

ABSTRACT

MUENCH, FLORIAN MAX. An Examination of Social Skill Differences between Team and Individual Sports among German Athletes. (Under the direction of Dr. Michelle Gacio Harrolle).

Acquiring social skills is an important developmental process during childhood and early adolescence. Social learning theory posits that social skills are acquired through modeling, observation, and imitation. Prior research suggests that sport is an activity that can facilitate social skill development during childhood (Danish, Forneris, Hodge, & Heke, 2004).

However, little consideration has been given to specific social skill development and how this development differs among sports and between genders (Le Menestrel & Perkins, 2007).

Therefore this study had two primary purposes. The first purpose was to compare the levels of social skill development in team and individual sports. The second purpose was to examine gender differences in social skills and the interaction between gender and sport type on social skill development. Adolescents from three different sports (badminton, field-hockey, and volleyball) participated in this study. Links to an online survey were sent out via e-mail by club officials of the participating clubs. The survey, which included the Social Skill Rating System, was completed by 79 participants. No significant differences in reported social skill levels were found between individual sport participants (badminton) and team sport participants (field-hockey and volleyball). No significant differences between boys' and girls' social skill development were found. A two-way ANOVA revealed an interaction effect between gender and sport type (team/individual sport) in their relation to social skills. This interaction showed that boys had a significantly lower social skill development than girls in badminton, and in team sports girls had lower social skill development than boys. Two main conclusions from this study were: (1) sport participation in individual sports or

team sports may not be an influential variable to explain social skill development without taking into consideration other variables, and (2) within the sport environment, gender may not explain the differences in social skill development, which would contradict previous studies conducted outside the sport environment.

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An Examination of Social Skill Differences between Team and Individual Sports among
German Athletes

by
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BIOGRAPHY

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CHAPTER 1: INTRODUCTION

The need to prepare adolescents to become healthy contributors to society has been widely acknowledged by various researchers (e.g., Danish et al., 2004; R.M. Lerner, Almerigi, Theokas, & R.V. Lerner, 2005; Pittman, Irby, & Ferber, 2001). Developmental challenges preventing adolescents from becoming positive members of society arise as early as childhood. Issues such as drug use and violence in children's lives stand in the way of healthy development (Damon, 2004). To decrease the likelihood of negative behavior such as drug use and violence in children and to enable the aforementioned positive behavior, positive youth development (PYD) needs to be fostered (Damon; R.M. Lerner, Abo-Zena, Bebiroglu, Brittian, Lynch, & Issac, 2009).

Whereas former research emphasizes deficits in adolescents and problems arising in childhood and adolescence, the PYD research movement emphasizes the great potential and positive developmental capacities of the adolescents (Damon, 2004) such as sympathy for others, respect for societal norms, confidence, competence, and other important life skills (R.M. Lerner et al., 2009). The positive youth development framework suggests that adolescents form a desire to positively contribute to their family, community, and society as a consequence of PYD (R.M. Lerner & R.V. Lerner, 2006). The environment in which adolescents positively develop is particularly important. Findings suggest that sport programs can foster PYD and offer an environment that engages adolescents in contributory behavior (Danish et al., 2004).

Sports, Life Skills and Positive Youth Development

PYD can be both supported and achieved in various environments, including sports programs (Danish et al., 2004). Sport programs around the world provide programming with a variety of different emphases, many of which can be viewed as directly encouraging the development of life skills as well as other elements of PYD discussed above. Factors related to this development will be discussed in more detail in the literature review. Some sport programs encourage integration of racial or social class minority groups within the population. Other programs focus on teaching certain skills (i.e., respect, discipline, and goal setting) that participants are lacking. One common belief among these programs is that sports can support a child's physical and psychological growth especially when they foster a nurturing environment and are taught by caring and supporting staff and coaches (Petitpas, Cornelius, Raalte, & T. Jones, 2005). All of the above can be viewed as a general attempt by sports programs to positively foster participant's life skills. The development of life skills is an integral part of PYD. Social skills are a specific aspect within the realm of life skills and are a critical element of youth development (Boisjoli & Matson, 2009; Danish, 2002).

Definitions of Key Terms

To facilitate understanding of upcoming sections, a brief overview of key definitions and concepts used in this study are discussed in this section. A more detailed explanation and background of these terms can be found in the literature review.

Life Skills.

Life skills are the broad set of skills that adolescents need to acquire in order to live a successful and fulfilled life in adulthood. Life skills are a critical element of PYD. In adolescents, life skills serve as a tool to successfully manage the entrance into adulthood. Examples of life skills are responsibility, self-awareness, and organization skills (M. I. Jones & Lavallee, 2009a; M. I. Jones & Lavallee, 2009b).

Social Skills.

Social skills are a subcategory of life skills and are the set of skills that make an individual more skilled in social settings. Social skills are comprised of four sub-dimensions, including empathy, cooperation, self-control, and assertion (Gresham & Elliott, 1990).

Importance of Social Skills

Social skills have received considerable attention from researchers over the past few years (Matson & Wilkins, 2009; Rosebrook, 2007; Wigelsworth, Humphrey, Kalambouka, & Lendrum, 2010). M. I. Jones and Lavallee (2009a) have argued that social skills are the most important component of life skills. Acquiring social skills is one of the most important processes throughout a child's school years (Gresham & Elliot, 1993). The level of social skills an individual possesses can have significant consequences, especially for adolescents. For example, social skills help adolescents adjust to the changing environment that accompanies the start of school (McCelland, Morrison, & Holmes, 2000). Social skills can also foster academic success. Adolescents lacking social skills are at greater risk of drug abuse and violence, and therefore more likely to contribute negatively to societal issues

(Greene, Biederman, Faraone, Wilens, Mick, & Blier, 1999). Nevertheless, studies in the sports field seem to focus on life skills more generally, as opposed to specifically studying social skills (i.e., self-control, cooperation, assertion, and empathy).

Previous researchers (e.g., Danish et al., 2004; Gould & Carson, 2008) have shown a positive impact of sports participation on children's life skills and PYD. In spite of the fact that the relevance of social skills as an important component of life skills has been acknowledged, little to no published research in the sports field exists that emphasizes social skills by using a specific social skill measurement scale. Moreover, the assumption that human interaction within a sport program contributes towards the development of social skills is widely accepted (M. I. Jones & Lavalley, 2009a; Kay & Bradbury, 2009; Petitpas & Champagne, 2000) and supports the need for more research on social skills and sports.

Social Learning in Team and Individual Sports

People learn new skills through observation, imitation, and modeling of physical and psychological skills (Ormrod, 1999). Thus, social skills are also at least partially acquired in social contexts, such as the sports environment in a sports club or program. These sport environments can vary greatly. For example, one environment can foster performance orientation, which emphasizes the activity itself. Performance orientation in sports means that the participation is the integral part of the program or club. Another environment in turn can lead to outcome orientation among athletes, which means that for example the results of a sports competition are the central part of the sport environment and not the participation in the regularly occurring training (Gill & Dzewaltowski, 1988). Hence, the question arises

whether the social skills of people in differing sport environments differ. Does the environment in various sports differ to the extent that social skills are impacted differently? A possible way to answer the above question would be to compare adolescents involved in team sports with those involved in individual sports.

Gender Differences in Social Skills

When considering the differences between the social skills of team sports and individual sports participants, a natural extension is to examine social skills differences by gender within this framework. Various studies (Groves, 2005; Margalit & Eysenck, 1990) have examined social skill differences between men and women. Most results point towards the fact that women show higher scores on various types of social skill measurements. Thus, girls in sports would show higher social skills compared to boys. However, this gender difference in sports does not seem to have been examined in detail so far. Although some researchers (e.g., Eccles & Harold, 1991; Trost, Pate, Sallis, Freedson, Taylor, Dowda, & Sirard, 2002) have examined gender differences within sports participation, it seems no studies have examined gender differences in terms of social skill acquisition within different sport types using specific social skill scales.

Purpose and Research Questions

As previously mentioned, studies have shown relationships between sports participation and the development of life skills (Gould & Carson, 2008), but have not specifically studied the relationship between sports participation and social skills (e.g., empathy, self-control, cooperation, and assertion). In addition, many studies examining

positive outcomes of sport participation neglect to consider the role or the type of sport among other contextual factors plays (Le Menestrel & Perkins, 2007). Moreover, information exists about differences between team and individual sports, however little is known about differences of social skill development in participants of team sports and individual sports.

