AMERICAN JOURNAL OF PSYCHOLOGICAL RESEARCH 2018, 11, 5-15 NUMBER 1 (SPRING, 2018)

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, $n_{non\text{-}athletes}$ = 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, Deprés, & 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;

We thank Dr. Edward C. Archer for language editing and proofreading, which greatly improved the paper.

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Henderson & Zimbardo, 2001). 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_{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.

Correlation, Means, Standard Deviations for Shyness and Self-Esteem

	1	Athletes (n = 128) M (SD)	Non-Athletes (n = 68) M (SD)	Total (n = 196) M (SD)
1. Shyness	-	45.76 (11.19)	49.13 (12.26)	46.76 (11.65)
2. Self-Esteem	- .36**	25.57 (3.62)	24.29 (3.86)	25.13 (3.74)

Note. M = mean, SD = standard deviation, n = number of participants.

**$p < .01$

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 though young adulthood (Ashdown-Franks, Sabiston, Solomon-Krakus, & 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 a., 1993; Kemple, 1995; Wadman, Durkin, & Conti-Ramsden, 2008). Additionally, shyness and self-esteem show negative correlations across lifespan (Chan & Wong, 2011; Kemple, 1995;

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

Archer, E., Pavela, G., & Lavie, C. J. (2015). The inadmissibility of what we eat in America and NHANES dietary data in nutrition and obesity research and the scientific formulation of national dietary guidelines. *Mayo Clinic Proceedings, 90*(7), 911-926. doi: 0.1016/j.mayocp.2015.04.009

Armstrong, S., & Oomen-Early, J. (2009). Social connectedness, self-esteem, and depression symptomatology among collegiate athletes versus nonathletes. *Journal of American College Health, 57*(5), 521-526. doi: 10.3200/jach.57.5.521-526

Ashdown-Franks, G., Sabiston, C. M., Solomon-Krakus, S., & O'Loughlin, J. L. (2017). Sport participation in high school and anxiety symptoms in young adulthood. *Mental Health and Physical Activity*, *12*, 19-24. doi: 10.1016/j.mhpa.2016.12.001

Baker, M. (2016). 1,500 scientists lift the lid on reproducibility. *Nature,* 533(7604), 452-454.

Barry, C. M., Nelson, L. J., & Christofferson, J. L. (2013). Asocial and afraid: An examination of shyness and anxiety in emerging adulthood. *Journal of Family Studies*, *19*(1), 2-18. doi: 10.5172/jfs.2012.1979

Baumeister, R. F. (1999). Self-concept, self-esteem, and identity. In Derlega, Valerian J. (Ed); Winstead, Barbara A. (Ed); Jones, Warren H. (Ed), (1999). *Personality: Contemporary theory and research* (2nd ed.), (pp. 339-375). Chicago, IL, US: Nelson-Hall Publishers.

Begley, C. G., & Ioannidis, J. P. (2015). Reproducibility in science: Improving the standard for basic and preclinical research. *Circulation research*, *116*(1), 116-126. doi: 10.1161/CIRCRESAHA.114.303819

Biddle, S. J. H., & Mutrie, N. (1991). *Psychology of physical activity and exercise: A health-related perspective.* London, UK: Springer-Verlag.

Bouchard, C., Deprés, J.-P., & Tremblay, A. (1993). Exercise and obesity. *Obesity research, 1*(2), 133-147. doi: 10.1002/j.1550-8528.1993.tb00603.x

Bowker, A. (2006). The relationship between sports participation and self-esteem during early adolescence. *Canadian Journal of Behavioural Science/Revue Canadienne des Sciences du Comportement, 38*(3), 214–229. doi: 10.1037/cjbs2006009

Brown, J. D. (2014). Self-esteem and self-evaluation: Feeling is believing. *Psychological perspectives on the self*, *4*(8), 27-58.

Brown, H., Pearson, N., Braithwaite, R., Brown, W., & Biddle, S. H. (2013). Physical activity interventions and depression in children and adolescents. *Sports Medicine, 43*(3), 195-206. doi: 10.1007/s40279-012-0015-8

Chan, S. M., & Wong, A. K. Y. (2011). Shyness in late childhood: Relations with attributional styles and self-esteem. *Child: Care, Health and Development,* doi:10.1111/j.1365-2214.2011.01351.x

Campbell, A., & Hausenblas, H. A. (2009). The role of exercise dependence for the relationship between exercise behavior and eating pathology: Mediator or moderator? *Journal of Health Psychology, 13,* 495-502. doi: 10.1002/erv.1111

Cheek, J. M. (1983). The revised Cheek and Buss Shyness Scale (RCBSS). Retrieved from http://www.wellesley.edu/Psychology/Cheek/research.html

Cheek, J. M., & Melchior, L. A. (1985). *Measuring the three components of shyness.* In M. H. Davis, & S. L. Franzoi, Emotion, personality, and personal well-being II. Symposium conducted at the annual convention of the American Psychological Association, Los Angeles.

