Examining Shyness and Self-Esteem in Athletes and Non-Athletes

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Participation in sport and exercise has positive impacts on quality of life. For example, collegiate sport participation provides opportunities for social interactions, which have potential to affect self-esteem and shyness. The purpose of the present study was to examine self-esteem and shyness in athletic and nonathletic student populations. One hundred ninety-six undergraduate participants (n_athletes = 128, n_non-athletes = 68) at a university in southeast U.S. completed a demographic questionnaire, the Rosenberg Self-Esteem scale, and the Shyness Scale. Our results aligned with the previous research demonstrating that athletes scored higher on self-esteem and lower on shyness compared to non-athletes. A simple linear regression analysis revealed a significant negative relationship between shyness and self-esteem. Potential reasons for the findings and implications for research are discussed.

Key words: Shyness, self-esteem, athletes, non-athletes, collegiate sport participation

Physical activity, exercise, and sport participation have numerous physical and psychological benefits (King, Taylor, & Haskell, 1993; Penedo & Dahn, 2005). The physical benefits include enhancement in physical and cardio-respiratory fitness, body composition, and immune system function (Bouchard, Déprés, & Tremblay, 1993; Nehlsen-Cannarella et al., 1991). Improvements in psychological health and well-being include increased self-esteem and self-worth, enhanced affect and mood, and reduced trait anxiety, depression symptoms, and stress (Biddle & Mutrie, 1991; Brown, Pearson, Braithwaite, Brown, & Biddle, 2013; Folkins & Sime, 1981). Meta-analytic reviews suggest that exercise can improve body image and body-satisfaction (Campbell & Hausenblas, 2009; Loland, 2000; Reel et al., 2007).

Even though engagement in sports offers opportunities for social interactions and development of personal relationships that can improve social skills (Ebbeck & Weiss, 1998; Findlay & Coplan, 2008), evidence is equivocal when attempting to distinguish between athletes from non-athletes. Many studies suggest that athletes are more extraverted, mentally tougher, emotionally stable, energetic, conscientious, open to new experiences, exhibit greater self-esteem, and have lower depression and neuroticism compared to non-athletes (Armstrong & Oomen-Early, 2009; Dishman et al., 2006; Dobersek & Bartling, 2008; Malinauskas, Dumciene, Mamkus, & Venckunas, 2014; Szabo & Urbán, 2014). Whereas, other studies suggest no differences in extraversion and other personality traits (McKelvie, Lemieux, & Stout, 2003; Vealey, 2002; Schurr, Ashley, & Joy, 1977).

Shyness is conceptualized as inhibition, discomfort, withdrawal, apprehension, and awkwardness experienced in social and/or novel situations (Findlay & Copland, 2008; Findlay & Coplan, 2008; Findlay & Coplan, 2008).

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Numerous findings indicated a wide range of negative effects as a result of this trait characteristic (Barry, Nelson, & Christofferson, 2013; Haugen, Reidar, & Ommundsen, 2013). For example, social situations pertaining to performance and/or perceived negative evaluations by others, meeting new people, and interacting with authority figures or potential romantic partners (Henderson & Zimbardo, 2008; Hopko, Stowell, Jones, Armento, & Cheek, 2005) can invoke self-consciousness, fear, stress, worry, anxiety, and rumination (Barry et al., 2013), which in turn may lead to social isolation, withdrawal, and loneliness (Kalliopuska, 2008; Mounts, Valentiner, Anderson, & Boswell, 2006). Among university students, shyness was associated with greater anxiety, depression, and lower self-perceptions (Nelson et al., 2008).

In athletics, shyness is often considered as an undesirable trait because shy athletes may lack confidence, and experience increased somatic and state anxiety that can lead to diminished performance (Ikhioya, 1996; Kingsbury, Coplan, & Reichel, 2011; Prakash & Coplan, 2003). Evidence on the social outcomes of sport participation has consistently demonstrated a negative relationship between shyness and physical activity and sport participation (Page & Hammermeister, 1995; Page & Zarco, 2001).

Another construct related to personality that elicited a large body of theoretical accounts and empirical research is self-esteem (Kernis, 2013; Swann & Bosson, 2010). Self-esteem is defined as an affective and evaluative feeling a person has about him- or herself (Baumeister, 1999; Sabiston, Whitehead, & Eklund, 2012). Self-esteem has been conceptualized as a global evaluation about the self (i.e., global self-esteem) and an evaluation of specific domains such as intellectual abilities and physical abilities (i.e., domain-specific self-esteem). Regardless of an important theoretical difference between global and domain-specific self-esteem (see Brown, 2014), they are positively correlated.