The first purpose of this study was to compare the levels of social skill development among participants in team and individual sports in Berlin, Germany. The second purpose was to examine gender differences in social skills and to examine the interaction between gender and sport type (team and individual) on social skill development. This study addressed the following research questions: (1) Do adolescents playing team sports report higher social skills than their counterparts who participate in individual sports? (2) Are there significant differences between particular social skills dimensions, such as cooperation and self-control, for adolescents in team and individual sports? (3) Do social skills differ significantly between boys and girls? (4) Is there a significant difference between boys and girls in team sports versus individual sports?

Significance

This study sought to fill the gap in the literature as to the level of social skills for participants in team sports and individual sports and whether differences between boys and girls exist when comparing those two sport types.

Societal issues attributed to adolescents can often be traced back to a lack of social skills (Bullis, Walker, & Sprague, 2001). Thus, to analyze social skills in team sports and individual sports can be a starting point in finding the sports or sport types that contribute to

social skill development and thereby effectively help public institutions to minimize lack of social skills in adolescents. Including the gender component might help in differentiating the optimal sport type for boys and for girls when facing the above mentioned issues.

This study can be seen as the first stage of a research agenda examining social skills in sports and sport types. As to whether or not a difference in social skills exists between participants in team sports and individual sports, researchers will have to examine further the role the sport itself plays, as well as the divergences in demographics.

The results of this study will also provide useful information to parents making decisions regarding the sports participation of their children. If differences between boys and girls in team and individual sports are found, then parents, who are looking for particular extramural activities to promote the social skills of their children, would be able to make a more informed choice about the type of sport suitable for their children.

CHAPTER 2: LITERATURE REVIEW

A lack of empirical evidence exists as to whether athletes in individual sports are equally socially skilled as adolescents in team sports. Previous research has primarily focused on the impact of sports participation on the development of life skills (Danish et al., 2004; Danish, Petitpas, & Hale, 1993). Social skills developed through sports are often summarized under the general term of life skills or not clearly specified, despite the fact that social skills seem to be the most important factor in sports participation to athletes (M. I. Jones & Lavalley, 2009a). This study set out to examine a possible difference between the level of social skills in adolescents participating in team sports and those participating in individual sports. The following literature review is organized into three sections: The first section introduces social learning theory and how it relates to the acquisition of social skills in adolescents. The second section outlines the scholarly evolution of life and social skills research, as well as their importance for children. The final section provides a comprehensive overview of the research on sports and life and social skill development, including a review of the different sport delivery models (team vs. individual sports), gender differences and their association with positive youth development outcomes.

Theory Guiding Social Skill Development

Social learning theory helps to explain how social skill development occurs in a social context (Bandura, 1962; Ormrod, 1999), such as the sport settings chosen for this study. These include physical, psychological, and behavioral skills, all of which need to be acquired regardless of their nature (Danish & Hale, 1981). Given social learning theory's

ability to facilitate understanding of the progression of behavioral skills, and accordingly social skills, in adolescents, it will be used as the guiding theory in this paper.

Social learning theory suggests that people learn from one another through observation, imitation, and modeling (Ormrod, 1999). The concept of observational learning, which is integrated into social learning theory, focuses on individuals who observe other individual's behaviors and their outcomes. One example in the realm of social skills is a situation in which someone observes another person showing empathy and being rewarded with an affectionate reaction. Seeing this reaction could encourage the observer to engage in similar behavior.

However, learning through observation does not necessarily have to lead to an adaptive behavior (Grusec, 1992; Ormrod, 1999). Instances in which the observer is discouraged by the reaction to certain observed behavior can encourage a person to stick with his or her own behavioral characteristics that were learned before observational learning of a new response. Nonetheless, the observation would still lead to learning from a passive social interaction within a social context. For instance, consider a situation where a badminton player observes another club member offering to help with a specific drill that was directed by the coach. Seeing the offered help turned down by a third person could lead to the observer assuming that cooperative behavior is not appropriate in badminton. This theory proposes that this individual will not change his/her behavior to be more cooperative.

However, cases in which an individual is stimulated by a model to engage in similar behavior can on the other hand also result in an imitation of the observed behavior (Bandura,

1962). The imitated behavior itself sometimes is judged to be satisfactory by society, leading to a sustainable change in the individual's behavior. A coach that often smiles and shows optimism can infect athletes with that optimism. The imitation of smiling more, for example, produces a happier feeling within a person and is therefore internally reinforced.

Social learning theory can lead to both socially accepted and antisocial behaviors. The theory is limited to the description of the process of learning in social contexts. Contexts are also determined by the particular sport environment in which athletes participate. In team sports, for example, athletes may be more likely to observe cooperative and empathetic behavior, while in individual sports, assertion and self-control may be more frequently observed. The above means that the theory does not include the outcomes of the learning process. Outcomes of skill acquisition as well as approaches to guiding these outcomes in a positive direction will be explained in the next section. In order to interpret these outcomes, it is helpful to offer an explanation of how life skills and social skills were defined in this study.

Life Skills

Although life skills are not directly a part of what was examined in this study, defining them helps to understand both the distinction between life skills and social skills, as well as why, in this study, it was decided to focus on social skills in particular. The term "life skills" has come to encompass a myriad of different skills. To demonstrate its broad nature, a number of different life skill definitions are discussed below and their link to social skills illustrated.

Definitions of Life Skills.

To understand the nature of the term “life skills”, four prominent definitions are offered below.

The first two definitions examined, arose partly in context of the so-called “life skills programs” (e.g., 4-H), which have increasingly emerged in the US. These programs aim to foster development in adolescents that encourages the acquisition of life skills. Brunelle, Danish, and Forneris (2007) used the term life skills to include developing a team, setting goals, using positive self-talk, learning to relax, appreciating differences, and having confidence and courage. Jones and Lavalley (2009b) found that communication skills, self-awareness, as well as learning to be organized, were among acquired life skills. What made these life skills was the ability to transfer them between different domains of life. No skill learned in a particular setting (i.e., sports) that individuals cannot apply to other domains (i.e., family, work, school, friends) can be called a life skill. The transfer-ability makes them domain-unspecific skills and therefore life skills.

The second two definitions come from two major global development organizations. The United Nations Children’s Fund (UNICEF, 2004) referred the term ‘life skills’ as a large group of psycho-social and interpersonal skills which can help people make informed decisions, communicate effectively, and develop coping and self-management skills that may help them lead a healthy and productive life. Life skills may be directed toward personal actions and actions toward others, as well as actions to change the surrounding environment to make it conducive to health (para. 3).

The World Health Organization (WHO, 1999) defined life skills as the skills that allow individuals to effectively deal with everyday life challenges and demands. The WHO also described these skills as critical for adolescents to be able to exhibit positive and adaptive behavior.

Thus, life skills can be grouped broadly into two main categories – intrapersonal skills and interpersonal skills. An individual is therefore viewed competent in the sense of necessary life skills, only when interpersonal and intrapersonal have been acquired (Danish et al., 1993). Intrapersonal skills refer to skills acquired by people to manage their own lives. These skills include, among others, self-perception, setting goals, and critical thinking (Danish et al., 2004). Interpersonal skills, on the other hand, include all skills a person needs to effectively deal with other people. These skills include, among others, respect, leadership, family interaction skills, and social skills (Jones and Lavalley, 2009a).

While some definitions (such as the first two above) focus more on the intrapersonal components of life skills, others (such as the UNICEF definition) focus more on interpersonal skills, while even others broadly encompass both categories (such as the WHO definition).

As can be seen from the different definitions above, the overarching nature of “life skills,” makes this concept difficult to operationalize. As such, in this study, it was decided to focus only on one element of one interpersonal component of life skills – namely social skills. Figure 1 illustrates the location of social skills, within the first order construct of the broader category, life skills.

The particular element of social skills was chosen in this study due to three reasons. First, due to the authors experience with and interest in sport, a general desire to link sport with adolescent development existed. Second, Jones and Lavallee (2009a) find that social skills are among the most important skills for sport participants. Finally, as discussed above, while life skills provide an interesting tool to measure adolescent development, the concept is broad and often difficult to operationalize.

