends or family members as a way of keeping in shape after the season is over. Comments made about exercising with friends and family, which impacts participant HRQoL include the following responses:
One of my favorite ways to get exercise is by playing with cousins. They are little and love to jump on the trampoline. Believe it or not, that is freaking exercise!

My mom is really into fitness, so we take walks together or do wall sits outside and in the gym. We even exercise on vacation. My mom likes to take trips that already have exercising included, like skiing. So now I know how to exercise by skiing too. We ski in Colorado every year.

I jog, run and I play and I do exercising at home. Sometimes with my mom, more times with my sister because she plays volleyball too.

I go to the gym with my mom. We also go on walks. Oh, and we go swimming too. We like to exercise. But we’re also lazy too.

My mom and my sister and me like to go to gym at my apartment. If the weather is nice, we swim outside in my pool.

Well, I like to run around my neighborhood, but my mom says I’m too young to go by myself. Also sometimes we will ride bikes together if my mom isn’t busy playing in a pool tournament or with her boyfriend.

My mom and dad are fitness nuts. My mom lost a bunch of weight and now we all exercise together. We go swimming, running, hiking, and bike riding as a family. We also eat really healthy. But it’s good for you. You don’t want to fill your body with toxins and foreign objects.

**Theme 2: Coping with stressful situations**

The theme “coping with stressful situations” was supported by 87 comments made by 21 (100%) respondents. Participants described stressful situations that were outside of volleyball practices and games. Their responses could be broken down into these 2 concepts:

- Stressful moments outside of volleyball
- Healthy ways of dealing with stress

Mental and emotional health both play a role in participant HRQoL. Participants were asked to recall a time they felt angry and a time they felt sad or disappointed. Comments made about their feelings included:
Okay, my sister was screaming at me. We were playing in the pool and I was splashing some water on her and she says its my fault that she got stung by the bee so she associated me splashing water on her with the bee sting and I was angry.

I was angry at my friend because she got really bossy it was at a field trip for my enrichment math class yesterday. She doesn’t have to be so mean. She’s not my mom. I don’t have to take orders from her.

Last Sunday, it was the day 4 years since my dad passed away.

When my mom broke up with her boyfriend I was really sad and angry because I really liked him. And I was super angry at my mom. But we (participant and Mom’s ex-boyfriend) still keep in touch. They were together for 3 years.

Yesterday I couldn’t find this HW assignment that I finished. It took me a very long time to do it and now I can’t even turn it in for a grade. I was very upset . It’s not like I didn’t do it, I just couldn’t find it.

Well there is that girl in my class. She’s just sassy. She’s mean to every girl. She’s been giving us glares and saying mean things to us and doing mean things to us.

One of my best friends killed himself and I was really sad and confused.

I actually found out today that my uncle who lives in Venezuela died. It makes me really sad that we couldn’t be there with him.

When I get into arguments with my friends. Like we were playing around and we pushed each other around and we got angry at each other and we had to sit out for a few minutes.

I couldn’t go to a friends house for a sleepover a week ago I was sad and then angry and then sad again…. Because my room wasn’t clean.

I think angry..it was last season we lost a game and I was kind of disappointed because my team wasn’t there, they went on a field trip to Washington D.C. and I felt kind of bad.

I was angry when … my friend teased me and it happened on Friday and I was kicking a soccer ball and she said “nice kick” sarcastically but then it was okay.

Well, I was buying a dress at Forever 21 for my 9th grade graduation banquet and my mom has like this huge thing for not showing my incision from my back surgery so and all of the dresses were strapless or sleeveless she was just freaking out and she was insisting that I wear a
really ugly sweater over every dress and it was just a high stress moment you know and we were really just snapping at each other and then she got so mad she wouldn’t answer and say anything to me and I was just like...she wasn’t getting me and anything...and we couldn’t talk about it and it wasn’t that big of a deal but she was really angry about it you know and it made me angry.

Well you know we had just lost someone who was like a part of our school you know it was confusion because I never experienced the death of someone so close to my age. It was just like wow that can actually happen. A little shocking you know.

I don’t want to talk about this question. I’m allowed to skip, right? (At the end of the interview, the participant returns back to answer this question) I’m really upset. My parents are getting a divorce, but my dad still lives at home freeloading and my mom is dating another guy who lives in the house with us now too. It’s just too many people. I just can’t handle it.

An important way to gauge HRQoL is by how the person copes and responds to stressful situations. Participants were asked to recall a time they felt angry and a time they felt sad or disappointed. They were then asked how they deal with these types of situations. Comments made about their feelings included:

I try to handle my emotions really well like scream a bit in my head. Or scream at her (sister) or go to my room an scream in the pillow and that is what I do to make myself feel better.

I walked away and talked to my other friend and ignore the problem and I just talk to my mom about it and stuff like that.

I got out and started watching a volleyball game. It reminded me to calm down and relax and have fun.

I try to ignore her (mean classmate) ‘cause it makes me mad.

I was upset and it got to me and I didn’t want to do anything or talk to anyone. And then our coach talked to us and said that it wasn’t worth it and getting in a fight or anything. So then I cheered up a little, I guess.

I talked to friends around me and we would talk about him (friend that committed suicide) trying to keep our feelings up instead of being sad all the time.
When I first joined XXX to play volleyball, my mom had just passed away. I moved in with my aunt and I was so confused and hurt and sad. I was taking it out on the court. It felt good and then I made friends from my team and that way I was able to have people around me to help me get through it.

My mom hugged me, we colored together and we went to the cemetery and prayed together and then every Father’s day and his birthday we go and put flowers on his grave.

They (participant’s teachers) made us (participant and fighting friend) talk and we shared our emotions and I felt a lot better.

I draw or maybe write or lie in bed to make myself feel better.

Well..I let her (participant’s mother) calm down for a while because she cools down pretty quickly and then we talked about it and she said she was sorry and how she felt and I accepted that because I’m not going to try to change her feelings.

Playing volleyball at XXX takes me away from my crazy home life. I just get to go out to practice, do my best, get hugs from coaches and teammates and play for fun with my friends. I’m trying to get all of my sisters to play too so they have sometime to escape also.

Well we had like grief counselors and I talked to a lot of other students who were close to her (participant’s friend that died) and talking to them helped me manage my feelings.

**Theme 3: Network of friends**

The theme “network of friends” was supported by 102 comments made by 21 (100%) respondents. Friends and types of friendships have the ability to play a role in social and emotional self-efficacy. Characteristics of participants friends and friendships and included these 3 concepts:

- Ease of making friends
- Characteristics of Friends
- Sense of belonging
The task of forming and maintaining new friendships is a skill that can play a role in self-efficacy and motivation to participate in PA. Comments supporting the ease of making friends included:

It's easy to make them because usually someone will ask me to be their friend or I will ask them and they usually will say yes.

Easy to make friends. I make friends everyday at school and I just starting talking to them. It's not hard. Especially when your school has 1500 people.

It's very easy because I'm very social I just get along with everyone

It's easy because usually I am good at socializing and talking to people and making them feel included.

Like pretty good, at making friends. I make 'em by doing funny stuff and being friendly.

It's very easy because I personally I am a nice person and when people see someone nice with a smile come towards them, they just immediately want to be friends with them.

I think it's pretty easy especially when you have something in common, having friends is important and being on a team helps you with friends who enjoy the same thing.

Well, it depends on the person, usually it's easy. Because I am not a quiet person I am rather loud and very out there and outgoing and stuff and so it's easy for me to make friends with new people cause I am very funny person so its pretty easy.

I have always been outgoing and am the first to say something so they have no choice but to say something back and it just keeps going you know?

Many of the participants friends shared similar characteristics. Many of responses mentioned the PA participants having friends that they shared similar traits with. Several commented on how their friendships began on their sports team and continued at school long after the season was over. Comments supporting the characteristics of friends included:
They love to talk, we do a lot of fun things together… like mall, movies, play games, sleepovers and stuff.

They are smart, really funny, childish sometimes in how they act, but always supportive of me.

They are funny and nice and usually into volleyball. Most of my friends are on volleyball teams. We all love it.

My friends are funny and they care about all my actions with others and how I am with others… like they care about how I treat others. We don’t like bullies. So we don’t act like bullies.

My friends, they are nice, kind and helpful.

Fun, they have good personalities and they mainly play sports.

They are nice but they have lots of different emotions. They change… like some days we are best friends and some days we hate each other… I don’t know why. We just, change.

Awesome, playful, and cool. My favorite thing is that they don’t share secrets when I tell them.

My friends are the ones I always go to, to cheer me up.

They are super funny and really caring too I mean… I always gravitate towards people who aren’t just like fair weather friends, they will stick to you through everything you know. Strong people.

The team atmosphere can provide a sense of belonging for the PA participant.

Several PA participants mentioned feeling like they belong within their group of friends and with their teammates. The majority of participants (n= 20, 95%) cited examples where they friendship was reciprocal within their group of friends. Some of those examples of the “sense of belonging” are described below.

My friends always make me feel happy ..sometimes we get on each other’s nerves, but that’s normal because cause girls clash sometimes. Most times we’re best friends and have each others backs.

I always feel included around my friends, and I never feel left out. Even when the group has secrets, I always feel like I’m a part of them.
I have good friends. They make me feel special. I’m important in my group of friends.

They are all outgoing, loud, and funny, which means we are all like.

Depends on what day it is. (laughs) Sometimes they are very nice and we do what I want, and sometimes we argue a lot. It works a lot better when we do what I want.

My friends make me feel happy because they are the ones that cheer me up and do nice things for me. That’s what we like to do for each other.

When I’m around my friends, I feel like I am somebody. My friends don’t talk about me and stuff. Other people in my school do. People just assume things about me, but they’re wrong. I’m not like that. Only my actual friends understand me.

My friends make me feel like I’m not alone and sometimes they know what I am going through. Most of them know what I’m going through. Some of them just don’t get it.

I’m really lucky that I have them (my friends) around. They are so cool and nice. I’m happy the most when I am with them.

Theme 4: Extrinsic motivators

The theme “extrinsic motivators” was supported by 142 comments made by 21 (100%) respondents. Ryan (2009) defines extrinsic motivation as behavior that aims toward outcomes outside of the behavior itself (i.e., participation to improve health/looks, stay in shape or impress a friend). Extrinsically motivated activity is often more controlled by something or someone other than the participant (i.e., less autonomous). Characteristics of female PA participant extrinsic motivators included these 4 concepts:

- “Winning” culture
- Playing for money
- Parental support
- Knowledgeable coaches
The “winning culture” of “winning is everything” was evident in the conversations with the participants. A few \((n=4, 19\%)\) specifically mentioned winning as an important part of the game, while many \((n=16, 76\%)\) noted that winning or losing a game does not impact how they feel about their team. In fact, these girls found value in losing games. Some of the specific comments on “winning culture” are described below:

When we win and it makes me feel happy about myself and how our teammates and me win when they win and we loose and sometimes I feel like I don’t feel that good about me and that I’m not trying much

Loosing makes me a little sad. Volleyball is just supposed to be about having fun and winning, but either way its fine

Sometimes when we lose I get upset, but I’m really good at getting over that really quickly. I tell myself “Okay, this is going to be a long point.” At the point that you lose, you feel upset, but it feels the same like winning after a while it doesn’t seem much different to me. … When I get upset I tend to play not so good but when I’m more relaxed I tend to do a little better.

Winning makes me feel good, like we have improved a lot. Losing, it just means we have to try to improve on things we did wrong. Like, sometimes if I get mad or like just irritated it will help me get more furious and aggressive. When I’m happy I’m also aggressive and I think I’ll win the game, but I think I play the game when I’m on my toes

Winning is good…really good, losing- nobody likes that. No one likes losing. You gotta lose eventually it doesn’t change the way I feel about the team. If we lose a game it gives us motivation to go out there and win the next one.

If we win I feel we are doing a great job. If we lose I think we can work hard and get better.

It doesn’t make me feel any different that they (participant’s team) did bad. We just weren’t too good. It doesn’t matter about winning as long as we are having fun.

I’m pretty relaxed about the winning and losing I am here for the fun.

When we lose I feel we need to keep our heads in the game and practice more. And winning makes me feel we accomplished a lot of practice. They (participant teammates and coaches) let me know we can win no matter how hard we try!
Loosing still makes me feel like a good player even if we don’t win and we can learn from our mistakes. It’s not always about you and it’s about the team and your attitude.

Winning is just...awesome!! Just awesome! Losing …is okay.. I especially like it because our coaches don’t highlight that we have to win, honestly winning doesn’t matter. We don’t talk about we win or lost, it’s more about did we play badly? If we lose it’s because we were lazy, that’s bad. But if loose and we were playing well, against an undefeated them then we are playing hard then it’s okay.