Some studies found that sport participation results in increased self-esteem over time (Koyuncu, 2010; Steitz & Owen, 1992), while others show a weak positive relationship (Marsh & Jackson, 1986; Spreitzer, 1994), no association (Kort-Butler & Hagewen, 2011), or even negative association (Bowker, 2006) between self-esteem and sport participation. Despite some inconsistent findings, the majority of the literature supports the notion that sport participation is associated with improvement in psychosocial well-being. Although the majority of theoretical and empirical investigations of shyness and self-esteem involve adults, research demonstrates a negative relationship between shyness and self-esteem across lifespan (Hymel, Bowker, & Woody, 1993; Kemple, 1995).

Given that the extant literature provides a considerable evidence on sport participation and its association with self-esteem and shyness, the primary aim of this study was to examine shyness and self-esteem between student-athletes and non-athletes. We hypothesized that student-athletes would score lower on shyness and higher on self-esteem compared to non-athletes. In addition, consistent with previous research, we anticipated to find a negative relationship between self-esteem and shyness.

METHOD

Participants

Participants (n = 196) were recruited from a university campus in the southern portion of the U.S. Student-athletes (n = 128) were members of the National College American Association Division I individual and team sports (i.e., track and field = 19, women’s soccer = 19, women’s golf = 6, women’s tennis = 6, softball = 13, women’s volleyball = 8, women’s basketball = 11, men’s basketball = 12, baseball = 13, and football = 21). Non-athletes (n = 68) were volunteers
from the subject pool in the Psychology Department. Participants ranged in age from 18 to 52 ($M_{\text{age}} = 20.14$, $SD = 3.85$) and identified as White (63.3%), African-American (28.6%), Hispanic (4.1%), or multicultural (4.1%).

Measures

Demographic questionnaire. A self-report demographic questionnaire was used to request information on age, sex, ethnicity, and sport participation.

Global self-esteem. Rosenberg’s Self-Esteem (RSE) scale (Rosenberg, 1965; 1979) was used as an indicator of global self-worth. It is a 10-item Likert-scale ranging from 1 (strongly disagree) to 4 (strongly agree). The RSE contains an equal number of positively (e.g., individual feeling satisfied with life) and negatively (e.g., individual feeling of unworthiness) worded items. The scores for all items are summed and can range from 0 to 30 – higher scores indicate higher self-esteem levels. An example of a RSE item is “I feel that I am a person of worth, at least on an equal plane with others.” The RSE demonstrated satisfactory psychometric (Gray-Little, Williams, & Hancock, 1997; Robins, Hendin, & Trzesniewski, 2001; Rosenberg, 1979; Shorkey & Whiteman, 1977). The internal reliability coefficient for this study was .88.

Global shyness. The 20-item Shyness Scale (SS; Cheek & Melchior, 1985) was used to measure the level of discomfort and inhibition an individual typically experiences during social interactions. The SS includes items (e.g., “I am socially somewhat awkward”) on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). After reverse scoring, the scores are aggregated and can range between 20 and 100 where higher scores indicate higher levels of shyness. The measure demonstrated satisfactory psychometric properties (Cheek, 1983; Cheek & Melchior, 1985), (Cheek & Melchior, 1985). The internal reliability coefficient for this study was .89.

Procedure

Participants were recruited through a convenience sampling. Specifically, non-athletes were recruited from psychology courses through the subject pool in the Psychology Department and had the opportunity to receive extra credit. The primary researcher met the non-athletes in the laboratory and explained the study procedures. It was described as an investigation about perceptions of well-being among college students. Participants completed Demographic Questionnaire, the Rosenberg Self-Esteem scale, and the Shyness Scale that were counterbalanced to control for order effects.

Student-athletes were recruited with the assistance of the coaching staff. First author met with the coaches from each respective sport to explain the study and hand out the questionnaires and standardized instructions. Coaches gave the questionnaires (i.e., Demographic Questionnaire, the Rosenberg Self-Esteem scale, and the Shyness Scale) at their convenience during their team meetings. The first author collected the surveys from the coaching staff upon the completion.