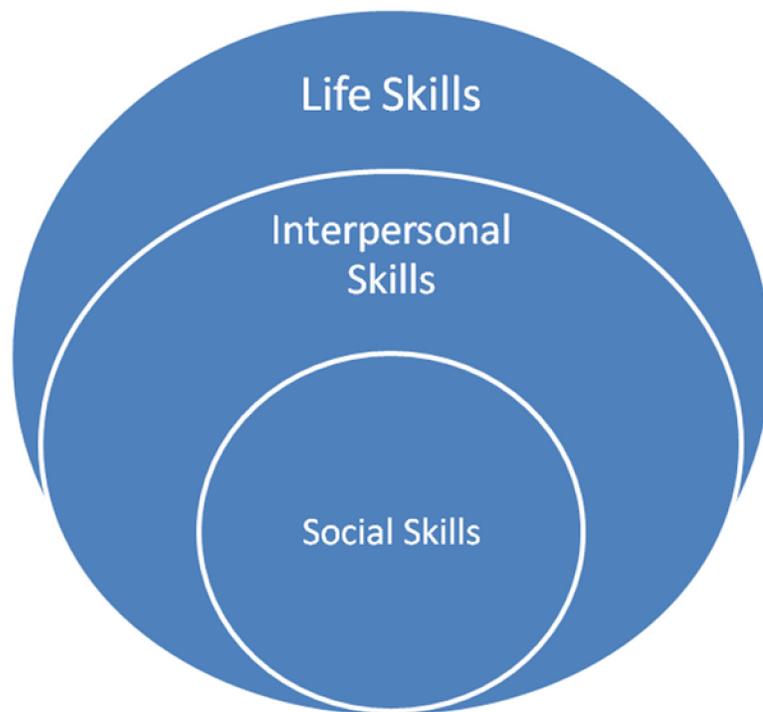


Figure 1. Components of life skills describing the interrelation between life skills and social skills.

Social Skills as a Domain of Interpersonal Life Skills

Social skills is a loosely used term in academia and the media, as well as in everyday conversation (Matson & Wilkins, 2009; Riggio, 1986). Moreover, the definitions of social skills offered in the literature are not congruent. The study of social skills is reflected in numerous disciplines in academia and the terms related to social skills vary. For example, García and Costa Junior (2008) wrote about social skills in the context of antisocial behavior. Warden, Cheyne, Christie, Fitzpatrick, and Reid (2003) studied social skills as they relate to prosocial and antisocial peer behavior. In another study, researchers looked at social stress in young people (Wadman, Durkin, & Conti-Ramsden, 2010). Many more examples of social-skills-related studies can be offered. For the present study, however, only studies specifically framed around the term of 'social skills', mainly pertaining to adolescents are reviewed. This review serves as an introduction to the literature in the field of social skills.

Matson and Wilkins (2009) began their description of social skills by presenting the possible negative outcomes of absent or underdeveloped social skills in children. Consequences of an absence or lack of social skills could include antisocial behavior, social isolation and withdrawal, and mental health problems, among others. Because some of these social problems have increased in the past years, and because of their importance to society, according to Matson and Wilkins, studies about social skills, especially in children, have gained interest in academic circles. The next section offers a clear definition of the term social skills, and how it was used in this study.

Definition of Social Skills.

The environment of an individual has a strong impact on his or her social skills (Beauchamp & Anderson, 2010). However, social skills are also determined by biological factors and by a person's genes. This means social skills are influenced and developed through a combination of social factors and biological factors, through a process that has not been examined enough to determine which factor has the bigger impact. Nonetheless, the impact from one's environment exists without a doubt (Bandura, 1962).

The literature offers numerous varying definitions of social skills (Boisjoli & Matson, 2009) and the dimensions that constitute these skills. According to Riggio (1986), many researchers define social skills as the sending and receiving of information. Another definition, clearly emphasizing peer values, says that people who are popular or at least accepted by their peers may be described as socially skilled (Gresham & Elliott, 1987). For Elliott, Sheridan, and Gresham (1989) social skills are the behaviors that people show in interpersonal situations for which the likelihood of reinforcement is high. Another prominent definition makes social skills the abilities to steer clear of interpersonal conflicts and/or communicatively solve possible arising conflicts (Matson & Ollendick, 1988).

A common theme in the above definitions is that social skills are those skills which facilitate an individual to actively communicate and interact with his or her peers (Powell, Cory, & Dattilo, 2004). It is this definition that will be used in this paper. This definition is chosen, first, because it allows for the examination of multiple skills within social skills.

Secondly, it provides space for examining social skills in both a prosocial as well as an antisocial context, to encompass definitions reviewed at the beginning of this section.

In order to operationalize the concept of social skills, the specific dimensions or skills included within the concept need to be clear. As with the definition of social skills, however, the dimensions constituting social skills are also diverse. A meta-analysis by Caldarella and Merrell (1997) showed how social skills have five dimensions: peer relations, compliance, self-management, academic, and assertion. For Denham (2005), in a more recent approach, the dimensions of social skills are only twofold. First, Denham portrayed social problem solving, which reflects what Matson & Ollendick (1988) had published about communicatively solving conflicts. Relationship skills are the second dimension of social skills, which can then again be separated into the sub-dimensions of cooperation, listening skills, turn-taking, and seeking help. For Gresham and Elliott (1990), social skills consist of the five dimensions of cooperation, assertion, self-control, responsibility, and empathy. The Matson Evaluation of Social Skills with Youngsters, which is the most-used scale (Matson & Wilkins, 2009) in measuring social skills, offers five different categories found through factor analyses: appropriate social skill, inappropriate assertiveness, impulsiveness/recalcitrant, overconfidence, and jealousy/withdrawal.

Development of Social Skill Scales.

It is most likely due to this range of dimensions that are viewed to constitute social skills that the task of developing instruments to validly capture social skills has occupied researchers for more than three decades. As early as 1986, Riggio noted that a variety of

different instruments have been developed. In these early instruments, researchers looked at abilities such as empathy, shyness, sociability, communicative competence, and self-monitoring. Riggio pointed out that although instruments trying to measure these aforementioned abilities had been developed separately and represented distinct research perspectives, they can all be viewed as dimensions of social skills in general.

When Gresham and Elliott (1990) started developing the Social Skill Rating System (SSRS), they drew the initial item pool from existing rating scales that were concerned with social skills and/or individual dimensions of social skills. Additional items stemmed from a review of the relevant literature and their personal experience with children. This method seems to be a common approach to developing a social skills scale. Other popular rating scales such as the Teenage Inventory of Social Skills (TISS) and the Matson Evaluation of Social Skills in Youngsters (MESSY) were developed in similar ways (Inderbitzen & Foster, 1992; Matson, Rotatori, & Helsel, 1983). These scales, due to different definitions of social skills, have each focused on slightly different constructs and have measured different dimensions of social skills.

In all studies, however, all respective social skills dimensions need to be high in order to define a person as socially skilled. It appears that each dimension of social skills cannot be seen as individual skills that, when found in a person, make a person socially skilled. For example, a person having only highly developed cooperation skills without being empathetic, assertive, and self-controlled is a person who does not have strong social skills. Only a high score on more than one dimension of social skills seems to imply appropriate behavior and

leads to the ability to steer clear of interpersonal problems and communicate effectively to solve possible conflicts, which is how Matson and Ollendick (1988) defined social skills.

The author of this study agrees with the dimensions of social skills, and the measurement scale used to measure these, developed by Gresham and Elliott (1990). Their definition seems to be similar to Jones and Lavalley's (2009a) construct of social skills, constituting of skills such as empathizing skills, teamwork skills (cooperation) and verbal communication skills. Jones and Lavalley's finding that social skills are among the most important life skills for athletes built the base for this study. Hence, a definition which overlaps with their construct seemed suitable for this study. Moreover, in line with other studies and discussed above, social skills in this study will also be viewed as the presence of an entire suite of skills. In particular, for Gresham and Elliott, social skills – at least the ones that can be accurately measured by self-reporting – consist of four dimensions: cooperation, empathy, assertion, and self-control.

Importance of Social Skills for Children.

While studies on the importance of social skill development for children seem to be rare, the understanding that social skills are a relevant tool in thriving in society is widely accepted (Beauchamp & Anderson, 2010; Matson & Wilkins, 2009; Wigelsworth et al., 2010).

Learning to become socially skilled is one of the most important processes during a child's elementary and high school years (Elliot & Gresham, 1993). Developing social skills is helpful in adjusting to changes at school in the early years and makes it easier for students

to achieve good grades and be successful in school (McClland, Morrison, & Holmes, 2000). Children with well-developed social skills usually are more popular in school and can also adjust better to challenges in adulthood (Boisjoli & Matson, 2009). Besides easier social performance during school years, socially skilled children often become academically more successful (Wentzel, 1993).