I’ll always love my team whether we win or lose but it’s kind of like personal I’m mad at myself. I never blame the team. The friendship is always there it doesn’t really affect that. well... now I am really good with coping with like you know, if we miss a bunch of serves in a row or something, I always stay smiling. But when I was younger and I was first starting to play I would get so depressed and I wouldn’t go for the balls as much if we were winning.

A few (n= 3, 14%) participants described getting financial compensation from a family member for some measure of success during their volleyball games. All three of these participants were in the youngest age group (elementary school). When asked if they would continue to play volleyball if compensation were taken away, two participants answered yes, while one participant was unsure if she could continue playing without compensation. Some specifics on “playing for money” are described below:

My nana gives me $1 for every serve I get over the net. I can’t wait to play in the 5/6th grade league because I can get so much money for my serves, since I’m allowed to do more than 4. Last year I got about $30.

Part of my allowance is playing in volleyball games. I have my chores at home (vacuuming and dishes) and then my other chores are good grades in school and going to volleyball practices and games.

I sometimes get money from my grandma for winning games…. It just depends on how many games there are in the season.

Parental support is paramount for the positive youth development of any child, regardless of participation in sport. However, as previously stated, when perceived
mother relationship was low, probability of continuation was low except when both peer acceptance and friendship quality were high (Ullrich-French & Smith, 2009). All participants reported the importance of parental support. Most reported positive support and encouragement to participate in sports. A few participants (n= 3, 14%) noted a lack of parental support from one or both parents. More details on “supportive parents” are detailed below:

Ever since I was little I wanted to play sports because my dad loved sports. He played football at the University of Florida, so he’s really good at sports. I thought when I played volleyball, I would like be with him all the time because it’s a sport, but he doesn’t really like volleyball. He doesn’t really come to my games. I would be surprised if he knew my coaches name. (laughs) he probably doesn’t even know that my coach is a man. It’s like whatever. I’m having fun and I’m actually a pretty okay player.

They’re glad that I’m exercising but they wouldn’t care about the particular sport I did. Like if I quit volleyball and took up something else another sport they wouldn’t care too much. They don’t have any ties to volleyball but they’re glad I like it.

They like it, they think it’s good exercise and it’s fun for me. My sister plays too, so they like us all playing together.

My mom is glad I’m having a sport I actually like now, and she is really excited for me and come to most of my games and my mom’s friend he is also very helpful and my brother is just helpful too.

In the beginning, my mom used to come to all of my games and practices. Now she makes like 5 or 6 out of 10 a year. She’s just busy now.

My parents like for me to play volleyball because they always help me practice and they cheer me on when we win or lose a game.

My parents support me because volleyball is my passion in sports. They just don’t like getting up early for games on Saturday morning.

The one thing I really need to feel confident in playing a game is my family because they cheer me on better than my friends do. They like that I play sports, because I am doing something instead of being at home all the time.
They like that I play volleyball because they are like they support me and they cheer me on. It’s not just for volleyball, but that’s just anything I do, they cheer me on.

My dad lives in another state, my mom is always here and supportive. I think my dad sees like two games a year.

Well, they really don’t care. My mom is more supportive and my dad is all about playing video games so he won’t come to my real games. My grandma and mom pays for all of it. My mom is more supportive.

Knowledgeable coaches were a topic in all participant interviews. Many participants had feedback on the experience levels and teaching styles of their coaches. While most (n=20, 95%) discussed ways in which a knowledgeable coach helps their team, one participant mentioned how an inexperienced coach could ruin an entire season. More specifics on “knowledgeable coaches” are described below:

Okay, so like I don’t wanna be mean, but seriously my coach literally cost us the game last week. He kept this player in and she well, she is not good. It’s not really her fault, she started playing this season, but she just doesn’t have the same skills as us. Last game like 8 or 10 balls came right to her and she shanked them off the side. It was so frustrating. Coach kept her in, even though she was costing us the game. We ended up losing, and now I can see why it’s so important to have a knowledgeable coach. My coach this season is new too.

Important. Really important, because if they don’t know anything then it would be hard for them to figure out to tell you things to practice. How could you improve?

It’s very important to have a good coach because that helps mold you to become the volleyball player you are going to be.

It’s important because my mom she doesn’t know much about volleyball so she can’t teach 5th 6th grade. She can’t teach them because they need someone who actually plays volleyball and not someone who looks up drills on YouTube. That’s why she’s still coaching 3/4th grade.

I just want to have fun and learn new things so it doesn’t really matter to me as long as they know what they are doing and they’re not teaching us soccer skills during volleyball.
It’s pretty important to have a good coach because if they are new, they only teach you what they know. It’s better to have a volleyball coach that knows stuff instead of one that just started that season.

It’s important that you have a coach who knows how to have fun. If they are always getting on you then you aren’t going to have fun.

It’s good because without them we wouldn’t be really here playing. If we have a coach that doesn’t know what they are doing then I feel uncomfortable, because we obviously can’t win the game.

It seems very important to me because I haven’t played a lot of volleyball but Coach Josh, Morgan and Mariah are all really nice and wonderful. If you had a mean coach it would be a whole lot harder to play because you might get scared and they would be yelling. But if they are nice and they know good stuff then you are learning well and so you don’t have to be like I know nothing or something.

It’s really important because none of my family play volleyball so I rely on my coach for every improvement and suggestions on getting better.

Theme 5: Intrinsic motivators

The theme “intrinsic motivators” was supported by 108 comments made by 21(100%) respondents. The general idea behind intrinsic motivation is that there is some reason that motivates someone to participate in an activity. Typically these reasons include the idea that participation in the particular activity is enjoyable, challenging and interesting to the individual (Frederick & Ryan, 1995). Intrinsic motivators were identified in the interviews and included these 2 concepts:

- Main reason for participation
- Recall of meaningful moments

Participants were asked to consider all of the reasons they personally play volleyball and were asked to identify the top reason. Most (n= 19, 90%) indicated that the main reason they participate is because the sport and program itself are fun. Other responses on “main reason for participation” are detailed below:
To stay in shape definitely, also it's really fun, and it’s a sport you can kind of start later, you don’t have to start it when you are three you know so I like that because I didn’t have early training.

Probably because I get to work with my team and I become friends with some of them.

It’s fun and its good exercise and it’s, I don’t know, I just like it. I probably play mostly for the FUN of it.

I find it fun and some of my friends tried and it was fun so it chose to play volleyball. Now I mostly use it for fun and to meet new people.

Because I like to be active. Because I like to play sports and they make me feel comfortable with the rest of my life. Volleyball is fun!

I think it’s just a fun way to be active an stay in shape.

It’s fun, its exercise and keeps me healthy and I like to feel the adrenaline rush

It’s a good way, if you like it and you’re good at it you get a scholarship to school.

My friend Kayla got me into it and everyone said I should play volleyball because I am tall. So I tried it and now I actually like it!

Getting into college is easier with a better resume. Volleyball helps me fill that out and my best friend.. I met her through volleyball, so it’s really important for me to have this fun outlet.

At the end of the interview, participants were asked to recall times where volleyball made them feel good and bad about themselves. These responses generated a consensus (n= 20, 95%) amongst participants where meaningful moments were created by one specific event (i.e., missing an important serve) versus winning/losing an entire game. Only one participant mentioned winning the championship or being selected for the “all star team” as a moment where they felt good about themselves as volleyball players. Other responses on “recall of meaningful moments” is described below:
Whenever I hit the ball over the net cause then I know I can hit it over the net and I know I have learned something.

When we were playing for the Eastside the team and the score was 22-24 and we were at 24 and I got the final point for my team. That was equally as good as winning.

Once I tipped the ball over ooh, nevermind this one is better... So my friend on my team she sends a ball like this (makes a “whoop” noise and gestures hitting a ball) and then it was like Phew because it was almost out. She got the ball back over but the other team thought they won the point they all like high five everyone and they didn't even see the ball coming back down on their side. We got the point and then we WON!

Today when we had our game and I got a great hit from the back row which isn’t very common and the other team couldn’t return it. That felt great.

Today, when I missed the ball they still helped me cheer up and said that’s okay and we got the ball back and I felt confident.

Like the first time I ever played in a real game and I did my first serve and it went over!

A few weeks ago I couldn’t serve the ball right under hand and it kept hitting the net and I didn’t like it and it made me feel sad and I wasn’t getting enough practice and we now have a practice net at home and I can get the ball over. Last week I got the ball over serving it about 6 times and they were getting it back!

When I found out in my 1st season I was an all-star for the volleyball team I was happy!

When we almost won our first game this season, but we lost it. It makes me feel good that we are learning from it and that my whole team cheers everyone on and its really helpful.

I feel good when I get my serves over because I just started overhanding serving. I don’t feel bad, but angry at myself for making the mistake like calling the ball and not getting it.

I remember the first time I got an overhand serve over the net, it was just so nice. Up until then I kind of felt like I just couldn't do it. It wasn’t my technique, it was just me personally, but when I did that I actually saw that I had the ability and I knew I just had to work on it and it was just there.
Theme 6: Self-efficacy through leadership and experience

The theme “self-efficacy through leadership and experience” was supported by 74 comments made by 21(100%) respondents. Self efficacy is defined as a person's level of confidence in their ability to perform particular behaviors to produce desired outcomes (Bandura, 1997). In applying this theory to team sports, watching a similar other (i.e., teammate) perform the behavior (i.e., playing recreational sport) can raise the individual’s belief that they too possess the capabilities to master the same activity (Bandura & Schunk, 1981). Characteristics of self-efficacy—demonstrated through leadership and experience examples—included these 2 concepts:

- Playing at a more advanced level (mastery experience)
- Comparison of self to teammates (modeling)

Participants were asked how they felt about their chances of making a competitive level travel team (club or school team), if they were to try out for it. A majority of respondents (n= 18, 86%) stated that they were confident they had the skill level to play for a more advanced team. The remaining respondents were uncertain that their skill levels were good enough to play for a travel team. More specific responses for “playing at a more advanced level” are described below:

I'm pretty confident, because I know girls on the team and we have played before and our skill levels are pretty equal so if they could make it I think I could.

I'm pretty confident since I've been playing for a while.

I'm pretty confident in myself and my improvements. I can make it if I tried!

Well depending on my school. If it doesn't have a middle school team ..I'd probably be fine. A little bit nervous cause I'm not that good but I'd probably do it if it were a middle school one.

I think there is a lot to be uncomfortable about, but I would try out and if I don't get in, I'll try next year.
I’ve made the team before and I know the coach and been playing with the
girls since the beginning of my volleyball life.

I’m pretty confident. Most of my friends play on club teams and on the
school teams. I can talk to them and find out what I have to do to make a
team.

I don’t know we don’t even have a volleyball team at our school. But if we
did then I feel confident.

Pretty confident. I’m going to try out for the Lincoln volleyball team next
year.

Participants were asked how their skill level compared to that of their teammates.
Most respondents (n= 15, 71%) were modest in their self-appraisal, gauging themselves
as intermediately skilled. Others felt that they were too inexperienced to consider
themselves as one of the best players on their team. More detailed comments on
“comparison of self to teammates” are described below:

They are a few girls that are better than me, but I think we are all pretty
even.

I think I am equal with them, but good at serving. I think the team is good
at everything.

Well, since this is my first year I am not that ... I’ve improved I guess... but
some of them have good times and bad and some are both. We are pretty
equal.

Well, everyone else on my team has been on at least one session so I
guess I’m not as good and they are a whole lot better than me. But I do
excel at and I’m one of the best hitter and server. Terrible at setting. And
an okay passer. I’m the same as some people, worst then other people,
and then better than other people depending on the skill.

Each of us are different in our own way cause some of us can serve really
good others can hit really good. Different but good in their own way.

My skills have gotten much better, but they are some girls that are much
better than me.

We are pretty even throughout. My teammates have some trouble with
some stuff and I have some trouble, so we balance each other out.
On a scale of 1-10 ..a 7, they’ve been doing it for longer. My oldest friend, she’s been doing it for 3 years, and so she also is better and she has a private coach.

All of us came not knowing anything, and now we are all at the same level.

Some match up pretty much the same and some don’t match up the same and some need to practice and work on things. Half the team is about the same level as me and the other half the team just started they really need to work on different things.

Like I feel like most of us are really good but there are some players that are improving a lot so we are helping them improve. I would be like up in the higher area of a mountain if we ranked it based on a mountain.

I’m one of the better players but I’m not the best

I think we are all on varied levels. But the people playing now some are better than others on certain things but I think we are all kind of in the same areas.