Cheek, J., Melchior, L., & Carpentieri, A. (1986). Shyness and Self-Concept. In L. Hartman & K. Blankstein (Eds.), *Perception of self in emotional disorder and psychotherapy* (Vol. 11, pp. 113-131): Springer US.

Dishman, R. K., Hales, D. P., Pfeiffer, K. A., Felton, G. A., Saunders, R., Ward, D. S., … & Pate, R. P. (2006). Physical self-concept and self-esteem mediate cross-sectional relations of physical activity and sport participation with depression symptoms among adolescent girls. *Health Psychology, 25*(3), 396–407. doi: 10.1037/0278-6133.25.3.396

Dobersek, U., & Bartling, C. (2008). Connection between personality type and sport. *American Journal of Psychological Research, 4*(1), 21-28. Retrieved from https://www.mcneese.edu/f/c/c9b21236/ajpr_08_02.pdf

Ebbeck, V., & Weiss, M. R. (1998). Determinants of children's self-esteem: An examination of perceived competence and affects in sport. *Pediatric Exercise Science, 10,* 285-298. Retrieved from http://journals.humankinetics.com/AcuCustom/Sitename/Documents/DocumentItem/12460.pdf

Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: Informing development of a conceptual model of health through sport. *International Journal of Behavioral Nutrition and Physical Activity, 10*(98), 1-21. Retrieved from http://www.ijbnpa.org/content/10/1/98

Ekeland, E., Heian, F., & Hagen, K. B. (2005). Can exercise improve self-esteem in children and young people? A systematic review of randomized controlled trials. *British journal of sports medicine*, *39*(11), 792-798. doi: 10.1136/bjsm.2004.017707

Field, A. (2012). *Discovering statistics using IBM SPSS statistics.* Thousand Oaks, CA: Sage Publications Inc.

Findlay, L., & Coplan, R. J. (2008). Come out and play: Shyness in childhood and the benefits of organized sports participation. *Canadian Journal of Behavioral Science, 40*(3), 153-161. doi: 10.1037/0008-400X.40.3.153

Folkins, C. H., & Sime, W. E. (1981). Physical fitness training and mental health. *American Psychologist, 36*, 373-389. doi: 10.1037/0003-066X.36.4.373

Fordham, K., & Stevenson-Hinde, J. (1999) Shyness, friendship quality, and adjustment during middle childhood. *Journal of Child Psychology and Psychiatry*, 40, 757–768. doi: 10.1111/1469-7610.00491

Gray-Little, B., Williams, V. S. L., & Hancock, T. D. (1997). An item response theory analysis of the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin, 23*, 443-451. doi: 10.1177/0146167297235001

Haugen, T., Reidar, S., & Ommundsen, Y. (2013). Sport participation and loneliness in adolescents: The mediating role of perceived social competence. *Current Psychology*, *32*(2), 203-216. doi: 10.1007/s12144-013-9174-5

Henderson, L., & Zimbardo, P. (2001). Shyness, social anxiety, and social phobia. In S. G. Hofmann & P. M. DiBartolo (Eds.), *From social anxiety to social phobia: Multiple perspectives* (pp. 46–64). Needham Heights, MA: Allyn & Bacon.

Henderson, L., & Zimbardo, P. G. (2008). *Encyclopedia of mental health*. San Diego, CA: Academic Press.

Hopko, D. R., Stowell, J., Jones, W. H., Armento, M. E., & Cheek, J. M. (2005). Psychometric properties of the revised Cheek and Buss shyness scale. *Journal of Personality Assessment*, *84*(2), 185-192. doi: 10.1207/s15327752jpa8402_08

Hymel, S., Bowker, A., & Woody, E. (1993). Aggressive versus withdrawn unpopular children: Variations in peer and self-perceptions in multiple domains. *Child Development, 64*(3), 879-896. doi: 10.1111/j.1467-8624.1993.tb02949.x

Ikhioya, O. S. A. (1996). Adopting effective control measures for some behavioral problems among athletes. *Journal of Sport Behaviour, 20*, 54-56.