Data Analyses

The statistical program G-Power was used a priori to determine the minimum number of participants, assuming moderate effect ($N = 102$ for an independent $t$-test; $N = 77$ for the regression analysis). Descriptive and statistical tests for analyzing data were performed using SPSS Version 19.0. Two separate independent $t$-tests were used to examine self-esteem and
shyness between athletes and non-athletes. A simple linear regression analysis was used to examine the relationship between shyness and self-esteem.

RESULTS

Preliminary Analyses
Preliminary analyses were conducted to examine for missing values and testing the assumptions underlying an independent t-test and linear regression models. First, there were no missing values in the data set. Second, linearity was established by visual inspection of the scatterplot for both groups. Third, data were screened for univariate and multivariate outliers. Standardized z-scores suggested six probable univariate outliers (i.e., > 1% values > 1.96; athletes = 4, non-athletes = 2) on self-esteem and four probable univariate outliers (i.e., > 1% values > 1.96; athletes = 2; non-athletes = 2) on shyness. The Winsorizing approach was used to deal with the outliers by replacing them with the next highest score that was not an outlier (Field, 2012). Fourth, visual inspection of standardized predicted values and error scores within each group (i.e., athletes and non-athletes) suggested homoscedasticity. Additionally, Levene’s test demonstrated homogeneity of variance on self-esteem, \( F(1, 194) = 0.94, p = .33 \), and shyness, \( F(1, 194) = 2.93, p = .09 \).

Finally, the assumption of normality was tested by examining skewness and kurtosis values. All skewness and kurtosis values were in normal range (< 3.3; Tabachnick & Fidell, 2013) except a slightly negatively skewed self-esteem value of -4.19 among athletes. Because moderate departures from normality usually have little effect on the analysis (Weisberg, 2014), no transformation procedures were implemented.

Descriptive and Main Analyses
Descriptive statistics, including means and standard deviations for shyness and self-esteem are presented in Table 1. An independent t-test suggested a statistically significant difference between athletes and non-athletes on self-esteem, where athletes (M = 25.57, SD = 3.62) scored higher on self-esteem compared to non-athletes (M = 24.29, SD = 3.86), \( t(194) = -2.29, p = .02, d = 0.34 \). Albeit marginally significant, non-athletes (M = 49.13, SD = 12.26) scored higher on shyness compared to their counterparts (M = 45.76, SD = 11.18), \( t(194) = 1.94, p = .05, d = 0.28 \).

To test the relationship between shyness and self-esteem, we performed a simple linear regression analysis. A simple linear regression suggested that self-esteem negatively predicted shyness, \( b = -1.12, t(194) = -5.32, p < .01 \). Self-esteem explained a significant proportion of variance in shyness, \( R^2 = .13, F(1, 194) = 28.27, p < .01 \).

Table 1.

<table>
<thead>
<tr>
<th>Correlation, Means, Standard Deviations for Shyness and Self-Esteem</th>
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<td><strong>1</strong></td>
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<td><em>M (SD)</em></td>
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<td>1. Shyness</td>
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<td>2. Self-Esteem</td>
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*Note. M = mean, SD = standard deviation, n = number of participants.*

**p < .01

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DISCUSSION

Research consistently demonstrated positive effects of regular engagement in sport, exercise, and physical activity. However, research on personality characteristics between athletes and non-athletes has been equivocal. Therefore, the current study examined shyness and self-esteem between athletes involved in the collegiate sports and non-athletes. Our results showed that student-athletes scored higher on self-esteem and lower on shyness compared to non-athletes, which is consistent with previous research. Additionally, there was a negative relationship between shyness and self-esteem.

Athletes demonstrated higher levels of self-esteem than non-athletes. This is consistent with extant research suggesting that athletes have more positive affective and evaluative feelings about themselves—hence greater self-esteem—compared to non-athletes (Armstrong & Oomen-Early, 2009; Dishman et al., 2006; Haugen et al., 2013; Martin, Carron, Eys, & Loughead, 2012). According to the Sonstroem and Morgan’s (1989) Exercise and Self-Esteem Model, engagement in sport, exercise, and physical activity results in greater physical self-efficacy, which leads to positive physical self-concept and this in turn, generalizes to an increased global self-esteem. Although some previous research between sport and exercise engagement and self-esteem have demonstrated inconsistent findings (Bowker, 2006; Kort-Butler & Hagewen, 2011; Marsh & Jackson, 1986; Simmons & Childers, 2013; Spreitzer, 1994), the results of the current study suggest that sport participation and self-esteem have a positive relationship. Our results provide further support for prior research demonstrating that sport and exercise participation has numerous positive benefits including opportunities for social interaction and development of relationships. These benefits can lead to improvement in social skills (Ebbeck & Weiss, 1998; Findlay & Coplan, 2008) and other positive characteristics (e.g., self-confidence, self-esteem). While we are unable to determine the causal direction due to the correlational nature of the study, we confirmed a positive relationship between sport participation and self-esteem.