Discussion

The research findings highlight factors that cause or contribute to young female self-efficacy and motivation/amotivation and the impact it has on HRQoL. The six factor-related themes that emerged from participant interviews provide data about exercise outside of volleyball, coping with stressful situations, network of friends, extrinsic motivators, intrinsic motivators, and self-efficacy through leadership and experience. The corresponding sub-themes provide an in depth analysis of the unique experiences of participants and provide valuable information about where interventions should be focused.

Many participants met the minimum requirements for 60 minutes a day of moderate to vigorous PA by playing in the volleyball program. In addition to this program, the girls also participated in several club or alternative sports such as soccer, swimming, cheerleading and basketball. It did not seem that girls were purposefully
adding these extracurricular activities to boost their physical health, but rather used these sports as another way to keep busy and out of the house to spend time with friends. This is aligned with research that found youth were more likely to be active when they are in the company of peers and friends than when they are alone because youth PA typically involves some form of play that requires peers or play partners (Salvy et al., 2009). PA for the girls was not only limited to friends, but to parents and siblings as well.

Girls reported exercising with a parent in over 37 comments and a sibling in over 14 comments. In general these young females did not describe these exercise sessions as something forced upon them, but rather a way for them to spend additional time with loved ones. The anticipated benefits of social support are backed by research that has shown that parent and peer support are associated with higher PA rates among youth (Gustafson & Rhodes, 2006; Hohepa, Scragg, Schofield, Kolt, & Schaaf, 2007; Pugliese & Tinsley, 2007). The role of social support is also demonstrated in results from longitudinal research indicating that lower family support for PA among adolescent girls in 8th grade was associated with a steeper decline in PA between the 8th and 12th grades (Dowda, Dishman, Pfeiffer, & Pate, 2007). As noted by participants, parental and peer support work hand in hand. Younger respondents reported exercising with parents, while older participants reported exercising in their free time with friends (teammates) or siblings. This trend supports previous research that states as children move into adolescence, the influence of parents on activity levels may be replaced with peer activity involvement, suggesting this form of support may be influential during
childhood, with younger children more likely to report someone in the family being active with them (Lown & Braunschweig, 2008).

The girls in this sample faced a wide variety of stressful situations away from the volleyball court. Their experiences ranged from missing homework assignments, to school bullies to sudden deaths of friends/family. Though it is near impossible to plan for sudden, stressful situations, coping mechanisms can be taught at an early age and can be effective in reducing the risk of depression and anxiety, that if not treated can follow girls into their adulthood (Lewis, 2012). Typical examples of coping for this sample included ignoring the problem, screaming into a pillow, turning to a parent or friend for comfort, sharing feelings with a teacher or grief counselor, playing volleyball, or laying down in bed.

The girls’ network of friends proved to play a role in the social and emotional health of the participants. They described their ease of forming and maintaining new and lasting friendships, by finding friends who shared characteristics similar to themselves. They described their friends as smart, funny, talkative, nice, athletic, helpful, caring and strong. Their relationships with their friends appeared to be mutually beneficial, where they felt their friends provided camaraderie and they offered the same in return. Children who have quality friendships have the opportunity to experience cognitive, emotional, and social growth because they engage in greater closeness, loyalty, and equality than in interactions with acquaintances (Moran, 2006).

There is research to support the relationship between the sense of belonging and enjoyment of a PA program to retention in the youth sport program (Wright & Weidong, 2009). The majority of girls in this sample (95%) reported some sense of belonging
within their groups at school and their teammates. They described only friends being able to understand them, never feeling left out of a group and the pain associated with those feelings. The greater sense of belonging described in this research is an important component for planning positive youth developmentally focused sport programs.

Extrinsic motivators might be the most difficult area to address since it relies on people and concepts outside of the control of the participants. From the perspective of the girls, parental support and knowledgeable coaches are areas that have the most direct impact on their sport participation. The coach-parent-athlete triad has been referred to as the “athletic triangle” (Smith, Smoll, Smith, 1989). The members of this social system interact with one another in complex ways, and the nature of those interactions can have significant consequences for the psychological development of the child (Davis & Jowett, 2010; Weiss, 2003). It’s critical for the two adult parties to come to a mutual understanding of the important role each one plays in the overall development of the participant. Girls told stories of both the highly supportive parents and the extremely hands-off parents. Those who told stories of positive parental support seemed oblivious of the impact it had on their self-efficacy or motivation to participate in sports. However, girls who told stories of unsupportive parents demonstrated a sudden shift in attitude and facial expression when asked the question about parental support. It became evident to the researcher that although the girls might not understand or appreciate parental support at this time in their lives, it’s evident that a lack of parental support plays a clear role in these girls’ behavior, motivation and work ethic. For example, one participant even mentioned needing to try harder so her dad
could see how good she plays, in an attempt to have him come out and watch more of her games.

Continuing around the athletic triangle, girls shared the important qualities of coaches. The most frequent response included that coaches needed experience playing and coaching volleyball in order to be an effective coach. According to participants, coaches were responsible for modeling behavior and skills and also were responsible for demonstrating best practices of advanced volleyball players. A couple participants stated that since playing volleyball was all about fun, it was important that the coach understand that concept and make practices fun and less disciplinary. Another participant noted how she was the first in her family to play volleyball, so all of the skills she acquired came directly from coaches, teammates and practicing what she learned. Their feelings echoed what the literature states about the effects of youth coaches. Coaches’ behaviors can exert a powerful influence on children’s experiences in youth sport (Smith & Smoll, 1990; Weiss & Gould, 1986). For example, coaching behaviors can positively influence children’s self-esteem and degree of enjoyment they experience, as well as their desire to continue participating in sport (Conroy & Coatsworth, 2006; Scanlan & Lewthwaite, 1986; Smith, Zane, Smoll, & Coppel, 1983; Smoll, Smith, Barnett, & Everett, 1993). On the other hand, undesirable coaching behaviors have been linked to several negative outcomes in youth sport, including decreased sport satisfaction (Fraser-Thomas & Côté, 2009) and higher rates of burnout and dropout (Gould, Udry, Tuffey, & Loehr, 1996; Pelletier, Fortier, Vallerand, & Brière, 2002). It’s critical to address the roles parents and coaches play on girl PA participation.
since participant motivation to play a sport relies heavily on their satisfaction of the sport and continued participation in it.

The other concepts identified in the extrinsic motivators theme can be described as products of society: the winning culture and financial compensation for performance. The "winning culture" has been a phenomena studied in a wide array of literature, most notably in the context of sport participation. In short, winning should be viewed as a consequence of the athlete's physical and psychological development and not the primary focus of athletic involvement (Cumming, Smoll, Smith, 2007). There were a few participants who noted that winning was the most important part of the game and the only take away from participating in a sports league. However, the majority of girls in this study felt that winning was great, but also found value in losing games. One participant mentioned how losing games actually motivated her team to perform better and work harder and focus during practices. Others made the comment that winning was a direct product of practicing. Overall, this sample had good attitudes about winning a losing. Future research should investigate the source of these attitudes. Could they be attributed to parents, coaches, teammates or experience?

A side of effect of the idea that "winning is everything" was evident through the concept of a few participants getting financial compensation from a family member for some measure of success during their volleyball games. Though very little research exists in the area of monetary compensation for youth sport participants, it seemed that the general act of paying a child to perform a task negated some of the positive effects of youth sport participation and could impact long term PA participation. All three of the girls who reported receiving financial compensation reported having fun with volleyball,
but two of them reported that one of the main reasons they play is to make money. Longitudinal studies on young participants who receive financial compensation is necessary before making any conclusions on the overall impact this could have on motivation and HRQoL.

Intrinsic motivation is the driving force behind autonomous activity; when people are intrinsically motivated, they are by definition self-determined. The two intrinsic motivation concepts identified during interviews involved the main reason for participation and the recall of meaningful moments. When participants were asked to consider all of the reasons they personally play volleyball their responses mostly stated that they play because the sport is fun and the environment in which they learn the sport is fun. Additionally, they mentioned the opportunity to make new friends and spend more time with old friends as another added bonus of sport participation. A few participants noted the ease of the sport and how it provided the opportunity to stay in shape. A couple participants discussed the future. They mentioned scholarships for college and how they enjoyed participating because it gave them a more rounded resume when applying for college. Meaningful moments responses generated a consensus (n= 20, 95%) amongst participants where meaningful moments were created by one specific event (i.e., missing an important serve) versus winning/losing an entire game. This is a critical finding, as positive activity-related memories may contribute to greater levels of adult activity participation, especially for women (A. M. Thompson, Humbert, & Mirwald, 2003). Many participants would share a story and immediately follow it up with what they learned from that moment. For example, one participant described working all season towards getting her overhand serves (a more advanced
volleyball skill) over the net. She described practicing at home and school, and still failing on all of her attempts. On her last try, during a regular season game she was able to successfully get the ball over from her overhand serve. She mentioned how good it made her feel to work so hard for something and finally achieve her goal and immediately applied that to her final exams at school.

I work so hard all school year and sometimes I don’t get the grade I deserve. Maybe my final exams will be just like volleyball. I tried hard all school year and will nail my final exams.

Self-efficacy is defined as a person's level of confidence in their ability to perform particular behaviors to produce desired outcomes (Bandura, 1997). Characteristics of self-efficacy—demonstrated through leadership and experience examples— included the two concepts of playing at a more advanced level and the comparison of self to teammates. Participants were asked how they felt about their chances of making a competitive level travel team (club or school team), if they were to try out for it. A majority of respondents (n= 18, 86%) stated that they were confident they had the skill level to play for a more advanced team. Their confidence stemmed from having friends who played at a more competitive level and from their own experience in playing volleyball. Additionally, most respondents (n= 15, 71%) were modest in their self-appraisal, gauging themselves as intermediately skilled. The players who described themselves as intermediately skilled seemed to assume the responsibility of teaching the beginners how to play. For example, one participant noted that she was one of those players on her team that came in with a lot of skill, but that she helped her new teammates as much as she could so the whole team could do better. This peer modeling is a popular and effective way for players to gain self-confidence in performing tasks. The teams in this league were formed based on skill level, where players were
evaluated preseason and placed on equally skill balanced teams. This procedure could be important for league coordinators to adopt, if the goal is to have a developmentally focused youth sport programs.

**Limitations**

Several limitations of the study limit interpretation of the possible findings. For example, the study relies solely on self-selected, PA participant’s individual experiences at one point in time. Volunteer bias—the bias that comes from the fact that a particular sample can contain only those participants who are actually willing to participate in the study or experiment (Heiman, 2001) is of concern, but every effort was made to engage all volleyball players to participate. Recall bias may also pose a problem in participants, however, these follow up interviews were conducted within the two months following the original surveys.

The use of convenience sampling limits the generalizability of the study findings to other populations of recreational sport participants; however the results may be useful for all-female recreational sports leagues. The study was a good representation of the organization’s participants, however some minority groups (i.e., Hispanic, Asian and mixed race) were under-represented. Future research should focus on recruitment strategies within these underrepresented populations in order to provide a true understanding of the self-efficacy, motivation and HRQoL phenomenon of young female recreational sport participants.

**Summary, Conclusion, and Implications for Future Research**

Self-efficacy and motivation are important aspects of programming for PA programs, especially those targeting young females. Since PA has the ability to impact
overall HRQoL during youth and into adulthood, it is critical to examine the reasons why girls continue to participate in PA programs. Some reasons for continued participation described by this sample include the ease of learning the skills of the sport, the fun of playing the sport, the opportunity to network with new and old friends and the added bonus of keeping physically active. Girls identified parental involvement and knowledgeable coaches as extrinsic motivators. This provides an opportunity for league administrators of youth recreational programs an area to improve for their participants, since it is one they cannot directly control themselves. One opportunity to improve the athletic triangle is to invite coaches to participate in workshops to improve coach efficacy and parents to participate in clinics that could offer best practices for providing healthy forms of motivation for their child. Administrators should also consider following a model of peer mentoring for their program participants. This will provide the opportunity for reciprocal developmental growth for both the novice and advanced participants. Future research could explore the areas on the attitudes about winning a losing. More specifically, it should look at the source of these attitudes and whether it could be derived from parents, coaches, teammates or experience. Furthermore, future qualitative research could be more beneficial if conducted in focus groups and should include a sample of participants of both sexes, who do not play sports in order to make findings of the impact of PA on self-efficacy and motivation more generalizable.
Table 3-1. Themes for factors that affect self-efficacy, motivation and HRQoL in young girls

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CHAPTER 4
USING THE SELF-DETERMINATION THEORY TO UNDERSTAND THE RELATIONSHIP BETWEEN MOTIVATION IN RECREATIONAL SPORT AND HEALTH RELATED QUALITY OF LIFE OF YOUNG FEMALES.