Kalliopuska, M. (2008). Personality variables related to shyness. *Psychological Reports, 102*(1), 40-42. doi: 10.2466/pr0.102.1.40-42

Kemple, K. M. (1995). Shyness and self-esteem in early childhood. *The Journal of Humanistic Education and Development, 33*(4), 173-182. doi: 10.1002/j.2164-4683.1995.tb00103.x

Kernis, M. H. (Ed.). (2013). *Self-esteem issues and answers: A sourcebook of current perspectives*. Psychology Press: New York, NY.

King, A. C., Taylor, C. B., & Haskell, W. L. (1993). Effects of differing intensities and formats of 12 months of exercise training on psychological outcomes in older adults. *Health Psychology, 12*, 292-300. doi: 10.1037/0278-6133.12.4.292

Kingsbury, A., Coplan, R. J., & Reichel, M. (2011). "Green with… shyness?" Moderators of the links between shyness and golf performance. *Athletic Insight*, *3*(1), 59-76. Retrieved from https://www.researchgate.net

Kort-Butler, L., & Hagewen, K. (2011). School-based extracurricular activity involvement and adolescent self-esteem: A growth-curve analysis. *Journal of Youth and Adolescence, 40*(5), 568-581. doi: 10.1007/s10964-010-9551-4

Koyuncu, M. (2010). Body image satisfaction and dissatisfaction, social physique anxiety, self-esteem, and body fat ratio in female exercisers and nonexercisers. *Social Behavior & Personality: An International Journal, 38*(4), 561–570. doi:10.2224/sbp.2010.38.4.561

Loland, N. W. (2000). The aging body: Attitudes toward bodily appearance among physically active and inactive women and men of different ages. *Journal of Aging and Physical Activity, 8*, 197-213. Retrieved from http://journals.humankinetics.com/japa

Malinauskas, R., Dumciene, A., Mamkus, G., & Venckunas, T. (2014). Personality traits and exercise capacity in male athletes and non-athletes. *Perceptual and Motor Skills, 118*(1), 145-161. doi: 10.2466/29.25.PMS.118k13w1

Marsh, H., & Jackson, S. (1986). Multidimensional self-concepts, masculinity, and femininity as a function of women's involvement in athletics. *Sex Roles, 15*(7-8), 391-415. doi: 10.1007/bf00287980

Martin, L. J., Carron, A. V., Eys, M. A., & Loughead, T. M. (2012). Development of a cohesion inventory for children's sport teams. *Group Dynamics: Theory, Research, and Practice, 16*(1), 68-79. doi: 10.1037/a0024691

McHale J. P., Vinden P. G., Bush L., Richer D., Shaw D., & Smith B. (2005) Patterns of personal and social adjustment among sport-involved and noninvolved urban middle-school children. *Sociology of Sport Journal, 22,* 119-136. Retrieved from http://journals.humankinetics.com/ssj

McKelvie, S. J., Lemieux, P., & Stout, D. (2003). Extraversion and neuroticism in contact athletes, no contact athletes and non-athletes: A research note. *Athletic insight, 5*(3), 19-27. Retrieved from https://athleticinsight.com/Vol5Iss3/ExtraPDF.pdf

Mounts, N., Valentiner, D., Anderson, K., & Boswell, M. (2006). Shyness, sociability, and parental support for the college transition: Relation to adolescents' adjustment. *Journal of Youth and Adolescence, 35*(1), 68-77. doi: 10.1007/s10964-005-9002-9

Nehlsen-Cannarella, S. L., Nieman, D. C., Balk-Lamberton, A. J., Markoff, P. A., Chritton, D. B., Gusewitch, G. A. R. Y., & Lee, J. W. (1991). The effects of moderate exercise training on immune response. *Medicine and science in sports and exercise*, *23*(1), 64-70. Retrieved from http://europepmc.org/abstract/med/1997814

Nelson, L. J., Padilla-Walker, L. M., Badger, S., McNamara, B. C., Carroll, J. S., & Madsen, S. D. (2008). Associations between shyness and internalizing behaviors, externalizing behaviors, and relationships during emerging adulthood. *Journal of Youth and Adolescence, 37,* 605-615. doi: 10.1007/s10964-007-9203-5

Neto, F. (2001). Personality predictors of happiness. *Psychological Reports, 88*(3), 817–824. doi: 10.2466/pr0.2001.88.3.817

Page, R. M., & Hammermeister, J. (1995). Shyness and loneliness: Relationship to the exercise frequency of college students. *Psychological Reports, 76,* 395–398. doi: 10.2466/pr0.1995.76.2.395

