Self-Esteem and Stress Perception among Athletes and Non-Athletes

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This study examined the differences between athletes and non-athletes students in relation to self-esteem and stress level. Gender of the participants was also taken into consideration. Thirty participants were recruited at Lindenwood University in St. Charles, MO. Fourteen participants were athletes and 16 participants were non-athletes. Also, 14 participants were males and 16 participants were female. Rosenberg Scale (Rosenberg, 1965) and Perceived Stress Scale (Cohen, 1983) were used to test self-esteem and stress level respectively. The hypothesis of this study was that college student athletes have a higher self-esteem and a higher stress level than non-athletes students. However, the results showed no statistical difference in stress level between athletes and non-athletes. The only difference found was the fact the non-athletes female scored higher in self-esteem than female athletes. This result suggests some connections with self-awareness. Nevertheless, this result may be due to an experiment bias due to the small number of participants and the fact that two female participants mistakenly took the surveys twice. Therefore future research on this topic is required to have more valuable data.

Physical exercise has been known to be an essential feature for a healthy life style, while stress has been associated with a high number of negative outcomes such as distraction, mood changes, headaches, high blood pressure to more severe consequences as heart damage,

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depression and even death (Gurung, 2010). College life can be very stressful and students often have to deal with many different stress factors. Sports are often an important component of college life and can affect college students in a variety of ways. In the college environment, participation in a competitive team can be either a stressor or a good stress reliever (Gurung, 2010; Storch, Storch, Killiany, & Roberti, 2005). A previously conducted study showed how the majority of low stressed students described themselves as very healthy (Hudd et al., 2000).

Self-esteem can also play a significant role for a positive and healthy life. Self-esteem is considered to be the evaluative feelings that an individual has about the self and it depends on a variety of contingency domains such as other's approval and competition (Deckers, 2010). Earlier studies have focused on self-esteem components in intercollegiate athletes with the goal to understand the effects of sport participation on self-esteem (Ryska, 2002). Other previous researches reported that students score lower in self-esteem when under significant amounts of stress (Hudd et al., 2000).

In addition, according to Hudd et al. (2000), students who do not practice a sport are more likely to consider themselves very stressed, while a significant amount of athletes perceived a low level of stress. Also, stressed students reported to have a lower self-esteem (Hudd et al., 2000). According to other past studies, exercise is considered a means for people to reduce stress and develop self-esteem (Kongsjord, 2010). Other studies show how fitness training can positively affect self-esteem (Hart, 1985).

In order to assess the levels of self-esteem and stress perceived, several studies regarding collegiate student-athletes and non-athlete, used the Rosenberg Scale (Rosenberg, 1989) and the Perceived Stress Scale (Cohen, 1983) (Armstrong & Oomen-Early, 2009; Catron, 2005; Taylor,

1995). Previous studies have showed that athletes score much higher in the Rosenberg self-esteem scale than non-athletes students (Armstrong & Oomen-Early, 2009).

The purpose of this study was to find out the differences in stress and self-esteem levels between college athletes and non-athlete college students, and more specifically, if collegiate athletes have more self-esteem than non-athletes, and, on the other hand, if athletes are more stressed than non-athlete students. The participants were surveyed on these matters, self-esteem and stress perception, by using the Rosenberg Self-esteem Scale (Rosenberg, 1989) and the PSS-Perceived Stress Scale (Cohen, 1983).

Based on the previous literature, the hypothesis of this study was that college student athletes have a higher self-esteem and a higher stress level than non-athletes students. This study was worth accomplishing because, as the literature reviews showed, exercise can have a variety of beneficial outcomes especially on self-esteem and stress level. Therefore, college student practicing a sport may greatly benefit from it. The results of this study can be beneficial to the society and promote exercise in college. The results can provide insight to further studies regarding differences between athletic participation in college and the perception of stress and self-esteem in college students.