Background
In 2008, Health and Human Services issued PA Guidelines for Americans, paying particular attention to children and adolescents. The guidelines recommend 60 minutes of daily, moderate to vigorous PA with an emphasis on aerobic activity, and muscle and bone building (Centers for Disease Control, 2009). A popular way for children and adolescents to meet the recommended PA guidelines is through participation in organized team sports. The National Council of Youth Sports reported that in the United States alone, it is estimated that about 60.3 million youth 6-to-18 years old participate in agency sponsored sports (National Council of Youth Sports, 2008).

There are a plethora of benefits from team sport participation. The most obvious benefit is the health effect PA has on team sport participants. For example, children who regularly participate in recreational sports throughout the year may gain higher levels of muscular strength and anaerobic power, than their non-physically active counterparts (Hoffman, Kang, Faigenbaum, & Ratamess, 2005). Additionally, there is new research that studied the impact that team sports have on health behaviors of their participants. Bruner & Spink (2011) found evidence for the positive influence of a group-based team building intervention on the PA adherence of youth. They found support for the relationship between team building and work out session attendance in a youth population. This supports the idea that youth who exercise in a team setting, as opposed to exercising on their own, are more likely to adhere to routine PA.
Physical Activity for Girls

Research suggests a decline in PA from childhood into adolescence; a trend that is more prominent in girls (Centers for Disease Control, 2010; Pate et al., 2002). Although the causes of gender-related differences in PA remain unclear, several factors have been suggested which contribute to lower PA levels that are commonly observed in girls, including low self-esteem and body image, lack of motivation, enjoyment, interest or valuation of PA, low athletic competence, and lack of parental and peer support (Camacho-Miñano, LaVoi, & Barr-Anderson, 2011; Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009; Dwyer et al., 2006; Vu, Murrie, Gonzalez, & Jobe, 2006). It is critical to address the issues and identify the gender related differences in PA since its implications have lifelong effects, as youth PA is a major indicator of adult PA (Kjønniksen, Fjørtoft, & Wold, 2009).

Race and family income equally play a role in PA throughout childhood and into adulthood. In comparison to their white counterparts, studies of African American girls found that they experience a steeper drop in PA, report higher levels of physical inactivity in middle adolescence (56% vs. 31%) and are at even greater risk for low levels of PA and engagement in team sports (Kimm et al., 2002; National Center for Youth Statistics, 2012). Additionally, low-income girls tend to participate in team sports at relatively low rates (Quinn, 2004). One explanation of this may be the cost of equipment. Studies do indicate that mothers and fathers purchase more equipment for boys than girls for sport-related activity (Fredricks & Eccles, 2005), and payment of fees has been associated with higher activity levels of boys during a 20-month period (Sallis et al., 1999a). The long-term beneficial consequences of reducing financial barriers to activity during childhood are the development of positive activity-related memories,
which may contribute to greater levels of adult activity participation, especially for women (Thompson et al., 2003).

**Benefits of Sport Involvement**

Early research supports the concept that sports involvement is related to positive youth development. Some of the outcomes associated with adolescent sports involvement include higher self-esteem and self-efficacy, more intimate and supportive peer relationships, lower rates of sexual activity, enhanced social skills, and greater academic achievement (Eccles & Barber, 1999; Hoffman, Kang, Faigenbaum, & Ratamess, 2005; Larson, 2000; Miller, Sabo, Farrell, Barnes, & Melnick, 1998; Patrick et al., 1999; Pedersen & Seidman, 2004; Richman & Shaffer, 2006; J. Williams, Wake, Hesketh, Maher, & Waters, 2005). Delisle et al., (2010) suggested that adolescents participating in increased levels of PA—especially team sports—would be less likely to engage in health risk behaviors and more likely to engage in health promoting behaviors, demonstrating that adolescents who engaged in high levels of vigorous PA, via team sports, were using less marijuana, had a healthier dietary intake, greater stress management skills, and healthier sleep patterns than those engaged in low or no PA.

This wide array of health topics can all be placed under one umbrella: Health Related Quality of Life (HRQoL). HRQoL is defined as the physical, psychological, and social domains of health, influenced by personal experience, beliefs, preferences, and expectations (Testa & Simonson, 1996) and is acknowledged as an essential health outcome measure in clinical trials and health services research and evaluation. The benefits of sport related PA are tremendous and have the ability to impact HRQoL at multiple levels, but still a large segment of youth choose not to participate in team sports. These barriers to participation and reasons for abandoning team sports have
been previously studied. However there is a gap in the literature that fails to examine the reasons why youth who are current participants choose to remain active team sport participants. Some preliminary research has identified reasons for considering motivation as a possible intermediate of the PA and HRQOL relationship.

The concept of motivation as a vehicle to youth PA participation has been studied at length over the years, with results mostly indicating peer relationship having some impact on participation. Salvy et al. (2009) investigated how the presence of peers and friends impact youth's motivation to be physically active and their actual activity levels. They found that the presence of a friend increased overweight and non-overweight youth's motivation to be physically active as well as the amount of time spent participating in PA. Stunz and Weiss (2009) found that participants measure of success—and continued motivation in sport—was greater when factors such as having meaningful friendships, being accepted by a peer group, and receiving praise from a coach (alongside learning, mastery, and improvement). These factors predicted greater perceived physical competence, enjoyment, and preference for optimally challenging tasks. These predictors are linked to highly autonomous behaviors, where participants are taking part in the PA because of their own choosing. Ultimately, this means the individual is highly motivated to participate in PA because of those predictors. Ullrich-French and Smith (2006) found that having two or more relatively positive relationships (i.e., with parent, peer or coach) corresponded with more optimal motivational outcomes. The follow up study in 2009 confirmed previous findings from the three-way interaction between perceived peer acceptance, friendship quality, and mother relationship quality. Interestingly, they also found that when perceived mother
relationship was low, probability of continuation was low except when both peer acceptance and friendship quality were high (Ullrich-French & Smith, 2009), adding yet another dimension to the complicated area of youth motivation to participate in PA, but more specifically team sport participation.

If PA has a proven impact on HRQoL, then motivation to participate in a sport plays a critical role in achieving levels of PA needed to impact HRQoL. The Self-Determination Theory is a popular framework that will help explore the role of motivation for young female PA participants.

**Self-Determination Theory**

Self-Determination Theory (SDT), developed by Deci and Ryan, represents a broad framework for the study of human motivation and personality (Deci & Ryan, 1985). Perhaps more importantly SDT focuses on how social and cultural factors facilitate or undermine people’s sense of autonomy —volition and initiative—in addition to their well-being and the quality of their performance (Deci & Ryan, 1985; Deci & Ryan, 2000; Deci & Ryan, 2012). SDT differentiates types of behavioral regulation in terms of the degree to which they represent autonomous or self-determined (versus controlled) functioning. Intrinsic motivation is the driving force behind autonomous activity; when people are intrinsically motivated, they are by definition self-determined. Extrinsically motivated activity, in contrast, is often more controlled (i.e., less autonomous) (Deci & Ryan, 2012; Levesque et al., 2007; Ryan & Patrick, 2009).

Formally, SDT comprises five mini-theories, each of which was developed to explain a set of motivationally based phenomena. Those theories are: Cognitive Evaluation Theory (CET), Organismic Integration Theory (OIT), Causality Orientations Theory, Basic Psychological Needs Theory, and Goal Contents Theory (GCT) (Ryan &
Patrick, 2009). A combination of three mini-theories will be used for this study: CET, OIT and GCT. The remaining theories are outside of the scope of this study.

In CET, intrinsic motivation is emphasized. The general idea behind intrinsic motivation is that there is some reason that motivates a person to participate in an activity. Typically these reasons include the idea that participation in the particular activity is enjoyable, challenging and interesting to the individual (Frederick & Ryan, 1995). CET is a social psychology of intrinsic motivation; it is not concerned with what causes intrinsic motivation, but rather the conditions that facilitate intrinsic motivation versus those that diminish or undermine it (Ryan & Patrick, 2009). The theory argues that events perceived to negatively impact a person’s experience of autonomy (i.e., drills at practice are too challenging, leaving room for low success rate) will diminish intrinsic motivation, where as events that support feelings of autonomy (i.e., practices that involve all players, regardless of skill level) will enhance it. The concepts of integration (i.e., identifying one’s self as a participant of PA) and identified regulation (i.e., accepting the value of participation in sport as personally important) are considered relatively autonomous (Deci & Ryan, 2000).

OIT addresses the topic of extrinsic motivation in its various forms, with their properties, determinants, and consequences (Deci & Ryan, 2000). Broadly speaking, extrinsic motivation is behavior that aims toward outcomes outside of the behavior itself (i.e., participation to improve health/looks, stay in shape or impress a friend). Extrinsically motivated activity is often more controlled by something or someone other than the participant (i.e., less autonomous). However, SDT differentiates types of extrinsic motivation in terms of the degree to which it has been internalized, suggesting
that the more fully it is internalized and integrated within one’s self, the more it will be
the basis for autonomous behavior. (Ryan & Patrick, 2009). External regulation (i.e.,
rewards or punishments for performance) and introjected regulation (i.e., behaviors that
make an individual feel better about their self-worth or to avoid disapproval from
someone) are considered to be at the “controlled” end of the extrinsic motivation
spectrum.

The final mini-theory—GCT—grows out of the distinctions between intrinsic and
extrinsic goals and their impact on motivation and wellness. Extrinsic goals such as
financial success, appearance, and popularity/fame have been specifically contrasted
with intrinsic goals such as community, close relationships, and personal growth, with
the latter more likely associated with greater wellness and greater well-being (Deci &
Ryan, 2000). The researcher will use the concepts of this mini-theory to help guide the
questions for the interview process, in order to get a better understanding of specific
intrinsic and extrinsic motivational factors and how those factors impact HRQoL.

SDT has helped make great empirical strides in the area of motivation and sport
participation. Pelletier, Fortier, Vallerand, & Briere (2001) found that elite swimmers who
were more autonomously motivated persisted at their sport longer than those who were
more controlled in their motivation. This indicates the need for DYS programs to
address motivations of its participants, so that they can achieve autonomy. Additionally,
research has shown how autonomy has the power to guide behavior mindset well into
adulthood. For example, autonomous motivation (as well as perceived competence) in
both German and American college students positively predicted their well-
being(Levesque et al., 2007). Furthermore, there are outcomes specifically related to
HRQoL. Studies have shown that when people are more autonomously motivated for changing their health-risk behaviors (i.e., stopping smoking, adopting a healthier diet, exercising more regularly) they are more successful in changing such behaviors and maintaining those changes over time (Deci & Ryan, 2012).

These concepts imply that motivation and self-efficacy together could impact participation in PA, thereby affecting overall HRQoL in the participant.

**Purpose**

There is a gap in the literature when it comes to HRQoL of healthy children and factors that influence health status. There are factors such as motivation and self-efficacy to participate in PA, which may play a large part in overall physical health of young children. An even larger gap exists when the child population is narrowed down to only females. The purpose of this study is to close the gap by exploring factors and determinants of young female athlete participation in structured PA. By exploring participant extrinsic and intrinsic motivations and self-efficacy programming for all-female sports leagues can address a wide variety of program participant needs, so that it impacts participant HRQoL.

This study seeks to provide evidence that may explain the following research questions (RQ):

**RQ1**: Is there a relationship between motivational factors (autonomy) and self-reported HRQoL of physically active young females?

**RQ2**: Which construct of the Self Determination Theory (external regulation, introjected regulation, identified regulation, intrinsic motivation or amotivation) is a better predictor of HRQoL among young female athletes?
Methods

Site
The research took place at an all-female organization in North Central Florida. The organization serves approximately 650 girls annually through three programs: after school, athletics and summer day camp. The study consists mostly of the athletics program participants who play volleyball, although there was some cross-over with girls who participate in two (n= 54) or all three programs (n= 22). For the purposes of this research, volleyball players are referred to as PA participants. An all-female site was selected to help close the gap indicated previously in the literature review. Additionally, an athletics program was selected to target physically active girls who already might be meeting the CDC’s PA guidelines of 60 minutes of moderate to vigorous daily PA. The athletics program has been well established in the community as a prestigious facility for all-girl, recreational sports programs. Over that last 15 years, the organization has served over 10,000 area girls athletic needs.

Sample
Research participants were recruited from the largest program within the organization, the volleyball program. In the spring 2011 volleyball season 237 participants were given information about taking part in the study. Of this convenience sample, 167 girls (70% response rate) ages 8-17 submitted parental consent and verbally assented to participation in the study. An almost even representation of elementary (n= 78, 46.7%) and middle school girls (n=74, 44.3%) participated in the study. A small number of high school girls (n=15, 9%) also participated in the study. The majority of participants had played volleyball at the organization for over a year (n= 80,
47.9%) and described themselves as having intermediate skill level (n= 95, 56.9%) of playing the sport.