The development of social skills mainly happens during childhood and adolescence (Beauchamp & Anderson, 2010). This development helps an individual build lasting relationships and actively communicate with his or her community (Cacioppo, 2002), during adolescence as well as during adulthood. Matson (1990) summarized this simply, by saying that social skills help children to function in society.

In addition to the positive outcomes of having developed social skills in an appropriate way, a plethora of published literature examines possible negative outcomes that come as a result of the absence of social skills. For example, children lacking social skills often spend more time by themselves and have less self-confidence and therefore do not approach other individuals or groups (Cacioppo, 2002). This can carry over to the workplace in later life, which could be an obstacle in job searching (Beauchamp & Anderson, 2010).

A further problem that occurs more simply among socially unskilled people is the emergence of interpersonal difficulties (Boisjoli & Matson, 2009). “Psychological distress, social isolation, and reduced self-esteem” (Beauchamp & Anderson, 2010, p. 39) are only some of many negative consequences if social skills are not developed well.

Research (e.g. Boisjoli & Matson, 2009) has also shown a higher likelihood of substance abuse (Greene et al., 1999), antisocial behavior (Dodge, Lansford, Burks, Bates, Pettit, Fontaine, & Price, 2003), depression (Sato, Ishikawa, Arai, & Sakano, 2005), and criminality and delinquency as adults (Roff & Wirt, 1984) among children who have poor social skills. For Bullis et al. (2001), the absence of social skills is even related to antisocial behavior such as escalated violence, criminal adjudication and school shootings. Dramatic behaviors and incidents such as the previous ones show the need for detailed research in the field of social skills. Thus, general life skill research neglecting the need for a growing body of knowledge in the social skills field might not solve all of the above societal issues especially triggered by adolescents. The next section will provide information on previous social skill development research in various environments.

Social Skill Development outside of Sport.

The probably greatest number of researchers concerned with social skill development in children and adolescents has examined populations with autism (Munday, Sigman, Ungerer, & Sherman, 1986; Ozonoff & Miller, 1995; Rao, Beidel, & Murray, 2008; White, Keonig, & Scahill, 2007). One of their main objectives has been to evaluate the effectiveness of existing social skill development trainings. Some similarities are found in publications examining social skills in adolescents with autism and adolescents without autism. One is the lack of an overall definition of social skills (Rao et al.), which was also highlighted in the definition section of this work. Despite some similarities, the approach to social skill research

in the field of people affected by autism seems to be quite distinct from social skill development research for healthy people.

The social skill autism research is centered on the individual and how she or he may be able to improve the existing lack of social skills and by that happily and successfully participate in society as an individual. It appears that research wants to find a way to more successfully integrate into the society the people affected by autism. Other research which has examined populations that are not affected by autism mainly approaches the topic from a societal perspective. Adolescents with social skill deficits can be harmful to society (Bullis et al., 2001; Boisjoli & Matson, 1999; Dodge et al., 2003; Greene et al., 1999). It is therefore of great need to society to help children develop positive social skills and make them a positively contributing part of the society.

Some of the above mentioned problems can be decreased by adolescent sport participation which can lead to positive life skill development (Danish et al., 2004). However, most of the more drastic problems seem to be caused by a lack of social skills (Bullis et al., 2001). If that is really the case then research about how and where these problems can be decreased through sports programs is very important. Due to a lack of social skill examinations in the sports field, the next sections approach the issue of general life skill development in sport and then lead towards a more specific description of how skills are developed in sport and how this development connects to social skills.

Life Skill Development in Sport

Sport can foster naturally occurring positive outcomes of social learning (Ewing, Gano-Overway, Branta, & Seefeldt, 2002). Although research included positive and negative impacts of sport participation on adolescents and life skill development, the majority of researchers agreed sports have a positive effect as long as they are taught and coached according to guidelines described below (Petitpas, Cornelius, Raalte, & T. Jones, 2005). Many researchers have examined this effect between life skill development and youth sport. For example, Danish and Nellen (1997) examined how life skills can be taught through sports. Petitpas, Raalte, Cornelius, and Presbrey (2003) developed a life skills program for high school student-athletes. Gould and Carson (2008) summarized current literature on life skills development through sports. Although not all researchers mention it directly, it can be inferred that the goal is to find out if and how sports can contribute to life skill development in a positive way and to measure which outcomes occur in sport participation.

Skill Development Outcomes through Sports Participation

Sport participation was found to reduce emotions of depression, anxiety, and hopelessness (Centers for Disease Control and Prevention, 1996; Theokas, 2009). It can also support in managing emotions and self-knowledge (Hansen, Larson, & Dworkin, 2003). Above that, taking part in sports can stimulate psychological resilience, which means that adolescents develop the skill to avoid problems arising in social settings or know how to deal with being caught in a problem (Bartko & Eccles, 2003).

Taking a look at existing sports programs provides the following sport participation outcome information. Some sports programs focus on teaching educational ideas outside of the sport's domain (i.e., HIV education in many African countries; Peacock-Villada, DeCelles, & Banda, 2007). Other programs have been based on life skills in general, and yet others might focus mostly on social skills. The variety among life skill based sport programs seems massive. Petitpas et al. (2003) examined the impact of a life skills program called "Play It Smart." This program aims to contribute to life skill development in adolescents ("About Play It Smart," 2011). Petitpas et al. concluded that through participation, adolescents were able to create positive group experiences and improve their ability to form relationships, which is an important interpersonal life skill (Danish, 2002). Researchers (e.g., Danish & Nellen, 1997; Papacharisis, Goudas, Danish, & Theodorakis, 2005) have shown that sports can be a tool to partially facilitate the development of the aforementioned skills, such as relationship skills and positive behavior characteristics.

Peterson (2004) stated that benefits acquired through sports could include the sense of living a satisfying life, the recognition of one's strengths, and a contribution to society through what one does well. The psychosocial and emotional development included self-esteem and a decrease in perceived stress levels. Looking at social development through sports participation, Fraser-Thomas, Côté, and Deakin (2005) highlighted social mobility and community integration. They suggested that sports could facilitate the development of certain social skills such as empathy and self-control (Côté, 2002). However, the question remains - how does sports participation foster skill development in children?

How do Skills develop through Sport Participation?

Previous sections revealed the different approaches to how sports participation can contribute to skill development and social skill development in specific. Although it was discussed earlier how the participation in a sport itself may contribute to skill development in children, some results of studies from well-known researchers in the field (e.g., Danish et al., 2004; Gould & Carson, 2008) have demonstrated the opposite in terms of life skill development. Danish and Hale (1981), for example, elucidated that life skills are in fact skills like regular physical skills. They argued that participants learn life skills in the same way other skills are learned: through a good demonstration by a role model and practice.

If the above is the case, a closer look may be helpful to find out under which circumstances life skills are best picked up and internalized by children in sports programs. Gould and Carson (2008) illustrated that life skills must be specifically taught in environments that facilitate life skill development. An environment conducive to facilitating life skill development includes responsibilities for participants, clear rules, caring coaches and positive social norms.

Studies with football coaches in 2006 and 2007 by Gould and Carson (2008) revealed four specific factors that had helped participants to successfully internalize life skills that they were exposed to in their sports programs. Coaches and participants bonded while spending time in the sports programs. This was possible because the coaches had the ability to form relationships with their players. Additionally, the coaches put an emphasis on developing life skills instead of primarily focusing on excelling in sports. To achieve the best

possible outcome in terms of learning life skills, coaches had well-planned strategies of how to implement relevant skills. Finally, the fourth factor was that coaches showed recognition of the different socioeconomic and cultural backgrounds of participants. This recognition led to differentiated training where coaches acknowledged and distinctly handled athletes from different cultural and socioeconomic backgrounds.

This active teaching of life skills described above may not be the only way for athletes to internalize and learn life skills. For example, Holt, Tink, Mandigo, and Fox (2008) conducted a study in which coaches were asked a series of questions to determine their teaching philosophies. In cases where coaches were found to value skills of decision making and relationship building, it was found that these skills were internalized by athletes, without these life skills being taught directly. The above is an example of a more passive way in which life skills are taught within the sport environment.