Page, R. M., & Zarco, E. P. (2001). Shyness, physical activity, and sports team participation among Phillipine high school students. *Child Study Journal, 31*(3), 193-204. Retrieved from http://www.manta.com/c/mmjslcz/child-study-journal

Penedo, F. J., & Dahn, J. R. (2005). Exercise and well-being: A review of mental and physical health benefits associated with physical activity. *Current Opinion in Psychiatry, 18*, 189-193. http://journals.lww.com/co-psychiatry/toc/2005/09000

Prakash, K., & Coplan, R. J. (2003). Shy skaters? Shyness, coping, and adjustment outcomes in female adolescent figure skaters. *Athletic Insight: The Online Journal of Sport Psychology, 5*(1), 19-37. Retrieved from http://www.athleticinsight.com/Vol5Iss1/SkyPDF.pdf

Reel, J. J., Greenleaf, C., Baker, W. L., Aragon, S., Bishop, D., Cachaper, C., … & Hattie, J. (2007). Relations of body concern and exercise behavior: A meta-analysis. *Psychological Reports, 101,* 927-942. doi: 10.2466/pr0.101.3.927-942

Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem: Construct validation of a single-item measure and the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin*, *27*(2), 151-161. doi: 10.1177/0146167201272002

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Rosenberg, M. (1979). *Conceiving the self.* Malabar, FL: Robert E. Krieger.

Sabiston, C., Whitehead, J. R., & Eklund, R. C. (2012). Exercise and self-perception constructs. In G., Tenenbaum, R. C., Eklund, & A. Kamata (Eds.), *Measurement in sport and exercise psychology* (pp. 227-235). Champaign, IL: Human Kinetics.

Schurr, K. T., Ashley, M. A., & Joy, K. J. (1977). A multivariate analysis of male athlete personality characteristics: Sport type and success. *Multivariate Experimental Clinical Research, 3*(2), 53-68. Retrieved from http://psycnet.apa.org/psycinfo/1978-23132-001

Shorkey, C. T., & Whiteman, V. (1977). Development of the rational behavior inventory: Initial validity and reliability. *Journal of Educational and Psychological Measurement, 37,* 527-534. doi: 10.1177/001316447703700232

Simmons, S., & Childers, K. (2013). Effects of intercollegiate athletics and intramural participation on self-esteem and physical self-description: A pilot study. *Recreational Sports Journal*, *37*(2). doi: http://dx.doi.org/10.1123/rsj.37.2.160

Sonstroem, R. J., & Morgan, W. P. (1989). Exercise and self-esteem: Rationale and model. *Medicine & Science in Sports & Exercise, 21*(3), 329-337. doi: 10.1249/00005768-198906000-00018

Spreitzer, E. (1994). Does participation in interscholastic athletics affect adult development? A longitudinal analysis of an 18-24 age cohort. *Youth & Society, 25*(3), 368-387. doi: 10.1177/0044118X94025003004

Steitz, J. A., & Owen, T. P. (1992). School activities and work: Effects on adolescent self-esteem. *Adolescence, 27*(105), 37-50. Retrieved from http://psycnet.apa.org/psycinfo/1992-25245-001

Swann, W. B., & Bosson, J. K. (2010). Self and identity. *Handbook of social psychology*. 589-628. doi: 10.1002/9780470561119.socpsy001016

Szabo, A., & Urbán, F. (2014). Do combat sports develop emotional intelligence? *Kinesiology, 46*(1), 53-60. Retrieved from http://www.researchgate.net/profile/Attila_Szabo3/publication/263673908_DO_COMBAT_SPORTS_DEVELOP_EMOTIONAL_INTELLIGENCE/links/0deec53ba8c505e176000000.pdf

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics*. (6th Ed.). Boston, MA: Pearson/Ally & Bacon.

Vealey, R. S. (2002). Personality and sport behavior. In Horn, Thelma S. (Ed), (2002*). Advances in sport psychology* (2nd ed.), (pp. 43-74). Champaign, IL, US: Human Kinetics.

Wadman, R., Durkin, K., & Conti-Ramsden, G. (2008). Self-esteem, shyness, and sociability in adolescents with specific language impairment (SLI). *Journal of Speech, Language, and Hearing Research*, *51*(4), 938-952. doi: 10.1044/1092-4388(2008/069)

Weisberg, S. (2014). *Applied linear regression* (4th Ed.). New York, NY: Wiley.