Method

Participants

Students at Lindenwood University in Saint Charles, Missouri, were recruited through the Lindenwood Participant Pool (LPP) to participate in the study. The LPP enlists students from a variety of fields including psychology, sociology, anthropology classes. Participants earned extra credit toward their LPP participating general education-level courses. In order to

recruit the participants, the researcher posted a signup sheet on the LPP bulletin board in Young Hall.

Thirty participants were recruited for this study. There were 14 athletes and 16 non-athletes. The majority of athletes were part of a team sport such as volleyball and hockey. Fourteen participants were men and 16 were women. Half of the participants were 19 years old. The majority (43% of the total) was also sophomores, 9 were freshman and 8 were juniors. No seniors participated in the study. All the participants but two spoke English as a first language.

Materials and Procedure

The experiment took place in one of the rooms in Young Hall. Classrooms and the psychology lab were used. The classrooms used had about 20 desks and chairs, while the psychology lab had only few desks and chairs. The classrooms were generally quite spacious, while the lab was pretty small. All the classrooms and the lab were well lit. The participants took the surveys with only the researcher in the room or with few other participants.

The experiment took between 10 to 15 minutes for each of the participants. First, the researcher informed the participant about the study and his right to leave the study if he felt uncomfortable to continue. The researcher gave them two copies of the informed consent form to read and sign (see Appendix A). The participants kept one copy, and the researcher kept the second copy for her records. Each participant was asked to fill out three different surveys. The first one was a demographic questionnaire that the researcher created for the study (see Appendix B). The demographic questionnaire asked about gender, age, class, if they are athlete, the amount of exercise, first language, overall GPA, amount of credit hours, and if they work off campus. The second survey was the Rosenberg Scale. This short survey asks the subjects to classify a list of ten statements regarding their feelings by choosing among four answers:

strongly agree (SA), agree (A), disagree (D), or strongly disagree (SD) (see Appendix C). The third survey was the Perceived Stress Scale (PSS) (Cohen, 1983). The survey's questions asked the subjects to indicate how often they experience some feelings and thoughts during the last month (see Appendix D). Afterward, the researcher debriefed the subjects and gave them a feedback letter (see Appendix E) to contact her and to know more about the study, especially if interested in the results. At the end the participants were given a receipt to turn in Young 407 in order to get their extra credit.

Results

It was predicted that college student athletes have a higher self-esteem and a higher stress level than non-athletes students. In order to determine the interaction between the variables a 2(sex) X 2(athlete) Multivariate Analysis of Variance was conducted for the two measures of self-esteem and stress perception. The MANOVA results revealed a statistically significant interaction between sex and athlete: $F(2, 25) = 3.484$, $p<.05$. The results of the follow-up univariate test revealed a statistically significant interaction between sex and athlete for the Rosenberg Scale on self-esteem: $F(1, 26) = 5.364$, $p<.05$, but not for the PSS. A series of post-hoc analyses revealed that female non-athletes had higher self-esteem ($M=18.71$, $SD=.951$) than any of the other groups (female athletes $M=17.00$, $SD=1.000$; male non-athletes $M=17.00$, $SD=2.000$; male athletes $M=17.80$, $SD=1.483$) (see Table 1).

Discussion

Although the result of this study was controversial to the literature review and rejected the hypothesis, this study opened further questions on self-esteem and athleticism. The only significant difference was between the female athletes and non-athletes. In contrast to the research question, the results demonstrated that female non-athletes have higher self-esteem than

female athletes. This may be due to more self-awareness in female athletes than non-female athletes. Practicing a sport at competitive level may increase self-awareness because every time the individual practice or compete, he or she is evaluated or judged by the coach, judges or other teammates. Competing may make an individual more aware of lack of skills and abilities when surrounded by better athletes. Therefore, students not involved in sports may not develop a broader consciousness of their skills and physical appearance.

Even though the college where the participants were recruited offered more than 46 different sports, the athlete that participated in the study were part of only eight sports. The majority of the athletes were also part of a team sport which may had triggered more competition since there are a specific number of athletes that can be part of the competitive squad. Also, the majority of the female athlete participated in a masculine sport such as wrestling which may have influence the feelings about the self on the female athletes.