Two factors stick out when summarizing the developmental process of learning life skills through sports. First, life skills seem to be skills that, as with any others skills in life, need to be actively, or at least passively taught in order to be learned by athletes. Second, in this process of learning life skills, coaches play an important role and are both the teacher as well as the role model for athletes.

As learning, including developing social skills, mainly occurs within a social context, the learning outcome may be highly dependent on the environment within the social context. In sports, a difference between the environments for learning and playing team sports and individual sports might exist.

Team Sports versus Individual Sports

This study's primary research question focused on whether participation in a team sport, in contrast to an individual sport, has an impact on the level of social skills participants will exhibit. To answer this question, this study examined differences between team and individual sport environments and analyzed whether those differences could have an impact on social skills development.

Researchers have previously examined differences between athletes in team sports and ones in individual sports. Results have been contradictory. For example, Vealey (1986) hypothesized that athletes in individual sports are more performance-oriented, whereas athletes in team sports are more outcome-oriented. However, her later work did not provide enough evidence for this hypothesis. Based on their findings, Gill and Dzewaltowski (1988) also concluded that an emphasis on the outcome is the difference between athletes in team sports and athletes in individual sports. What their research shows, however, is the ambiguity among researchers who examined team and individual sport differences. Although achievement orientation research has not shown significant differences between athletes in team and individual sports in general, further research is needed to examine possible differences in areas such as social skills. Thus, the following section will provide information on distinctions between team and individual sports. Those differences are critical because they may be responsible for differences in the social skills developed by athletes participating in the examined sports.

An earlier section described the process of skill development through participation in sports. It seems that skills develop primarily from the mentorship of the coach (Gould & Carson, 2008). If this is the case, then one might expect that more one-on-one time between coach and athlete should lead to a more significant mentoring effect and also to increased social skills development. Bloom, Durand-Bush, Schinke, and Salmela (1998) found there is less one-on-one time between the coach and an individual athlete in team sports environments. However, they argued that the mentoring effect is more subtle in team sports. This might occur because athletes in team sports seem to be capable of emphasizing team outcomes as well as individual performance (Gill & Dziewaltowski, 1988; Gill, Dziewaltowski, & Deeter, 1988), and therefore get mentorship from team members as well as the coach.

It seems logical that this level of interaction with other athletes is higher in team sports compared to individual sports. Athletes in team sports need to work with teammates and anticipate opponents' actions (Baker, Côté, & Abernethy, 2003). Given this fact, acquiring social skills is probably emphasized in team sports because more observation and imitation occurs compared to individual sports. In keeping with social learning theory, the social context of team sports fosters social skills development and in this way it is superior to the social context in individual sports.

Looking at select needs of athletes within the sports environment (Vallerand, Deci, & Ryan, 1987) provides further evidence for why participation in team sports probably better fosters social skills development than participation in individual sports would. To support

physical and psychological development among athletes, of which social skills are a part, the environment stimulates a feeling of autonomy and relatedness (Reinboth & Duda, 2006). The following two ideas support the assumption that social skill development is particularly fostered in a team sport environment. A member of a team can more easily develop a sense of individuality and autonomy because he or she is not under the direct and strict control of the coach. Relatedness is the need for a secure connection with others and for a sense of being understood by others (Baumeister & Leary, 1995). As the competitive aspect among athletes in individual sports seems more pronounced, this could lead to a falling behind in terms of relatedness.

In general, research has shown that adolescents who engage in team sports are motivated by the desire to be part of a cooperative team effort, while for adolescents in individual sports, personal success is the primary motivation (Weinberg & Gould, 2003). With regards to the impact on social skill development, the existing literature provides no clear direction. While some studies reported that team sports might be more beneficial to participants with regards to the development of social skills (Peterson, Weber, Trousdale, 1967; Weinberg & Gould), another study, in which the mothers of sports participants were interviewed, reported that while mothers believed that team sports participation resulted in relatively more beneficial outcomes, team sports did not necessarily provide a superior source of social skill development compared to individual sports (Barnett & Weber, 2008).

Although existing literature is contradictory, the majority of previous research points towards team sports as the sports environment that may foster stronger social skill

development than individual sports. Thus, the hypotheses in this study were consistent with the majority of existing literature – participants in team sports will show stronger social skills compared to their counterparts in individual sports.

Gender Differences in Social Skills

In addition to differences between team and individual sports in terms of social skills, this study examined differences between boys and girls in terms of social skill acquisition. Some literature points towards the fact that, in general, girls report higher social skills than boys (Margalit & Eysenck, 1990). It seems, however, that this finding has not been examined in a sports environment, while also taking into consideration the context of the sport environment (e.g., team vs. individual sports).

Studies in a variety of environments have shown that girls and women exhibit higher social skills compared to boys and men (Groves, 2005; Margalit & Eysenck, 1990; Mendez, Hidalgo, & Ingles, 2002). Groves examined men and women in leadership positions in universities, for-profit organizations, and government agencies and found that direct subordinates of the men and women in leadership positions rated women significantly higher in social skills. This result holds true for both adult women compared with men in leadership positions, as well as for girls in high school compared to boys the same age. Margalit and Eysenck (1990) used a social skill checklist, among other scales, to measure social competence in female and male adolescents. The two researchers found female adolescents reported higher social skills than the male adolescents. When Mendez, Hidalgo and Ingles validated the Matson Evaluation of Social Skills with Youngsters for Spanish adolescents,

they found girls to score better on the positive subscales and worse on the negative subscales. The researchers concluded that girls show greater appropriate social skill behavior than boys.

Looking at sport participation itself reveals that boys are often more physically active than girls (Troost et al., 2002). If sport participation is to contribute to life and social skill development, as shown earlier in this literature review, then the question remains whether this difference in the frequency of physical activity can help boys catch up to girls, in terms of social skill development.

Hypotheses

Based on the previous literature, the following hypotheses (H) were proposed to answer the research questions (RQ).

RQ1: Do adolescents playing team sports report significantly higher social skills than their counterparts who participate in individual sports?

H1: Athletes of team sports will show significantly stronger social skills than their counterparts in individual sports.

RQ 2: Are there significant differences between particular social skills dimensions, such as cooperation and self-control, for adolescents in team and individual sports?

H2: Athletes in team sports will score significantly higher on the cooperation and the self-control variables.

H3: There will be no significant difference between the athletes in team and individual sports on the empathy and the assertion variables.

RQ3: Do social skills differ significantly between boys and girls?

H4: Overall, girls will report significantly higher social skills than boys.

RQ4: Is there a significant difference between boys and girls in team sports versus individual sports?

H5: Girls will report significantly higher scores on the social skill scale than boys in both team and individual sports.

In summary, social learning states that learning occurs within a social setting through observation, imitation, and modelling (Ormrod, 1999). The social learning theory applies to past and current research in life skills in terms of how adolescents positively develop through social learning. The life skill research is a broad field of study; however this study focuses on an examination of the specifics of social skills within the realm of life skills. Moreover, sports can be a nurturing environment to stimulate life skill development and help athletes to develop social skills. However, little research exists on social skill development in sports and specific to comparisons of social skill development among different sports.

CHAPTER 3: METHODS

The main purpose of this study was to examine and compare the level of social skills in participants of team sports and individual sports. The first research question focused on whether adolescents participating in team sports (field-hockey, volleyball) report higher social skill scores compared to participants in individual sports (badminton). The second research question was concerned with the specific social skills dimensions of cooperation and self-control, and how these differ between participants of team and individual sports. A third research question dealt with social skill differences between boys and girls in team vs. individual sports.

Participants and Procedure

Once the Institutional Review Board at North Carolina State University had approved the data collection procedures, e-mails were sent to board members of the participating sports clubs with a link to the online survey. Club officials directly asked members of participating clubs to fill out the online survey distributed via e-mail. The data collection was officially supported by club officials, who advertised the survey to their clubs and members of the clubs via e-mail requests.

The online survey began with participants reviewing a consent form, including an explanation that participation was completely voluntary and participants could end the survey at any time. A statement ensuring the privacy of all participants was also included. All given information was anonymous.

Data were collected over a period of three weeks from February 20 to March 11, 2012. Participants were members of one of the above mentioned clubs, agreed to a consent form, and verified they were between 13 and 19 years old. The age delimitation was added because of the instruments validity for ages 13 to 19. As an incentive, participants who provided their e-mail address were entered into a lottery for sports equipment.