Regarding shyness, individuals engaged in collegiate sports were marginally less shy compared to their non-athletic counterparts. These results were consistent with the existing body of research suggesting that sport participation and shyness are negatively related (Haugen et al., 2013; Martin et al., 2012). It can be posited that specific elements of sport especially team or club sports may provide unique protective effects from shyness and anxiety symptoms including the structured, organized, competitive, and social nature (e.g., social connectedness, support, interaction, peer bonding; Eime, Young, Harvey, Charity, & Payne, 2010) of sport. This finding is consistent across lifespan from elementary schoolchildren through young adulthood (Ashdown-Franks, Sabiston, Solomon-Krakis, & O’Loughlin, 2017; Findlay & Coplan, 2008; McHale et al., 2005). Due to a correlational nature of the study, we cannot conclude that sport participation decreases one’s shyness levels. It could be that individuals who possess certain attributes (e.g., lower shyness, greater self-esteem) drive them to participate in sports or influence their selection of activities rather than sport itself fosters such qualities. Experimental and longitudinal studies would better able to address this issue of directionality in future research.

As posited, shyness and self-esteem showed a negative relationship. Specifically, individuals who scored high on self-esteem, scored low on shyness regardless of whether or not they were student-athletes or non-athletes. This finding is consistent with the previous research, (Chan & Wong, 2011; Hymel et al., 1993) and was demonstrated utilizing both qualitative (Fordham & Stevenson-Hinde, 1999) and quantitative research methods (Hymel et al., 1993; Kemple, 1995; Wadman, Durkin, & Conti-Ramsden, 2008). Additionally, shyness and self-esteem show negative correlations across lifespan (Chan & Wong, 2011; Kemple, 1995;
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Wadman et al., 2008). Although much applied research has focused on self-esteem (see Ekeland, Heian, & Hagen, 2005 for a systematic review of randomized trials), given the scarcity of applied research on shyness, future studies could examine if interventions to decrease shyness can minimize its negative consequences.

The current findings have limitations. First, convenience sampling limits the generalizability of the results. Future research should make an effort to assess representative samples from other university populations and utilize standardized way of collecting data for the groups. Second, there was a disparity between participants’ age ranges, which presents a source of sampling error. This occurrence was not unexpected as there is no age limit regarding a general student enrollment. Third, a disparity in the sample sizes between student-athletes and non-athletes could be addressed by collecting more/less data from the respective group. Fourth, although the questionnaires were administered in a random order to avoid order effects and each group was provided standardized instructions, we administered the questionnaires in a slightly different manner to each group, which could influence participants’ responses and presents a threat to internal validity. Fifth, the current study did not control for sport participation and engagement in exercise and physical activity among non-athletes. Finally, data collection solely relied on participants’ self-report, which presents a plethora of issues such as misreporting and misremembering (Archer, Pavela, & Lavie, 2015).

Despite limitations, our study makes important contributions to the field. We replicated the findings of the previous research demonstrating that collegiate sport participation is positively related to self-esteem (Armstrong & Oomen-Early, 2009) and a negative relationship between shyness and self-esteem (Chan & Wong, 2011; Cheek, Melchior, & Carpentieri, 1986; Wadman et al., 2008). Given the replicability crisis in psychology (Baker, 2016; Begley & Ioannidis, 2015), our confirmation of previous results is a productive step forward. The results of this study have both practical and theoretical implications in the field of sport and exercise psychology. At the practical level, our results on the relation between engagement in sport and self-esteem and shyness should be of interest to coaches, mental performance consultants, and athletic and physical trainers to assist with their decision-making and interpersonal communication. At the theoretical level, the findings of the current study pose new research questions and offer ideas for novel studies.
REFERENCES