As mentioned previously in the literature review, self-esteem is affected by several characteristic including other's approval and competition (Deckers, 2010). Therefore, female non-athletes may have fewer circumstances to outperform in competitive tasks than female athletes since they do not participate in a sport. As a consequence, the non-competitive environment on the field may lead to higher self-esteem.

Furthermore, the results may have been influenced by the small number of participants. The size of the group of participants was the biggest limitation of this study. Also, two female participants mistakenly participated twice in the experiment. The researcher was not able to identify them and therefore their results were included in the study. Hence, the results may be biased due to this mistake.

For future research on these subjects, a bigger sample size is necessary. Also, having the experiment in the same or very similar room may help to reduce potential threats and bias. This study triggered several questions regarding the interaction between athleticism and self-esteem, especially in women. Future studies could compare other characteristics that may affect self-esteem in college students and maybe focus only on female participants.

References

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), 521-524.

Catron, G.O. (2005). Stress: Origins, perception, and management techniques used among intercollegiate student-athletes at Bluefield College. *United States Sports Academy*. Abstract retrieved from http://www.proquest.umi.com

Deckers, L. (2010). Motivation: biological, psychological, and environmental (3rd ed.). Boston, MA: Allyn & Bacon.

Gurung, R.A.R. (2010). Stress across culture. *Health psychology: A cultural approach* (pp.102-144). Belmont, CA: Wadsworth Cangage Learning.

Hart, J.L. (1985). Personality fitness training for children and youth: An investigation into the effect of psychological exercise upon self-esteem, stress, and school grades. Ph.D. dissertation, University of Southern California. Retrieved from Dissertations & Theses: A&I, http://www.proquest.umi.com.

Hudd, S.S., Dumlao, J., Erdmann-Sager, D., Murray, D., Phan, E., Soukas, N. & Yokozuka, N. (2000). Stress at college: Effects on health habits, health status and self-esteem. *College Student Journal, 34,* 217-228.

Kongsjord, S. (2010). The beneficial effect of aerobic exercise on a healthy adult's perceived stress level. M.S. dissertation, The College of St. Scholastica. Retrieved from Dissertations & Theses: A&I, http://www.proquest.umi.com.

Rosenberg, M. (1989). Society and the Adolescent Self-Image. Revised edition. Middletown, CT: Wesleyan University Press.

Ryska, T.A. (2002). Self-esteem among intercollegiate athletes: The role of achievement goals and competitive orientation. *Imagination, Cognition and Personality, 21*(1), 67-80.

Storch, E.A., Storch, J.B., Killiany, E.M., & Roberti, J.W. (2005). Self-reported psychopathology in athletes: A comparison of intercollegiate student-athletes and non-athletes. *Journal of Sport Behavior, 28*(1), 86-99.

Taylor, D.L. (1995). A comparison of college athletic participants and nonparticipants on self-esteem. *Journal of College Student Development, 36*(5), 444-451.

Appendix A

Informed Consent Form

I, _____ (print name), understand that I will be taking part in a research project that requires me to complete a short demographic questionnaire and two different surveys asking me about my perception regarding self-esteem and stress. I understand that I should be able to complete this project within 20 minutes. I am aware that my participation in this study is strictly voluntary and that I may choose to withdraw from the study at any time without any penalty or prejudice. I should not incur any penalty or prejudice because I cannot complete the study. I understand that the information obtained from my responses will be analyzed only as part of aggregate data and that all identifying information will be absent from the data in order to ensure anonymity. I am also aware that my responses will be kept confidential and that data obtained from this study will only be available for research and educational purposes. I understand that any questions I may have regarding this study shall be answered by the researcher(s) involved to my satisfaction. Finally, I verify that I am at least 18 years of age and am legally able to give consent or that I am under the age of 18 but have on file with the LPP office, a completed parental consent form that allows me to give consent as a minor.