Sampling

The sample population consisted of the volleyball section of the TSV Spandau 1846 e.V., and the field-hockey and badminton sections of the Berliner Sport-Club e.V. These clubs and sports were chosen due to their socio-demographic similarities among their members. By choosing socio-demographically similar sports and clubs, those variables were easier to exclude as explanatory variables of differences in social skills. To increase the sample size for the individual sports, the badminton section of the Pro Sport Berlin e.V. was also asked to participate. All three clubs are situated in former West Berlin in relatively wealthy districts of Berlin: Charlottenburg-Wilmersdorf and Spandau. The volleyball section at that time had 59 adolescent members. The hockey section consisted of 103 adolescent members (35 girls and 68 boys) and the two badminton sections combined had 102 adolescent members (45 girls and 57 boys). The aim was to get a response rate around 80%. Although online surveys usually do not exceed a 60% response rate (Cook, Heath, & Thompson, 2000), 80% seemed realistic because of the author's close relationship with the individual sport sections and coaches of the above-mentioned clubs.

A convenience sampling method was used for this study. In order to gain a high response rate, general instructions for online surveys were followed (Dillman, Smith, & Christian, 2008). A week before the actual data collection began, the club contacts were instructed to send out a prepared pre-notification to possible participants. Responses from the club contacts came back within three days and confirmed the forwarding of the pre-notification. The first announcement contained a personalized link for every participating club, and was sent to the club contacts seven days after the pre-notification. The response to that e-mail was low during the first week, so clubs were given an additional incentive aimed at encouraging their members to participate in the study. The club with the most participants was promised a 100 Euro donation to their youth program. One and a half weeks after the first e-mail including the link to the survey, an official reminder was sent out. That reminder included a final deadline and listed the personal and club objectives for a participating in the survey. Altogether, the survey was open and available for 18 days.

Sampling Location.

This section contains the geographical and demographic information of the districts in Berlin, where the participating clubs are located. All information in this section is based on data from the department of statistics in Berlin (Die kleine Berlin Statistik, 2011). Both districts with participating clubs in this study belong to the larger districts in Berlin. The population of Spandau is 320,500 (51.3% female) and the population of Charlottenburg-Wilmersdorf is 226,200 (52.7% female). In Spandau, 12.4% of the citizens are non-German citizens. In Charlottenburg-Wilmersdorf 18.2% of the citizens are non-German citizens. The

household income after tax in Spandau is €1,575, in Charlottenburg-Wilmersdorf €1,675.

The minimum income that one person needs to survive is undercut by 16.2% of the population in Spandau and 12.2% in Charlottenburg-Wilmersdorf. Both districts have similar geographic and demographic characteristics, thus making them comparable for statistical analysis.

Measurement and Instruments

The SSRS was developed by Gresham and Elliott (1990). It is based on the assumption that social skills consist of five basic dimensions. Those dimensions are empathy, self-control, assertion, cooperation, and responsibility. The student form of the SSRS, which is used as a self-reported measurement of social skills, consists of four dimensions. All of the above dimensions are included except responsibility. Gresham and Elliott stated that the responsibility measurement is more valid if it is measured by a third party (i.e., parent or coach), and therefore is not included on the self-report student form.

The SSRS self-report scale has shown reliability and validity (Diperna & Volpe, 2005) and is available in elementary school and secondary school versions. When they originally developed the scale, Gresham and Elliott (1990) only used a 3-point Likert scale to gather responses on 40 items, evenly divided up into the four above-mentioned dimensions. 4,177 children participated in the original study to standardize the student forms of the SSRS. The total scale showed an internal consistency of $\alpha = .83$ for both the elementary and secondary school versions. Cronbach's alpha coefficients for the subscales ranged from .51 to .77.

To check the stability of the ratings, test-retest reliability was measured at four week intervals. The reliability score for the total scale showed $r = .68$. Reliability for the subscales showed values ranging from $r = .52$ to $r = .66$. Gresham and Elliott (1990) decided these values were within the acceptable range for a social skills measurement.

A more recent study, Diperna and Volpe (2005) examined the self-report version of the SSRS for children in elementary school between grades 3 and 6. Results show that the student form of the SSRS is still reliable and valid for children growing up two decades after the scale was originally developed. Measures of internal consistency revealed $\alpha = .86$. Test-retest measures showed $r = .58$.

When used for this study, all 40 items of the SSRS were translated into German through the back-translation method. First, the author translated the SSRS into German. Next, an independent bilingual native English speaker translated them back to English, to verify correct and proper wording (Sperber, 2004). A few minor wording differences between the two versions were discussed and an agreement on the best wording was found. The German survey was then pilot-tested with five children between the ages of 13 and 17 years. One coach from each of the participating clubs also pre-tested the survey. Three items were slightly adjusted and two general wording issues were resolved so the participants would understand the items clearly. Tests for internal reliability of the SSRS sub-scales in the German version showed similar and partially better Cronbach's alpha scores (cooperation $\alpha = .68$, assertion $\alpha = .75$, empathy $\alpha = .79$, and self-control $\alpha = .74$) than the original instrument.

Data Analysis

Using SPSS, descriptive statistics were calculated, including means and standard deviations for all variables. The internal consistency of the social skill scale and the dimension sub-scales were analyzed using Cronbach's alpha (α).

A t-test was used to analyze social skill differences between participants of the two different team sports (field-hockey and volleyball). Because the results showed that there were no significant differences between the two sports ($t = 1.058$, $p = .296$, effect size $r = .151$), field-hockey and volleyball data were then collapsed into one category (team sports). To compare social skill means of participants in team sports versus participants in individual sports t-tests were run. To analyze differences between individuals in team sports and individual sports for the four sub-scales of social skills: empathy, assertion, cooperation, and self-control additional t-tests were run. Individual t-test analyses were done for each item to compare the mean between team and individual sports.

In order to compare overall social skill scale means for boys and girls and to analyze differences between boys and girls for each of the four sub-scales t-tests were used. A two-way ANOVA was run to test for an interaction effect between gender (boys versus girls) and sport type (individual versus team sport) in relation to reported social skills. A t-test was also run to compare boys and girls in the badminton population. The Bonferroni adjustment method was used because of the low sample size. Therefore the significance level of .05 was adjusted to .017 based on difference testing with three different groups (badminton, field-hockey, and volleyball).

CHAPTER IV: RESULTS

Descriptive Statistics

One hundred and four people ($N = 104$) participated in this study. Of those 104, 76% ($n = 79$) completed the survey. Forty-three percent ($n = 34$) of the participants were members of a badminton club representing the individual athletes. Volleyball ($n = 27$) and field-hockey ($n = 18$) represented 57% ($n = 45$) of the participants from the team sports. The total response rate from the clubs including all of the current adolescent members was 31%.

Participants' ages ranged from 13 to 19 years (see Table 1). The mean average age of participants was $M = 15.37$ years. The ratio of participating boys ($n = 37$) and girls ($n = 42$) choosing badminton, field-hockey, or volleyball as their main sport was almost equal. The majority of participants (84.3%) trained in their primary sport two or more times per week.

The results of the item analysis of M and SD conducted are presented in Table 2. Except on the self-control scale, participants in both team sports (field-hockey and volleyball) showed higher mean averages for all sub-scales than participants in individual sports (badminton). Girls ($M = 3.81$) had higher levels of social skill development than boys ($M = 3.69$). In team sports, the mean average was higher for boys than for girls, as shown in Table 3. In individual sports, girls reported a higher mean average social skill development level than boys.