**Procedures**

A cross-sectional, descriptive research design was used. The University of Florida’s Institutional Review Board and the organization’s board of directors granted the researcher permission prior to the start of the study. Surveys were administered to convenience samples of girls who gave verbal assent, were present at practice on the data collection day, and had submitted parental consent. Proctors were present to help any child who could not read or understand questions in the surveys.

It was emphasized to the participants that: (a) there were no right or wrong responses to any of the items, (b) their parents or coaches would not see their responses in order to elicit honest responses about their own perceptions of their PA experience, and (c) the data (i.e., completed questionnaires) would be treated in strictest confidence and remain locked in a filing cabinet at the host university. Participants also had the option to withdraw from the study at any time without negative repercussions. To this end, no student refused to participate, nor did any withdraw from the study. The questionnaire took approximately 30 minutes to complete, after which the students were thanked for their cooperation. All participants were given a unique identifier, as to ensure confidentiality.

**Variables**

The independent variables included motivation (i.e., to participate in PA or to participate in volleyball itself as a form of PA), and other demographical data including lunch status, race, length of time participated in recreational programming, reported skill level. The dependent variable was HRQoL.
Instrumentation

Since combinations of constructs in different theories were utilized for this study, two instruments were needed to conduct this study: Pediatric Quality of Life Inventory (PedsQL), and the Self-Regulation Questionnaire – Sport Specific. A survey booklet was developed using a compilation of items selected from pre-established surveys. All surveys have been used with similar populations and were found to be valid and reliable with youth populations with cronbach’s alpha scores of (.88 (PedsQL), .73 (SRQ-E), AND .88 (SEQ-C). Internal consistency across these two scales was also measured and found the 50-item scale to have good internal consistency with a cronbach’s alpha score of .84. A brief description and rational for selection of the instrumentation follows.

PedsQL

To determine participant HRQoL, the PedsQL Inventory was used. Varni developed this modular approach to measuring HRQoL in healthy children and adolescents and those with acute and chronic health conditions (Varni, Seid, & Rode, 1999). Multiple researchers found this instrument to be valid and reliable for child self-assessment of HRQoL (Amiri et al., 2012; Carle, Dewitt, & Seid, 2011; S. E. Davis et al., 2010; Seid et al., 2010; Varni, Limbers, & Burwinkle, 2007). In Varni’s 1999 study, the four PedsQL 4.0 Generic Core Scales (Physical, Emotional, Social, School) were administered to 963 children and 1,629 parents (1,677 subjects accrued overall) recruited from pediatric health care settings. Item-level and scale-level measurement properties were computed. Internal consistency reliability for the Total Scale Score ($\alpha = 0.88$ child, 0.90 parent report), Physical Health Summary Score ($\alpha = 0.80$ child, 0.88 parent), and Psychosocial Health Summary Score ($\alpha = 0.83$ child, 0.86 parent) were
acceptable for group comparisons. Validity was demonstrated using the known-groups method, correlations with indicators of morbidity and illness burden, and factor analysis.

In this instrument, participants read statements about their health (i.e., It’s hard for me to run; I have trouble getting along with other kids, etc.) and respond to the statement using the likert scale to determine how much they agree with the statement (i.e., 0= never, 1= almost never, 2= sometimes 3= often and 4= almost always). This scale has been used in other published research because of its accessibility, readability and ability to expand its questions to children from ages 2-18. Although it is not used in this study—because is it outside of the scope of the research questions—another unique component of this instrument is the parent proxy instrument that was developed for parental assessment of their child’s HRQoL. In the child self-assessment instrument of HRQoL, questions are broken up into four subscales of functioning: physical, emotional, social and school. These scales are then scored into three separate categories: physical health summary, psychosocial health summary and total health summary. The items are reversed scored, where higher scores indicate better HRQoL (Varni, Seid, & Rode, 1999). For the purposes of this research, these scores were then assigned a number to correspond with level of HRQoL. Scores between 0-10 were assigned the number 4 and categorized as a participant with “very poor HRQoL”, scores of 11-25 were assigned the number 3 and indicated “poor HRQoL”, scores of 26-50 were assigned the number 2 and indicated that “HRQoL needed improvement”, scores of 51-75 were assigned the number 3 and reflected “good HRQoL”, and finally scores from 76-100 were assigned a 4 and those participants were deemed to have “very good HRQoL”. The categorization of the scores allowed the researcher to make
inferences between HRQoL level and self-efficacy/ motivation. The PedsQL Measurement Model used for this research design was the basic generic core scale, since the purpose of this research is to determine general HRQOL of healthy participants and not HRQOL for a specific disease or condition.

**SRQ-E**

The SRQ-E questionnaires, developed by Deci & Ryan, assess domain-specific individual differences in the types of motivation or self-regulation (Levesque et al., 2007). That is, the questions concern the regulation of a particular behavior (e.g., exercising regularly) or class of behaviors (e.g., engaging in team sport activities). This scale has frequently been used to have participants assess their reasons for exercising or playing a sport. Other researchers have noted its consistency and validity in PA motivation (Puente & Anshel, 2010; Saebu & Sørensen, 2010; Silva et al., 2010).

Validation of the scale—conducted recently by Levesque in 2007 to find if the scale was suitable for use across sites and health behaviors (tobacco use, diet and exercise) — was obtained from four different geographical sites with a total of 2731 participants completing the SRQ. Invariance analyses supported the validity of the SRQ across all four sites and all three health behaviors. Overall, the internal consistency of each subscale was acceptable (most a values >0.73) (Levesque et al., 2007). The scale has also been used to help identify sedentary behaviors and barriers to PA for children and minority girls, making this scale a suitable choice to help determine young female motivation to participate in exercise or specific sport (Spruijt-Metz, Nguyen-Michel, Goran, Chou, & Huang, 2008; Wang, Chia, Quek, & Liu, 2006) . The format for these questionnaires was introduced by Ryan and Connell in 1989. Each questionnaire asks why the participant does a behavior (or class of behaviors) and then provides several
possible reasons that have been preselected to represent the different styles of regulation or motivation. For example, on the questionnaire for motivation for volleyball, the main question is “Why do you practice volleyball?”. The respondent has a follow-up question with a Likert scale to offer their feedback (i.e., “I would feel bad about myself if I was not taking time to play volleyball”; the answer options are on a seven point Likert scale with not at all true, somewhat true and very true at the beginning, middle and end.) It is structured so that it asks one question and provides responses that represent amotivation, external regulation, introjected regulation (taking in a regulation but not accepting it as one’s own), identified regulation (accepting the value of the activity as personally important), and intrinsic motivation (based on the satisfactions of behaving “for its own sake.”) (Ryan & Patrick, 2009). The amotivation subscale measures not being motivated; The remaining four subscales combined help determine the degree to which one feels autonomous with respect to engaging in PA. The more internalized the extrinsic motivation, the more autonomous the person will be when enacting the behaviors (R. M. Ryan & Deci, 2000). In that sense, having “autonomy” and being “motivated” to engage in PA can be considered synonymous with one another.

Scoring the SRQ-E can be done in two different ways: finding one of the five subscale scores (external regulation, introjected regulation, identified regulation, intrinsic motivation or amotivation) or by finding the Relative Autonomy Index (RAI). The amotivation subscale is not used in RAI, because the RAI concerns the degree to which one’s motivation is self-determined, and the amotivation subscale measures not being motivated. To form the RAI, the external subscale is weighted -2, the introjected subscale is weighted -1, the identified subscale is weighted +1, and the intrinsic
subscale is weighted +2. In other words, the controlled subscales are weighted negatively, and the autonomous subscales are weighted positively. The more controlled the regulatory style represented by a subscale, the larger its negative weight; and the more autonomous the regulatory style represented by a subscale, the larger its positive weight (Deci & Ryan, 2012). The formula used to calculate RAI is:

\[
2 \times \text{Intrinsic} + \text{Identified} - \text{Introjected} - 2 \times \text{External}
\]

(R. M. Ryan & Patrick, 2009)

**Data Analysis**

Data were imported into Statistical Package for the Social Sciences (SPSS) version 20.0 for analyses. Blank items were coded as “.” to represent missing data. Items where the marking was unclear were coded as “9” to represent unknown data. Children’s responses were high for the survey with less than 10% of missing data on all items, therefore listwise deletion method was employed to analyze complete cases. A significance value of \( \alpha = 0.05 \) was set for analyses in this study. Descriptive statistics were calculated for all independent variables and determined frequencies, measures of central tendency (mean, median), and spread (standard deviation) of the surveyed population. Finally, standard multiple regression, and their respective assumptions testing (sample size, multicollinearity and singularity, outliers, normality, linearity, homoscedasticity and independence of residuals) were performed to assess associations between Self Determination Theory Subscales (external regulation, introjected regulation, identified regulation, intrinsic motivation or amotivation) and HRQoL (Pallant, 2010).
Results

This group was made up of 167 participants. An almost even representation of elementary (n= 78, 46.7%) and middle school girls (n=74, 44.3%) participated in the study. A small number of high school girls (n=15, 9.0%) also participated in the study. The majority of participants had played volleyball at the organization for over a year (n= 80, 47.9%) and described themselves as having intermediate skill level (n= 95, 56.9%) of playing the sport. Comparable to the demographics of the county in which the organization operates, 61% of the all-female sample was white, while 29.5 % described themselves as black or mixed race. Surprisingly, a large number of participants did not know their lunch status (n= 83, 49.7%), while the next largest part of the sample reported paying regular prices for lunch (n= 50, 29.9%) and a smaller portion on the sample reported paying free/ or reduced fees for lunch (n= 33, 19.8%). The majority of the participants had some experience playing volleyball (n= 114, 68.3%), while this was the first season playing volleyball for some (n= 51, 30.5%). The mean HRQoL score for this sample was 88.26, indicating a good HRQoL level for female PA participants.

Table 4-1 shows the mean, min and max scores, and standard deviation for each SDT subscale. The mean score for relative autonomy in motivation to participate in PA was 4.05 with a standard deviation of 4.84 and a range from -12 to 18. The mean scores across all autonomous subscales were positive and higher than their non-autonomous counter parts, indicating some extent of general autonomy for this sample.

Multiple regression was used to determine if a relationship existed between HRQoL, SDT subscales and other demographical data. The relationship between perceived HRQoL (as measured by the PedsQL Inventory) and perceived relative autonomy (as measured by the SRQ-E relative autonomy index) was investigated using
Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a moderate, positive correlation between the two variables, $r=0.31$, $p<0.0005$, with high levels of perceived autonomy associated with high levels of HRQoL. Additionally, moderate correlation was also found with the intrinsic motivation subscale and HRQoL, $r=0.31$, $p<0.0005$, with high levels of perceived intrinsic motivation correlated with high levels of HRQoL. These were the only two variables to make significant contributions to predicting HRQoL. Though not significant with HRQoL, a number of observations can be made with the other correlations between the continuous variables. It should be noted that relative autonomy was moderately, positively correlated with intrinsic motivation ($r=0.54$) and identified regulation ($r=0.20$) and strongly, negatively correlated with introjected regulation ($r=-0.54$), external regulation ($r=-0.670$) and amotivation ($r=-0.075$), just as the literature suggested. All subscales were significantly correlated to one another, with the exception of amotivation which was not significantly correlated to any other SDT subscale.

After running a multiple regression analysis on demographical data, only grade level ($r=0.21$, $p=0.004$) and skill level ($r=0.162$, $p=0.0035$) were found to have significant, unique contributions to the prediction of HRQoL. The total variance explained by the model as a whole was 19%, $F(5, 161) = 7.56$, $p<0.001$ (Pallant, 2010).

**Discussion**

This study sought to find out if there was a relationship between perceived motivational factors (autonomy) and perceived HRQoL in young female recreational sport participants. It found a moderate, positive association between good HRQoL and high levels of autonomy. This information is provides evidence for how motivation to
participate in PA has a relationship with participant HRQoL. These findings are important for practitioners planning Developmentally focused Youth Sports programs (DYS). These programs teach sport and life skills concurrently, using sport as a medium for providing youth with opportunities for psychological, emotional, social, and intellectual growth (Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009). Using DYS in the development and implementation of programming, will help achieve good HRQoL for its participants. Hartwig and Meyers (2003) observed that the real strength as well as popularity of these approaches lies in their ability to address both healthy and unhealthy behaviors while simultaneously empowering clients to build upon their own strengths and develop in positive ways (Watson & Lemon, 2011).