_____ Date: _____

(Signature of participant)

_____ Date: _____

(Signature of researcher obtaining consent)

Student Researchers' Name and Number: Federica Bertolini (740)-438-4257 fb263@lionmail.lindenwood.edu

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Appendix B

Demographic : Questionnaire

SUBJECT ID NUMBER: _____ (Assigned by Researcher)

1) Are you □ Male □ Female
2) Age _____ years old
3) Class □ Freshman □ Sophomore □ Junior □ Senior □ other_____
4) Are you an athlete? □ No □ Yes If yes, what sport? _____
5) First language □ English □ Other
6) Average of amount of HOURS spent weekly in exercising: _____ hours
7) Overall GPA at LU □ 4.00-3.50 □ 3.40-3.00 □ 2.90-2.50 □ 2.40-2.00 □ 1.90-1.50 □ 1.40-0.90 □ N/A
8) Average of CREDIT HOURS per semester at LU: _____ credits
9) Do you work off-campus? □ No □ Yes If yes, how many hours per week? _____

Appendix C

ID: _____ (Assigned by Researcher)

Roseberg Scale (Rosenberg, 1965)

Instruction

Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

1. On the whole, I am satisfied with myself.	SA	A	D	SD
2. At times, I think I am not good at all.	SA	A	D	SD
3. I feel that I have a number of good qualities.	SA	A	D	SD
4. I am able to do things as well as most other people.	SA	A	D	SD
5. I feel I do not have much to be proud of.	SA	A	D	SD
6. I certainly feel useless at times.	SA	A	D	SD
7. I feel that I'm a person of worth, at least on an equal plane with others.	SA	A	D	SD
8. I wish I could have more respect for myself.	SA	A	D	SD
9. All in all, I am inclined to feel that I am a failure.	SA	A	D	SD
10. I take a positive attitude toward myself.	SA	A	D	SD

Appendix D

ID: _____ (Assigned by Researcher)

PSS (Cohen, 1965)

Instruction:

The questions of this scale ask you about your feelings and thought during THE LAST MONTH. In each case, you will be asked to indicate your response by placing an "X" over the circle representing HOW OFTEN you felt or thought a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

1. In the last month, how often have you been upset because of something that happened unexpectedly?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

2. In the last month, how often have you felt that you were unable to control the important things in your life?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

3. In the last month, how often have you felt nervous and "stressed"?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

4. In the last month, how often have you dealt successfully with day to day problems and annoyances?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

5. In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

6. In the last month, how often have you felt confident about your ability to handle your personal problems?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

7. In the last month, how often have you felt that things were going your way?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

8. In the last month, how often have you found that you could not cope with all the things that you had to?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

9. In the last month, how often have you been able to control irritations in your life?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

10. In the last month, how often have you felt that you were on top of things?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

11. In the last month, how often have you been angered because of things that happened that were outside of your control?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

12. In the last month, how often have you found yourself thinking about things that you have to accomplish?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

13. In the last month, how often have you been able to control the way you spend your time?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

14. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Never	Almost Never	Sometimes	Fairly Often	Very Often
O	O	O	O	O

Appendix E

Feedback Letter

Thank you for participating in my study. The study you have participated in was designed to assess whether there are any differences between athletes and non-athletes on measures of self-esteem and stress level.

Please note that I am not interested in your individual results; rather, I am only interested in the results of a large group of consumers, of which you are now a part of. No identifying information about you will be associated with any of the findings.

If you have any questions or concerns regarding any portion of this study, please do not hesitate to bring them up now or in the future. My contact information is found at the bottom of this letter. If you are interested in obtaining a summary of the findings of this study at a later date, please contact me and I will make it available to you at the completion of this project.

Thank you again for your valuable contribution to this study.

Sincerely,

Principal Investigator:

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Supervisor:

Dr. Michiko Nohara-LeClair 636-949-4371 (mnohara-leclair@lindenwood.edu)

Table 1

Rosenberg

SEX	ATHLETE	Mean	St. Deviation	N
male	no	17	2.000	9
	yes	17.8	1.483	5
female	no	18.71	0.951	7
	yes	17	1.000	9