Statistical Analyses

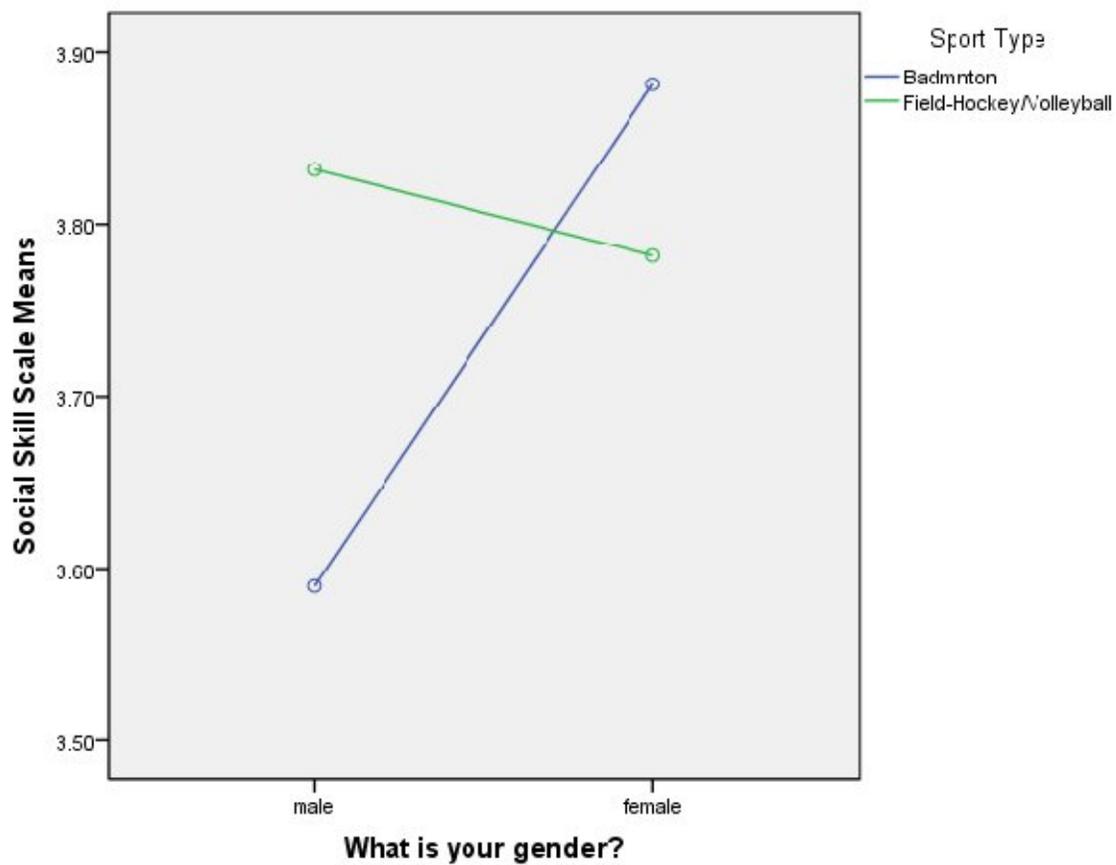
A two-way ANOVA was run to test for an interaction effect between gender and sport type (see Figure 2). There was a significant interaction effect ($F = 4.865$, $p = .030$, $r =$

.061; see Table 4) where badminton players showed significant differences between boys and girls ($t = -2.860, p = .007, r = -.448$). Boys ($M = 3.59, SD = .270$) reported significantly lower scores than girls ($M = 3.88, SD = .312$) for individual sports. For team sports no significance differences were found ($t = .451, p = .654, r = .065$).

The t-test for independent samples did not reveal significant differences ($t = -1.396, p = .167, r = -.158$) between team sports and individual sports on overall social skill development. The t-tests for the sub-scales (cooperation, assertion, empathy, and self-control) revealed no significant differences between participants in team sports and those in individual sports. When an individual analysis was conducted on each item, four items revealed significantly higher means for participants in team sports versus participants in individuals sports: do homework ($t = -2.227, p = .029, r = -.238$), tell others when they've done well ($t = -2.253, p = .027, r = -.248$), tell friends I like them ($t = -2.316, p = .023, r = -.248$), and stand up for friends ($t = -2.278, p = .026, r = -.246$).

The analysis for gender differences revealed higher scores for girls, but no statistically significant differences for the overall social skill scale between boys and girls ($t = -1.636, p = .106, r = -.180$). A comparison of the means for boys and girls on the social skill sub-scales showed significantly higher means for girls on the cooperation ($t = -3.465, p = .001, r = -.363$) and the empathy ($t = -3.236, p = .002, r = -.342$) items.

Figure 2. Social Skill Differences between Boys and Girls in Team and Individual Sports



CHAPTER V: DISCUSSION

Building a strong social skill base is among the most important processes for children in their elementary and high school years (Elliott & Gresham, 1993). Sport can foster the development of these important skills in children (Danish et al., 2004). Previous studies in sports have often neglected sport type differences and their relation to the examined variables (Le Menestrel & Perkins, 2007). Furthermore, most studies in sport participation analyzed life skill development in children without paying close attention to social skill development. Thus, the first purpose of this study was to compare levels of social skills in teenagers participating in team sports with teenagers participating in individual sports. The second purpose was to examine gender differences in social skills among participants in team and individual sports.

The first research question asked whether adolescents playing team sports report higher social skills than their counterparts who participate in individual sports. Results showed that no significant differences were found between team and individual sport athletes in terms of their reported social skills in this study. Hypothesis one, which stated that participants in team sports report significantly higher social skills than participants in individual sports, was rejected. The results reflect the ambiguity in the research field about whether the sports type can make a difference (Gill & Dzewaltowski, 1988). Assumptions about individual sports being more performance-oriented (Vealey, 1986) and therefore neglecting the social skill aspect could not be confirmed. Other factors may play a larger role in social skill development than the type of sport in which an individual participates.

The second research question was concerned with possible differences of reported levels in the four social sub-scales. Results showed no significant differences for teenagers in team sports versus their counterparts in individual sports, in terms of their mean scores on the empathy, self-control, assertion, and cooperation sub-scales. This led to the rejection of hypothesis two, which stated that significant differences in the mean cooperation and empathy scores exist. Hypothesis three, stating that there would not be a significant difference in the mean self-control and assertion scores was confirmed. Despite the fact that athletes in team sports need to cooperate with team members and also anticipate opponents' actions (Baker, Côté, & Abernethy, 2003), the athletes' cooperation and empathy skills do not seem to be impacted in the examined population of this study. A possible explanation for these findings could be that the environments of the individual sports in the sample used for this study do not differ as much from team sports as they could in some other individual sports. In the sample examined, badminton, as well as field hockey and volleyball, are practiced in a group led by one or two coaches. Also, in badminton, coaches are mainly instructing the whole group at once, as opposed to other individual sports where coaches spend more one-on-one time with the athlete, which in turn could affect the social skill outcome (Bloom et al., 1998).

Research question three asked whether social skills significantly differ between boys and girls. This study did not reveal significantly higher social skills in girls. Thus, hypothesis four, projecting significant higher social skill scores for girls would exist, was rejected. The findings of this study for the whole examined population were surprising. This finding is

contrary to former social skills literature (Groves, 2005; Margalit & Eysenck, 1990; Mendez, Hidalgo, & Ingles, 2002), which for the most part found girls and women to be more socially skilled than boys and men. A possible explanation for this finding may be that sport participation helps boys to overcome the social skill deficit they usually have compared to girls. This explanation could be backed-up by the finding that boys are usually more physically active than girls (Troost et al., 2002), and therefore have a higher potential to use sport participation to develop social skills.

The last research question brought up the possibility of significant social skill differences between boys and girls in team sports and in individual sports. The interaction effect between gender and sport type in relation to reported social skills shows that within team sports girls report lower social skills than boys. However, within individual sports, girls showed higher social skill development than boys. Only the differences between boys and girls in individual sports were significant. Thus, the hypothesis that girls would show significantly higher social skills in both sport types was rejected. Drawing on my personal sport experience as a long-time badminton player in one of the examined clubs, I would add that boys with rather low social skills might prefer to select badminton, as opposed to team sports, because they would have to interact more with team members. This pre-selection from boys might explain part of the social skill deficit in boys compared to girls in individual sports.

Another part of the social skill deficit may be explained by the idea that sport participation can help boys in making up for their general social skill deficit (Groves, 2005;

Margalit & Eysenck, 1990; Mendez, Hidalgo, & Ingles, 2002), as the discussion of research question three eluded. This explanation seems to especially ring true in team sports, for which the t-test did not reveal significant gender differences. However, in individual sports, this catching-up effect does not seem to exist. The data set of individual sports showed significantly higher mean social skills for girls, which confirms what was hypothesized for the whole data set, and what previous research has reported (Margalit & Eysenck, 1990).

Summarizing all of the above mentioned findings could lead to the following two conclusions. First, sport participation in individual sports or team sports may not be an influential variable to explain social skill development without taking into consideration other variables (e.g., socio-demographic and other environmental factors critical to social skill development). Second, within the sport environment, gender might not explain the differences in social skill development well, contradicting previous studies conducted outside the sport environment.

The conclusions above might contribute to the existing social learning theory in the following way. In team sports, the observation opportunities, which are the bases of learning in a social setting, are more frequent and varied than in individual sports. The team sports environment helps boys to make up for the general social skill level difference that exists between boys and girls. Thus, observation and imitation depends on the characteristics of the specific environment, which can highly impact the social learning effect.