When looking into the relationship between HRQoL and specific subscales of the SDT, intrinsic motivation was the best predictor of HRQoL, as it was the only subscale to make a significant, unique contribution ($r=.309$, $p<.0005$). Other subscales followed the norm, where the controlled subscales were weighted negatively, and the autonomous subscales are weighted positively. The more controlled the regulatory style represented by a subscale, the larger its negative weight; and the more autonomous the regulatory style represented by a subscale, the larger its positive weight (Deci & Ryan, 2012). The controlled subscales (external ($r=-.106$) regulation and interjected ($r=-.088$) regulation) had a negative correlation, meaning that decreased HRQoL means an increase in external and interjected regulation. The more autonomous subscales (intrinsic ($r=.309^*$) motivation and identified ($r=.127$) regulation) had a positive correlation, meaning that increased levels of HRQoL means increased levels of autonomy.
Limitations

There were several limitations to this study. First, data collected from this cross-sectional study reflects responses from participants at a specific point in time. It will not follow respondents longitudinally to view personally normative behaviors and therefore direct causation cannot be established. Additionally, selection bias could have occurred with the population of interest, because it was a convenience sample of young females at an organization familiar to the researcher. Because of this, generalizing is a major limitation of this study. Though the researcher feels confident that this study can be replicated in many all-female, youth athletic programs throughout the country, the results may not be the same for every community. This organization is different in that it belongs to a very large network of collaborating nonprofit organizations. Communities wishing to replicate this design, might not get the same results if they lack the resources needed to collaborate with other nonprofit agencies.

It is suggested that a longitudinal study of the population be observed for direct causation. If possible, it would also be ideal to survey a similar sample of non-physically active female youth as a control group for a more experimental design. Additionally, further groups of comparison might include an all-male population, a broader variety of sports, and different levels of play (i.e., recreational versus competitive sports). Finally, the specific reasons behind lack—or excess of—self-efficacy and motivation need to be explored further to fully understand from the participant point of view what drives or deters them from participating in PA, especially team sports. Interviews and focus groups with players, parents and coaches could help investigate this issue further.
Summary, Conclusion, and Implications for Future Research

The study found significant correlations to HRQoL with intrinsic motivation, relative autonomy, grade level and skill level of females in a recreational sports league. It provides evidence to the idea that motivation to participate in PA can impact participant HRQoL. Though not significant, the study also found that controlled subscales of autonomy (external regulation and introjected regulation) were negatively correlated, while more autonomous scales (intrinsic motivation and identified regulation) were positively correlated with HRQoL. Of all the subscales, intrinsic motivation is the best predictor of HRQoL, as it was the only subscale to make a unique, significant contribution. This information is important to those practitioners planning Developmentally focused Youth Sports programs (DYS). Using DYS in the development and implementation of programming, will help achieve good HRQoL for its participants. In this particular instance, league administrators can address the issues surrounding intrinsic (i.e., participation in the particular activity is enjoyable, challenging and interesting to the individual (Frederick & Ryan, 1995) motivation), through way of a focus group or interviews with highly autonomous PA participants. These participants may be able to shed light on what drives them to participate in PA, which can aide in the retention and enjoyment of the sport by its participants. This increased enjoyment and prolonged participation can aide in the HRQoL in young females now and as they get older.

It is suggested that a longitudinal study of the population be observed for direct causation. If possible, it would also be ideal to survey a similar sample of non-physically active female youth as a control group for a more experimental design. Finally, the reasons behind lack or excess of self-efficacy and motivation need to be explored
further to fully understand from the participant point of view what drives or deters them from participating in PA, especially team sports. Interviews and focus groups with players, parents and coaches could help investigate this issue further.
Table 4-1. Mean, min and max scores, and standard deviation for HRQoL and SDT subscales

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Min Score</th>
<th>Max Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRQoL</td>
<td>88.26</td>
<td>9.33</td>
<td>54.29</td>
<td>100.00</td>
</tr>
<tr>
<td>Amotivation</td>
<td>1.54</td>
<td>.92</td>
<td>1.00</td>
<td>5.67</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>4.82</td>
<td>1.40</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Identified</td>
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<td>1.27</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Introjected</td>
<td>3.30</td>
<td>1.48</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>External</td>
<td>3.85</td>
<td>1.71</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Relative</td>
<td>4.05</td>
<td>4.84</td>
<td>-12.00</td>
<td>18.00</td>
</tr>
<tr>
<td>Autonomy</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Table 4-2. Intercorrelations between the continuous variables

<table>
<thead>
<tr>
<th></th>
<th>HRQoL</th>
<th>Intrinsic</th>
<th>Identified</th>
<th>Introjected</th>
<th>External</th>
<th>Amotivation</th>
<th>Relative Autonomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRQoL</td>
<td>1.00</td>
<td>.309</td>
<td>.127*</td>
<td>-.088</td>
<td>-.106</td>
<td>-.162</td>
<td>.314*</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>.309*</td>
<td>1.00</td>
<td>.622</td>
<td>.197*</td>
<td>.209*</td>
<td>.018</td>
<td>.535*</td>
</tr>
<tr>
<td>Identified</td>
<td>.127</td>
<td>.622*</td>
<td>1.00</td>
<td>.410*</td>
<td>.417*</td>
<td>-.041</td>
<td>.204*</td>
</tr>
<tr>
<td>Introjected</td>
<td>-.088</td>
<td>.197*</td>
<td>.410*</td>
<td>1.00</td>
<td>.642*</td>
<td>.142</td>
<td>-.536*</td>
</tr>
<tr>
<td>External</td>
<td>-.106</td>
<td>.209*</td>
<td>.417*</td>
<td>.642*</td>
<td>1.00*</td>
<td>.045</td>
<td>-.670*</td>
</tr>
<tr>
<td>Amotivation</td>
<td>-.162</td>
<td>.018</td>
<td>-.041</td>
<td>.142</td>
<td>.045</td>
<td>1.00</td>
<td>-.075</td>
</tr>
<tr>
<td>Relative Autonomy</td>
<td>.314*</td>
<td>.535*</td>
<td>.204*</td>
<td>-.536*</td>
<td>-.670*</td>
<td>-.075</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (1-tailed).
CHAPTER 5
CONCLUSIONS AND FUTURE RESEARCH IMPLICATIONS

Background and Conclusions

Participation in PA has the ability to impact multiple dimensions of health for youth. Evidence-based data are strong for beneficial effects of PA on physical health including musculoskeletal health, several components of cardiovascular health, adiposity in overweight youth, and blood pressure in mildly hypertensive adolescents (Strong et al., 2005). In the realms of emotional and social health, large cross-sectional studies have suggested PA level being inversely associated with emotional and behavioral problems among young people (Abu-Omar, Rütten, & Lehtinen, 2004; Kirkcaldy, Shephard, & Siefen, 2002; Steptoe & Butler, 1996). It has also been reported that natural change occurring in PA across time during adolescent years is inversely associated with a change in depressive symptoms (Motl, Birnbaum, Kubik, & Dishman, 2004) and that there is a consistent relationship between PA in adolescence and psychological well-being in adulthood (Kantomaa, Tammelin, Ebeling, & Taanila, 2008; Sacker & Cable, 2006).

In addition to creating an immediate impact on youth health, research shows that those who participate in PA in their childhood are more likely to become physically active adults. A couple longitudinal studies found PA from age 9 to 18 significantly predicted adult PA, continuous PA at school age considerably increased the probability of being active in adulthood (Telama et al., 2005), and that childhood PA levels were the best predictor of adult PA levels (Kjønniksen, Fjørtoft, & Wold, 2009). The benefits of exercise would then also follow youth into their adulthood, citing yet another reason for youth to become physically active.
One popular way to get youth active is through participation in organized team sports. The National Council of Youth Sports reported that in the United States alone, it is estimated that about 60.3 million youth 6-to-18 years old participate in agency sponsored sports (National Council of Youth Sports, 2008). Research supports the concept that sports involvement is related to positive youth development. Some of the outcomes associated with adolescent sports involvement include higher self-esteem and self-efficacy, more intimate and supportive peer relationships, lower rates of sexual activity, enhanced social skills, and greater academic achievement (Eccles & Barber, 1999; Hoffman, Kang, Faigenbaum, & Ratamess, 2005; Larson, 2000; Miller, Sabo, Farrell, Barnes, & Melnick, 1998; Patrick et al., 1999; Pedersen & Seidman, 2004; Richman & Shaffer, 2006; J. Williams, Wake, Hesketh, Maher, & Waters, 2005).

These benefits of sport related PA are tremendous and have the ability to impact HRQoL at multiple levels, but still a large segment of youth choose not to participate in team sports. These barriers to participation and reasons for abandoning team sports have been previously studied, and some of those barriers are more unique to female populations. The 2009 Youth Risk Behavior Surveillance System results indicate that only 52.3% of surveyed females participated in an organized sport team in the past 12 months; this number was down 5% from the previous year (U.S. Department of Health and Human Services, 2012). Research suggests the decline in PA from childhood into adolescence is a trend that is more prominent in girls (Centers for Disease Control, 2010; Pate et al., 2002). Although the causes of gender-related differences in PA remain unclear, several factors have been suggested which contribute to lower PA levels that are commonly observed in girls, including low self-esteem and
body image, lack of motivation, enjoyment, interest or valuation of PA, low athletic competence, and lack of parental and peer support (Camacho-Miñano, LaVoi, & Barr-Anderson, 2011; Debate, Pettee Gabriel, Zwald, Huberty, & Zhang, 2009; Dwyer et al., 2006; Vu, Murrie, Gonzalez, & Jobe, 2006). It is critical to address the issues and identify the gender related differences in PA since its implications have lifelong effects.

Race and family income equally also play a role in PA throughout childhood and into adulthood. In comparison to their white counterparts, studies of African American girls found that they experience a steeper drop in PA, report higher levels of physical inactivity in middle adolescence (56% vs. 31%) and are at even greater risk for low levels of PA and engagement in team sports (Kimm et al., 2002; National Center for Youth Statistics, 2012). Additionally, low-income girls tend to participate in team sports at relatively low rates (Quinn, 2004). One explanation of this may be the cost of equipment. Studies do indicate that mothers and fathers purchase more equipment for boys than girls for sport-related activity (Fredricks & Eccles, 2005). The long-term beneficial consequences of reducing financial barriers to activity during childhood are the development of positive activity-related memories, which may contribute to greater levels of adult activity participation, especially for women (A. M. Thompson, Humbert, & Mirwald, 2003).

Some research has explored the idea that self-efficacy and motivation might be intermediates of the PA and HRQoL relationship. Some of the important predictors of self-efficacy to participate in future PA include the social-cognitive constructs, such as self-efficacy in performing the actual task, access to community PA outlets, and positive beliefs regarding PA, are especially important for girls (Debate, Pettee Gabriel, Zwald,
Huberty, & Zhang, 2009; Trost et al., 1997). The concept of motivation as a vehicle to youth PA participation has been studied at length over the years, with results mostly indicating peer relationship having some impact on participation. Ullrich-French and Smith (2006) found that having two or more relatively positive relationships (i.e., with parent, peer or coach) corresponded with more optimal motivational outcomes. The follow up study in 2009 confirmed previous findings from the three-way interaction between perceived peer acceptance, friendship quality, and mother relationship quality.

Though many studies have observed common barriers to PA participation and causes behind sport dropout, very few report reasons for continued participation, especially in female populations. Additionally, HRQoL research frequently is studied in populations of sick fails to examine physically healthy populations. This study sought to address these issues by investigating the relationship between self-efficacy, motivation and HRQoL of young females in a sports league.

**Results**

The mean HRQoL score for this sample was 88.26, indicating a good HRQoL level for female PA participants. The relationship between perceived HRQoL (as measured by the PedsQL Inventory) and perceived self-efficacy (as measured by the SEQ-C) was investigated using Pearson product-moment correlation coefficient. (RQ1) Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a moderate, positive correlation between the two variables, $r=.35$, $p < .0005$, with high levels of perceived self-efficacy associated with high levels of HRQoL. Similar analysis was run to determine motivation to participate in volleyball (autonomy as measured by SRQ-E) and HRQoL (RQ2).

Results found there was a weak, positive correlation between the two variables, $r=.21$,
with high levels of perceived autonomy weakly associated with high levels HRQoL. Between self-efficacy and motivation, the better predictor of HRQoL was self-efficacy (RQ5). After running a multiple regression analysis on demographical data, only grade level ($r = -0.21, p = .004$) and skill level ($r = -.162, p = .035$) were found to have significant, unique contributions to the prediction of HRQoL (RQ4). The total variance explained by the model as a whole was 19%, $F (5, 161) = 7.56, p < .001$.