Limitations

Probably the biggest limitation of this study is the low sample size. While the statistical methods used in this manuscript allow for drawing conclusions even with small samples, a larger sample size would allow for more robust results and conclusions. Due to the small sample size obtained for this study, results and policy implications should be interpreted with caution.

Another limitation of this study was the failure to measure or control for other influential factors, besides sport participation, affecting social skills in adolescents. This study only examined social skill differences in adolescents that could possibly be attributed to participation in team versus individual sports. However, many other factors critical to social skill development, such as cultural background and school and home environments, among others, were not measured.

This study drew from sample sport clubs situated in Berlin, Germany. The results are not necessarily generalizable to rural areas, other urban areas in Germany, or other countries. Further, the samples may not reflect differences in team sports and individual sports in general, because they focus only on volleyball, field-hockey, and badminton. All three sample sports are typically practiced by children from a middle class background, with a medium to high education level. These results may not apply to children of other backgrounds and education levels, or across levels, although their similar background and education levels were useful to this study because they created less variance in the sample,

and therefore further isolated the specific effects of the sport environment on the child's social skill level.

The club structure of recreational and professional sports in Germany is unique. It cannot be compared to high school and university sports in the United States, where schools, local governments, and national organizations primarily organize intramural, recreational and professional sports.

Further limitations appeared during the process of the data collection. The advertisement of the study among participating sports clubs was uneven. Badminton members of the Berliner Sport-Club e.V. and volleyball members from the TSV Spandau 1860 e.V. were reminded of the study by coaches at training. No information exists whether the two other sport clubs also had their coaches advertise the study. The response-rate from those clubs suggests otherwise. A direct line to the possible participants would have guaranteed equal information dispersion.

Finding gender differences led to another possible limitation. In this sample, badminton training was done as a group of boys and girls together. In volleyball and field hockey, boys and girls trained separately. This could affect both participants' self-selection into one sport and social skill development in the sport.

Recommendations for Future Research

Based on the results from this study and observations during the process of collecting and analyzing data, several recommendations for future research can be made. In order to further explore if the findings of this study are applicable to other cities in Germany, the

study should be replicated with a diverse and larger sample, e.g. by collaborating with sport clubs from Munich, Frankfurt, Cologne, or other metropolitan areas.

Existing literature (e.g. Fredricks & Eccles, 2006) has shown positive impacts of more and longer sport participation in terms of positive youth development. A future study on social skills in team and individual sports should include a duration component, and explore causality between sport participation duration and reported social skills.

In addition, future research should examine the nature and magnitude of what other factors impact female and male athletes' social skills. The interaction effect between gender and sport type in this study points towards this fact but was not strong enough to make conclusions and therefore requires a more detailed examination.

Conclusion/Summary

Two main conclusions may be drawn from this study. The first is that a significant social skill difference between participants in team sports and participants in individual sports seemed to not exist. The second conclusion is that even when girls report higher social skills in sports than boys, this difference was not significant. However, girls were significantly more socially skilled than boys in individual sports, whereas in team sports boys were more socially skilled than girls.

Sports can be used as a tool to direct adolescents in a positive direction and to stay away from problematic behavior such as violence or drug use (Damon, 2004). Sports can also be used as a medium to re-integrate adolescents into society. Social skills are among the most important skills adolescents can learn. For practitioners, this study may provide the

information that both individual sports and team sports may provide an environment that can foster socially skilled adolescents. However, for boys that are already in trouble and are on the outside edges of society, it seems that team sports might be the better environment to learn from socially skilled people of the same gender, and adapt a socially accepted behavior through social learning, which may help to stay away social concerns like violence and drug use.

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TABLES AND FIGURES**Table 1***Age Distribution of Study Participants*

								Total
Age	13	14	15	16	17	18	19	
Frequency	15	14	18	11	8	6	7	79

Table 2*Means and Standard Deviations of the SSRS Items*

Item	Badminton		Field-Hockey		Volleyball	
	M	SD	M	SD	M	SD
Cooperation Sub-scale						
Finish classroom work	4.12	.913	4.33	.485	4.26	.656
Do homework	3.82*	1.029	4.06*	.725	4.37*	.565
Follow teacher's instructions	4.24	.781	4.39	.502	4.30	.542
Ask before using things	4.26	.790	4.06	.802	4.41	.747
Use free time	3.65	.691	3.94	.802	3.89	.847
Use nice voice	4.06	.547	4.06	.639	4.11	.577
Keep desk clean	3.12	1.225	3.50	1.150	3.41	1.152
Listen to adults	4.09	.621	4.33	.686	4.22	.641
Avoid trouble	4.06	.694	4.11	.583	3.78	.801
Ask friends for favors	3.41	.957	3.72	.752	3.33	.920
Total	3.88	.450	4.05	.381	4.01	.356
Assertion Sub-scale						
Get attention of opposite sex	3.74	.710	3.67	.767	3.78	.751
Confident on dates	3.71	.871	3.78	1.166	3.85	.770
Start conversation with opposite sex	3.68	.638	3.56	.705	3.44	.801

Table 2. (continued)

Ask for date	2.29	.970	2.50	.985	1.85	.718
Compliment opposite sex	3.24	.955	3.33	1.029	3.00	1.109
Make friends	4.21	.538	4.39	.698	4.30	.609
Start talks with class members	4.03	.577	4.28	.752	4.33	.620
Active in school activities	3.38	1.015	3.83	.707	3.67	.877
Invite others to join activities	3.21	1.225	3.72	.895	3.41	.844
Ask adults for help	2.88	.808	3.39	.916	3.15	.718
Total	3.44	.376	3.64	.632	3.48	.442
Empathy Sub-scale						
Understand how friends feel	4.18	.626	4.22	.548	4.15	.602
Listen to friends' problems	4.32	.684	4.33	.767	4.63	.629
Ask friends for help with problems	3.82	.758	3.94	.938	3.70	.993
Feel sorry for others	4.12	.686	3.94	.873	3.93	.874
Tell others when they've done well	3.82*	.797	4.33*	.686	4.15*	.818
Tell friends I like them	3.56*	1.236	3.89*	1.079	4.26*	.712
Stand up for friends	4.18*	.673	4.50*	.618	4.52*	.643
Say nice things to others	3.76	.606	4.00	.686	3.85	.718
Talk over classmates' problems	3.09	.830	3.44	.984	2.89	.892
Smile, wave, or nod	3.97	.797	4.11	.832	4.37	.688

Table 2. (continued)

Total	3.88	.423	4.05	.527	4.01	.465
<hr/>						
Self-Control Sub-scale						
Accept punishment from adults	3.35	.849	3.94	.802	3.44	.859
Take criticism from parents	3.47	.748	3.72	1.018	3.33	.832
Control temper	3.74	.828	3.89	.758	3.33	.920
End fights with parents	3.56	.960	3.89	.676	3.33	.679
Compromise with parents or teachers	3.71	.719	3.89	.583	3.41	.694
Disagree without fighting	3.65	.849	3.61	.778	3.59	.844
Ignore classmates' clowning	3.47	.896	3.17	1.043	3.74	.859
Ignore children teasing me	3.35	.981	3.17	.857	3.30	.869
Avoid trouble	3.97	.797	3.89	.758	3.81	.834
Do nice things for parents	3.44	.960	3.78	.878	3.78	.641
<hr/>						
Total	3.57	.485	3.69	.437	3.49	.444

Note: * shows significant differences between team and individual sports

Table 3*Social Skill Means and Standard Deviations for Boys/Girls by Sport Type*

	M		SD	
	Boys	Girls	Boys	Girls
Individual Sports	3.59*	3.88*	.270	.312
Team Sports	3.83	3.78	.465	.280

Note: * shows significant differences between means at the .01 level

Table 4*Descriptive Statistics for two-way ANOVA*

Gender	Sport Type	<i>M</i>	<i>SD</i>	<i>N</i>
Girls	Individual	3.88*	.312	12
	Team	3.78	.280	30
	Total	3.81	.290	42
Boys	Individual	3.59*	.270	22
	Team	3.83	.470	15
	Total	3.69	.380	37
Total	Individual	3.69	.313	34
	Team	3.80	.347	45
	Total	3.75	.335	79

Note: * shows significant differences between means at the .01 level