An ANOVA was run to determine HRQoL differences between grade level (elementary, middle and high school) and skill level (beginner, intermediate, experienced). Results showed that elementary students had the best HRQoL ($M = 89.46, p = .173$), followed by middle school ($M = 87.68, p = .173$), then high school students ($M = 84.90, p = .173$); indicating HRQoL decreased as participants got older. These results, however, were not statistically significant. ANOVA results for skill level proved similar results. Advanced skill participants had the highest HRQoL scores of the group ($M = 90.17, p = .078$), followed by intermediate players ($M = 88.43, p = .078$) then beginners ($M = 85.07, p = .078$); indicating HRQoL increased with skill level. These results, however, were also not statistically significant (RQ4). Effect size (partial $\eta^2$) was also determined using ANOVA in order to estimate the variability of HRQoL that could be attributed to participant grade and skill level (Trusty, Petrocelli, Petrocelli, & Thompson, 2004). Grade level explained 2% ($p = .173$) of variability in HRQoL scores, while skill level explained 4% ($p = .078$) of variability. In Cohen’s terms, these both would be considered a small effect size, and were also statically insignificant (Pallant, 2010).

The relationship between perceived HRQoL (as measured by the PedsQL Inventory) and perceived relative autonomy (as measured by the SRQ-E relative
autonomy index) was investigated using Pearson product-moment correlation coefficient. Preliminary analyses were performed to ensure no violation of the assumptions of normality, linearity and homoscedasticity. There was a moderate, positive correlation between the two variables, $r = .31$, $p < .0005$, with high levels of perceived autonomy associated with high levels of HRQoL. Additionally, moderate correlation was also found with the intrinsic motivation subscale and HRQoL, $r = .31$, $p < .0005$, with high levels of perceived intrinsic motivation correlated with high levels of HRQoL (RQ3). These were the only two variables to make significant contributions to predicting HRQoL. Though not significant with HRQoL, a number of observations can be made with the other correlations between the continuous variables. It should be noted that relative autonomy was moderately, positively correlated with intrinsic motivation ($r = .54$) and identified regulation ($r = .20$) and strongly, negatively correlated with introjected regulation ($r = -.54$), external regulation ($r = -.670$) and amotivation ($r = -.075$), just as the literature suggested. All subscales were significantly correlated to one another, with the exception of amotivation which was not significantly correlated to any other SDT subscale.

The six factor-related themes that emerged from the 21 participant interviews provide data about exercise outside of volleyball, coping with stressful situations, network of friends, extrinsic motivators, intrinsic motivators, and self-efficacy through leadership and experience. The corresponding sub-themes provide an in depth analysis of the unique experiences of participants and provide valuable information about where interventions should be focused.
The majority of girls in the sample (95%) reported some sense of belonging within their groups at school and their teammates. Findings within the “athletic triangle” (Smith, Smoll, Smith, 1989) were insightful (RQ6). Girls who told stories of positive parental support seemed oblivious of the impact it had on their self-efficacy or motivation to participate in sports. However, girls who told stories of unsupportive parents demonstrated a sudden shift in attitude and facial expression when asked the question about parental support. It became evident to the researcher that although the girls might not understand or appreciate parental support at this time in their lives, it’s evident that a lack of parental support plays a clear role in these girls’ behavior, motivation and work ethic.

Continuing around the athletic triangle, girls shared the important qualities of coaches. The most frequent response included that coaches needed experience playing and coaching volleyball in order to be an effective coach. According to participants, coaches were responsible for modeling behavior and skills and also were responsible for demonstrating best practices of advanced volleyball players.

A side effect of the idea that “winning is everything” was evident through the concept of a few participants getting financial compensation from a family member for some measure of success during their volleyball games. Though very little research exists in the area of monetary compensation for youth sport participants, it seemed that the general act of paying a child to perform a task negated some of the positive effects of youth sport participation and could impact long term PA participation (RQ8).

When participants were asked to consider all of the reasons they personally play volleyball their responses mostly stated that they play because the sport is fun and the
environment in which they learn the sport is fun. Additionally, they mentioned the opportunity to make new friends and spend more time with old friends as another added bonus of sport participation. A few participants noted the ease of the sport and how it provided the opportunity to stay in shape. A couple participants discussed the future. They mentioned scholarships for college and how they enjoyed participating because it gave them a more rounded resume when applying for college (RQ8).

Meaningful moments responses generated a consensus (n= 20, 95%) amongst participants where meaningful moments were created by one specific event (i.e., missing an important serve) versus winning/losing an entire game. This speaks to the participants ability to look at the bigger picture and apply what they have learned in the gymnasium to non-sport related, everyday experiences (RQ8).

A majority of respondents (n= 18, 86%) stated that they were confident they had the skill level to play for a more advanced team. Their confidence stemmed from having friends who played at a more competitive level and from their own experience in playing volleyball. Additionally, most respondents (n= 15, 71%) were modest in their self-appraisal, gauging themselves as intermediately skilled. The players who described themselves as intermediately skilled seemed to assume the responsibility of teaching the beginners how to play (RQ 6,7).

**Implications of this Research**

Participation in PA as a child, makes it more likely for that child to continue participating in PA as an adult. It is critical to find the reasons why children participate in PA so that these concepts can be built into programs—such as developmentally focused youth sport programs—that can address total wellness of the participant. The need for DYS programs is critical. These programs teach sport and life skills
concurrently, using sport as a medium for providing youth with opportunities for psychological, emotional, social, and intellectual growth. Using DYS in the development and implementation of programming will help achieve good HRQoL during youth for its participants, which can lead to good HRQoL in adulthood.

The identification of self-efficacy and motivation as vehicles to participate in PA for females will allow program administrators an opportunity to address the recruitment and retention of this population. These findings can help stop or reverse the trend of girls that do not participate in any form of PA. It also allows parents and coaches the opportunity to address problems as they arise, so they can act as an additional level of protection from PA burnout.

Nurturing the “athletic-triangle” of player, parent and coach is critical for many reasons. First, it is essential to be able to identify the part if the triangle that needs intervening. For example, if players are reporting a lack of support or encouragement from the coaches, the league administrator can coordinate training or clinics to address these concerns. Also, it’s important to understand that players, parents and coaches all have important roles in the success of the athlete. Players need parents for tangible support (i.e., paying for fees and equipment, coming to and supporting kids during games and practices, and for transportation to these events), while coaches need both parents and children to work together (i.e., parents getting kids to practice on time, kids and parents being receptive to constructive criticism during practices and games) in order for their coaching skills to be utilized to the fullest.

Implications for Future Research

It is suggested that a longitudinal study of the population be observed for direct causation. If possible, it would also be ideal to survey a similar sample of non-physically
active female youth as a control group for a more experimental design. Finally, the reasons behind lack or excess of self-efficacy and motivation need to be explored further to fully understand from the participant point of view what drives or deters them from participating in PA, especially team sports. Interviews and focus groups with players, parents and coaches could help investigate this issue further. Focus groups made up of parents and coaches could help explore other issues surrounding motivation and self-efficacy, in order to address the “athletic triangle” as a whole.

Future qualitative research could explore the areas on the attitudes about winning and losing. More specifically, it should look at the source of these attitudes and whether it could be derived from parents, coaches, teammates or experience. Furthermore, future qualitative research could be more beneficial if conducted in focus groups and should include a sample of participants of both sexes, who do not play sports in order to make findings of the impact of PA on self-efficacy and motivation more generalizable.
Figure 5-1. Lunch Status- Income Eligibility Guidelines (U.S. Department of Education, 2011)

Figure 5-2. Conceptual hypothesis
Figure 5-3. Social Cognitive Theory Conceptual Model (Bandura & Schunk, 1981)

Figure 5-4. Self Determination Theory Continuum
Dear Parent/Guardian,

I am a graduate student in the Department of Health Education and Behavior at the University of Florida, conducting research on health related quality of life of young female athletes under the supervision of Dr. Christine Stopka. The purpose of this study is to determine factors that contribute to health related quality of life for female athletes compared to non athletes. The results of the study may help Girls Place and other all-female nonprofit organizations provide insight to practices that aide in health related quality of life. These results may not directly help your child today, but may benefit future students. With your permission, I would like to ask your child to volunteer for this research.

The girls will be asked to fill out a 23-item survey on health related quality of life but, they will not have to answer any question they do not wish to answer. The survey should take approximately 20 minutes and will take place during one of their regularly scheduled volleyball practices, or if they are in the after school program, after homework time one day in May. For those children who are interested, there is an additional option to take part in a 15-30 minute interview to discuss some of their responses on the survey. With your permission, your child will be videotaped during the interview. The video will be accessible only to the research team for verification purposes. At the end of the study, the tape will be erased. Instead of using names on the surveys, we will use unique code numbers for each child, which will be kept confidential. Results will only be reported in the form of group data. Participation or non-participation in this study will not affect the children’s placement in any programs.

You and your child have the right to withdraw consent for your child's participation at any time without consequence. There are no known risks or immediate benefits to the participants. No compensation is offered for participation. Group results of this study will be available in August upon request. If you have any questions about this research protocol, please contact me at 352-294-1817 or my faculty supervisor, Dr. Christine Stopka, at 392-294-1814. Questions or concerns about your child's rights as research participant may be directed to the IRB02 office, University of Florida, Box 112250, Gainesville, FL 32611, (352) 392-0433.

Taryn Rivera Buckley, M.S., CHES
I have read the procedure described above. I voluntarily give my consent for my child, _______________, to participate in Taryn Rivera Buckley’s study of health related quality of life of young female athletes. I have received a copy of this description.

_________________________ ____________
Parent / Guardian Date

_________________________ ____________
2nd Parent / Witness Date
APPENDIX B
ASSENT SCRIPTS

Assent scripts for Children

Hello [child’s name]. My name is Taryn Buckley and I am a student at the University of Florida. I am trying to learn about the health of female athletes. I will be working with several students in the Girls Place volleyball and after school program. If you decide to participate, you will be asked to answer some questions about your feelings and emotions and health related activities. The survey should take about 20 minutes to complete. There are no known risks to participation, and most students actually enjoy the tests. You do not have to be in this study if you don’t want to and you can quit the study at any time. Other than the researchers, no one will know your answers, including your counselors, teammates or other Girls Place girls. If you don’t like a question, you don’t have to answer it and, if you ask, your answers will not be used in the study. I also want you to know that whatever you decide, this will not affect your team. Your [parent / guardian] said it would be OK for you to participate. Would you be willing to participate in this study?
APPENDIX C
CONSENT FORM FOR INTERVIEWS

Protocol Title: Assessing health related quality of life in young female athletes

Please read this consent document carefully before you decide to participate in this study.

Purpose of the research: To describe factors that contribute to health related quality of life for female athletes compared to non athletes.

What you will do in this research: If you decide to volunteer, you will be asked to participate in one interview. You will be asked several questions. Some of them will be about health related quality of life. With your permission, I will tape record the interviews so I don't have to make so many notes. You will be asked to state a pseudonym instead of your real name on the recording.

Time required: The interview will take approximately 30 minutes-1 hour.

Risks: No risks are anticipated.

Benefits: This is a chance for you to tell your story about your experiences concerning health related quality of life.

Compensation: No compensation is offered for participation.

Confidentiality: Your responses to interview questions will be kept confidential. At no time will your actual identity be revealed. You will be assigned a random numerical code. Anyone who helps me transcribe responses will only know you by this code. The recording will be destroyed when my dissertation has been accepted. The transcript, without your name, will be kept until the research is complete.

The key code linking your name with your number will be kept in a locked file cabinet in a locked office, and no one else will have access to it. It will be destroyed. The data you give me will be used for my dissertation and may be used as the basis for articles or presentations in the future. I won't use your name or information that would identify you in any publications or presentations.

Participation and withdrawal: Your participation is completely voluntary, and you may withdraw from the study at any time without penalty. You may withdraw by informing me that you no longer wish to participate (no questions will be asked). You may also skip any question during the interview, but continue to participate in the rest of the study.

Whom to contact if you have questions about the study:

Taryn Rivera Buckley, Graduate Student, Department of Health Education and Behavior, PO Box 118210, Gainesville, FL 32611, phone 352-294-1817
Whom to contact about your rights as a research participant in the study:

IRB02 Office, Box 112250, University of Florida, Gainesville, FL 32611-2250; phone 392-0433.

Agreement:

I have read the procedure described above. I voluntarily agree to participate in the procedure and I have received a copy of this description.

Participant: ________________________________ Date: ________________

Principal Investigator: ___________________________ Date: ________________
APPENDIX D
INTERVIEW SCRIPT

INTERVIEW SCRIPT

DESCRIBING FACTORS THAT CONTRIBUTE TO HEALTH RELATED QUALITY OF LIFE FOR FEMALE ATHLETES

Introduction
The main focus of our interview today is to understand more about the health of young female athletes and how this affects their overall quality of life. There are no wrong answers to any of our questions. Please feel free to be honest and critical. Everything you tell us is strictly confidential.

Any questions before we begin?

Warm-up Questions
How long have you been at Girls Place?
What programs do you participate in at Girls Place?
What grade are you currently in and what school do you go to?

General Questions
Do you participate in sports activities?
   If so, what is a typical practice like? What do you do?
   If not, what are some of the reasons why you don’t participate?

Do you have “chores” you do at home?
   If so, what are some examples of the chores you do? How long does it take you to do them? Can you walk me through the process of you completing your chores?
   If not, what are some of the reasons why you don’t have chores?

Think of a time in this past school year when you felt angry.
   Can you explain what happened to make you feel that way?
   What were your emotions like?
   What did you do to make you feel better?

Think of a time in this past school year when you felt sad.
   Can you explain what happened to make you feel that way?
   What were your emotions like?
   What did you do to make you feel better?

Think of a time in this past school year when you felt scared or afraid.
   Can you explain what happened to make you feel that way?
   What were your emotions like?
What did you do to make you feel better?

Think about the friends you have (past and present).
   Is it easy or hard for you to make friends? Why do you feel that way?
   How would you describe your friends?
   How do your friends make you feel?

Think about this past school year.
   How did your homework change from last year to this year?
   How would you describe your schoolwork and tests? Why?
   How do you feel about the FCAT or other standardized test?
   What is your favorite part about the school day and why?
   What are some of the reasons you might have been absent to school?
   What are some of the reasons you might have been tardy for school?

Think about playing volleyball.
   What are some of the reasons you play volleyball?
   What reason stands out above the rest?
   How do your parents feel about your participation in volleyball?
   What do you need to feel confident that you can play volleyball?
   How important is it to have a good, knowledgeable volleyball coach? Why?
   How do your skills match up to the skills of your teammates?
   How confident are you that you could make a club or school team if you tried out?

**Wrap-up Questions**

*Give the interviewee a big Thank You!*

Is there anything else regarding volleyball or physical activity that you would like to add?
APPENDIX E
SELF EFFICACY SCALES

**Social Self Efficacy Scale**
Circle the answer that best shows how well you can do each of the following things.

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Not Very Well 1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Very Well 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How well can you express your opinion when your teammates disagree with you?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>How well can you make friends with other youth?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>How well can you have a chat with a person you just met?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>How well can you work with other teammates?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>How well can you tell other youth that they are doing something that you don’t like?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>How well can you tell a funny event to a group of youth?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>How well do you succeed in staying friends with other youth?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>How well do you prevent arguments among other youth?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Emotional Self Efficacy Scale

Circle the answer that best shows how well you can do each of the following things.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>Not Very Well</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Very Well 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How well do you succeed in cheering yourself up when something unpleasant has happened?</td>
<td>Not Very Well 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very Well 5</td>
</tr>
<tr>
<td>2</td>
<td>How well do you calm yourself down when you are very scared?</td>
<td>Not Very Well 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very Well 5</td>
</tr>
<tr>
<td>3</td>
<td>How well can you prevent being nervous?</td>
<td>Not Very Well 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very Well 5</td>
</tr>
<tr>
<td>4</td>
<td>How well can you control your feelings?</td>
<td>Not Very Well 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very Well 5</td>
</tr>
<tr>
<td>5</td>
<td>How well can you give yourself a pep talk when you feel low?</td>
<td>Not Very Well 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very Well 5</td>
</tr>
<tr>
<td>6</td>
<td>How well do you succeed in suppressing unpleasant thoughts?</td>
<td>Not Very Well 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very Well 5</td>
</tr>
<tr>
<td>7</td>
<td>How well do you succeed in not worrying about things that might happen?</td>
<td>Not Very Well 1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>Very Well 5</td>
</tr>
</tbody>
</table>
## Motivation for Working Out - Why Do You Work Out?

Circle the answer that best shows how well you can do each of the following things.

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Not At All True</th>
<th>2</th>
<th>3</th>
<th>Somewhat True</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very True</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Because I simply enjoy working out.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Because working out is important and beneficial to my health and lifestyle.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Because I would feel bad about myself if I didn’t do it.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Because it is fun and interesting.</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>Very Well</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Because others like me better when I am in shape.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Because I am afraid of falling too far out of shape.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Because it helps my image.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Because it is personally important to me to work out.</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. Because I feel pressured to work out.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  
10. Because I have a strong value for being active and healthy.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  
11. For the pleasure of discovering and mastering new training techniques.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  
12. Because I want others to see me as physically fit.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  

**Motivation for Volleyball- Why Do You Practice Volleyball?**
Circle the answer that best shows how well you can do each of the following things.

| 13. For the pleasure I feel when I practice volleyball.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  
14. I used to have good reasons for playing volleyball, but now I am asking myself if I should continue doing it.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  
15. I would feel bad about myself if I was not taking time to play volleyball.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  
16. It is a good way to get exercise.  | Not At All True 1 | 2 | 3 | 4 | 5 | 6 | Very Well 7  
17. My parents or other family members give me money or other rewards when I do it.  | Not At All True 1 | 2 | 3 | Somewhat True 4 | 5 | 6 | Very True 7  

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<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18. For the excitement I feel when I am really involved in volleyball.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19. I learn valuable lessons from volleyball.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20. It is absolutely necessary for me to play volleyball to feel good about myself.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21. It is not clear to me anymore; I really don’t think volleyball is my sport.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22. My parents, other family members, or friends tell me to do it.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23. For the pleasure of discovering new techniques.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24. I’m not sure why I still practice volleyball, I don’t seem to be going anywhere in it.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25. I think volleyball is a useful way to stay healthy.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26. My parents, family, or friends would be mad if I didn’t practice volleyball anymore.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27. I would feel awful if I didn’t play volleyball anymore.</td>
<td>Not At All True</td>
<td>2</td>
<td>3</td>
<td>Somewhat True</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
Pediatric Quality of Life Inventory

Child Report (ages 8-12)

Directions
On the following page is a list of things that might be a problem for you. Please tell us how much of a problem each one has been during the past ONE month by circling:

0 if it is never a problem
1 if it is almost never a problem
2 if it is sometimes a problem
3 if it is often a problem
4 if it is almost always a problem

There are no right or wrong answers.
If you do not understand a question, please ask for help.
In the past **ONE month**, how much of a **problem** has this been for you…

<table>
<thead>
<tr>
<th>ABOUT MY HEALTH AND ACTIVITIES (problems with…)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is hard for me to walk more than 1 block</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. It is hard for me to run</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. It is hard for me to do sports activities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. It is hard for me to lift something heavy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. It is hard for me to take a bath or shower by myself</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. It is hard for me to do chores around the house</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I hurt or ache</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I have low energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABOUT MY FEELINGS (problems with…)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel afraid or scared</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I feel sad or blue</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel angry</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I have trouble sleeping</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I worry about what will happen to me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOW I GET ALONG WITH OTHERS (problems with…)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have trouble getting along with other kids</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Other kids do not want to be my friend</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Other kids tease me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I cannot do things that other kids my age can do</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. It is hard to keep up when I play with other kids</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>ABOUT SCHOOL (problems with...)</td>
<td>Never</td>
<td>Almost Never</td>
<td>Sometimes</td>
<td>Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>-----------------------------------------------------------</td>
<td>-------</td>
<td>--------------</td>
<td>-----------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>1. It is hard to pay attention in class</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I forget things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I have trouble keeping up with my schoolwork</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I miss school because of not feeling well</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I miss school to go to the doctor or hospital</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
Pediatric Quality of Life Inventory

Teen Report (ages 13-18)

Directions
On the following page is a list of things that might be a problem for you. Please tell us how much of a problem each one has been during the past ONE month by circling:

0 if it is never a problem
1 if it is almost never a problem
2 if it is sometimes a problem
3 if it is often a problem
4 if it is almost always a problem

There are no right or wrong answers. If you do not understand a question, please ask for help.
In the past **ONE month**, how much of a **problem** has this been for you…

<table>
<thead>
<tr>
<th>ABOUT MY HEALTH AND ACTIVITIES (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. It is hard for me to walk more than 1 block</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. It is hard for me to run</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. It is hard for me to do sports activities</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. It is hard for me to lift something heavy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. It is hard for me to take a bath or shower by myself</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. It is hard for me to do chores around the house</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I hurt or ache</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. I have low energy</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABOUT MY FEELINGS (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Some-times</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I feel afraid or scared</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I feel sad or blue</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I feel angry</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I have trouble sleeping</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I worry about what will happen to me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HOW I GET ALONG WITH OTHERS (problems with...)</th>
<th>Never</th>
<th>Almost Never</th>
<th>Some-times</th>
<th>Often</th>
<th>Almost Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have trouble getting along with other teens</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. Other teens do not want to be my friend</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. Other teens tease me</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I cannot do things that other teens my age can do</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. It is hard to keep up when I play with other teens</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>ABOUT SCHOOL (problems with...)</td>
<td>Never</td>
<td>Almost Never</td>
<td>Some-times</td>
<td>Often</td>
<td>Almost Always</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-------</td>
<td>--------------</td>
<td>------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>1. It is hard to pay attention in class</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. I forget things</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. I have trouble keeping up with my schoolwork</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I miss school because of not feeling well</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I miss school to go to the doctor or hospital</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
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</tbody>
</table>
APPENDIX H
DEMOGRAPHICAL DATA QUESTIONS

Directions: Please read the following questions and circle the response that best describes you.

1. What grade level are you currently in?
   A. Kindergarten- Fifth Grade
   B. Sixth Grade- Eighth Grade
   C. High School

2. How would you describe your ethnicity?
   A. Hispanic or Latino
   B. Not Hispanic or Latino

3. How would you describe your race?
   A. American Indian or Alaska Native
   B. Asian
   C. Black or African American
   D. Native Hawaiian or Other Pacific Islander
   E. White
   F: Other (please explain): _____________________________

4. Do you get free or reduced lunch at school?
   A. Yes, I get free lunch.
   B. Yes, I get reduced lunch.
   C. I don’t know.
   D. No, I do not get free or reduced lunch at school.

5. How many years have you been in the volleyball program at Girls Place?
   A. This is my first season playing at Girls Place.
   B. Less than one year (this is my second season playing at Girls Place)
   C. I have been playing at Girls Place for more than one year.
   D. I do not play volleyball at Girls Place

6. How many years have you been in the after school program at Girls Place?
   A. This is my first year at the Girls Place After School program.
   B. 2 or more years
   C. I do not go to the Girls Place After School Program

7. How many years have you been in the summer camp program at Girls Place?
   A. One year
   B. 2 or more years
   C. I have never gone to the Girls Place Summer Camp

8. Would you describe your volleyball skills as:
   A. Beginner
   B. Intermediate
   C. Advanced
   D. I don’t play volleyball for Girls Place.

9. Would you be interested in participating in an brief interview about your health in a few weeks?
   A. Yes
   B. No
LIST OF REFERENCES


Bissell, K. L. (2010). Exploring the influence of mediated beauty: Competitive female athletes' perceptions of ideal beauty in athletes and other women. In H. L. Hundley,


BIOGRAPHICAL SKETCH

Taryn Alyssa Rivera Buckley was born in 1985 in New York City, New York. The oldest child of Basilio and Yamile Rivera’s four children, she grew up mostly in Kissimmee, Florida, graduating from Bishop Moore Catholic High School (Orlando, Florida) in 2003. She earned her bachelor’s and master’s degrees from the Department of Health Education and Behavior from the University of Florida in 2007 and 2009 respectively. During her master’s studies she earned Certified Health Education Specialist status through the National Commission for Health Education Credentialing.

Upon graduating in 2009, she was awarded the prestigious McKnight Doctoral Fellowship from the Florida Education Fund, along with a Graduate Assistantship from the Department of Health Education and Behavior at the University of Florida, where she continued her studies. Throughout her academic career, Taryn was employed at Girls Place, Inc. a nonprofit organization in Gainesville, Florida dedicated to empowering young ladies to grow confident and strong and independent in the world around them. She currently serves as the athletic director of the organization.

Upon completion of her Ph.D. program, Taryn will work in the nonprofit sector, focusing on planning, implementing and evaluating health related programs that serve youth. She also wishes to continue teaching at the collegiate level, where she can share her expertise with other students who desire to work in the community. Taryn has been married to Dante Augustus Buckley, a PhD student in aerospace engineering at the University of Florida, for 4 years. They have a son: Xavier Landon, age 2 years.