Self-esteem and Overall Health: Understanding the Connection

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Abstract

Many university students face challenges such as diminished nutrition from not being able to cook, decreased physical activity, increased stress levels, and lack of sleep. All of these factors are detrimental to the individual's overall health, and research suggests that this decline in health may also be harmful to the individual's self-esteem. Previous research has determined a direct link between physical activity levels and self-esteem, nutrition and self-esteem, and mental health and self-esteem. Therefore, this study attempted to determine a correlational relationship between self-esteem and overall health across three dimensions: nutrition, physical activity, and mental health. We hypothesized that we would find a positive correlation between self-esteem and overall health. Self-esteem scores were measured using an adapted, 10-question version of the Rosenberg scale, whereas overall health scores were measured using a 15-question survey we created to assess health across the three dimensions. Using data that we obtained during a four-week period, we assessed this correlational relationship. Results from a Pearson's bivariate correlation indicated that a significant correlation was not present. Our results were inconsistent with the findings of previous literature. As such, it is likely that our methodology was flawed, particularly in our survey methods. Future research should seek to create a reliable measurement for overall health across all three dimensions so the relationship between overall health and self-esteem can be accurately assessed.

Self-esteem and Overall Health: Understanding the Connection

Self-esteem, or the perceptions an individual has about oneself, is intimately linked with both physical and mental health and therefore has important implications for life outcomes of an individual. During the college years especially, individuals are met with a variety of challenges that may compromise overall health, including: disordered eating habits, consumption of food with diminished nutritional value, insufficient physical activity, insufficient amount of sleep, and an increase in stress levels (Korn, Gonen, Shaked, & Golan, 2013). Furthermore, satisfaction with life, an important determining factor of happiness throughout the lifespan, has been shown to decline in this time period. Moreover, from ages 18-25, individuals' perceptions of their own well-being have been shown to decline during this time period than any other (Maher et al., 2013).

Diminished self-esteem and health-promoting behaviors can have important implications for success during college, both in terms of academic and personal outcomes. For example, in a cross-sectional study of 380 university students in the UK, researchers Ansari and Stock (2010) focused specifically on the association between health, including health awareness, behaviors, and subjective health perceptions, with academic achievement. They determined a positive correlation between academic achievement and personal well-being. Conversely, a negative correlation was found between health-compromising behaviors (such as lack of sleep) and academic achievement. As such, healthy behaviors have implications for academic success during college. Regarding personal outcomes, according to Steiger, Allemand, Robins, and Fend (2014), higher self-esteem may serve as a predictor for closeness in romantic relationships, whereas lower self-esteem may predict poor life outcomes, such as mental health problems. Furthermore, the researchers note the vulnerability model, which states that low self-esteem

leads to depression (and not vice versa). Unfortunately, these deficits in self-esteem and healthy behaviors during the college years may not only be confined to this time period. Unhealthy behaviors including poor nutrition and exercise habits can pose as risk factors for severe health problems later in life, such as cardiometabolic diseases (diabetes, hypertension, etc.) and obesity (Korn et al., 2013). Moreover, low self-esteem may have long-term consequences for an individual's mental health outcomes. In fact, Steiger et al. (2014) found that low and decreasing self-esteem during adolescence served as a predictor for depression in adulthood, two decades later. Specifically, researchers assessed adolescents' levels of global self-esteem as well as self-esteem on two domains: academic competence and physical appearance. These levels were assessed five times during the ages 12-16. Participants also completed the original Beck Depression Inventory (BDI) at age 16. Nearly two decades later, at age 35, the participants were retested for depressive symptoms using the updated BDI-V. Ultimately, researchers determined that there was a predictive relationship between adolescent self-esteem levels and prevalence levels of depressive symptoms in adulthood; adolescents with low or decreasing self-esteem showed higher depressive symptoms later in life.

While self-esteem has important implications for the life outcomes of an individual, it is important to note that self-esteem levels are not stagnant. Self-esteem levels fluctuate throughout an individual's life but can also be altered through behavioral means. More specifically, recent research has focused on the impact of physical activity and improved nutrition on self-esteem. For example, Maher et al. (2012) performed two studies to evaluate the relationship between daily physical activity levels and satisfaction with life in college students. In both studies, researchers noted that individuals who were more physically active daily reported higher levels of satisfaction with life. While the researchers accounted for other potential influences on

satisfaction with life, the study is correlational in nature and therefore no causal relationship could be determined.

In a related experimental study, Barton, Griffin, and Pretty (2012) sought to determine if three different programs (swimming, social activities, and green exercise) would significantly improve self-esteem scores and overall mood in a population of individuals with mental illness. A questionnaire that included measures to assess changes in self-esteem and mood were given to participants before and after they participated in their respective programs. The researchers determined that self-esteem and mood significantly improved in the swimming and green exercise groups. This supports a causal relationship between physical activity and self-esteem levels.

Research on self-esteem and its affecting factors is important for developing interventions and initiatives to help improve self-esteem in targeted settings, such as in university and in-patient programs. For example, Barton et al. (2012) found significant improvements in self-esteem through exercise programs in a clinical population. Furthermore, some occupational and rehabilitation therapy settings have utilized cooking interventions to help improve nutritional status and increase self-esteem (Farmer, Touchton-Leonard, & Ross, 2018). University settings can also benefit from health-related interventions, given the physical, nutritional, and mental health challenges college students experience. While college campuses have a clear need for interventions that target these challenges, not all interventions have proven to be successful. Plotnikoff et al. (2015) performed a meta-analysis of articles that involved previous health-related interventions in university students. Researchers determined that only 12 of 24 studies targeting nutritional outcomes achieved significant effects and only 18 out of 29 studies targeting physical activity were effective. As such, these results indicate that current intervention methods

are not as efficacious as they should be. Given the importance of health- and self-esteem-related interventions for college students, more research in these areas is needed to develop more successful interventions and thereby improve long-term health outcomes.

The present study seeks to assess the relationship between self-esteem and overall health on the domains of physical activity, nutrition, and mental health. We hypothesize that individuals with healthier lifestyles, including those who are more physically active, who have better nutritional habits, and who report lower stress levels, will report higher levels of self-esteem, whereas those with unhealthier tendencies will report lower levels of self-esteem. As such, we predict a positive, correlational relationship between overall heath and self-esteem. This hypothesis is in accordance with results from previous studies. However, the studies we analyzed in our literature review focused exclusively on only one domain of health. Our study attempts to holistically examine all three domains of health in relation to self-esteem, in hopes that we may find interaction between the domains.

Method

Participants

Participants were undergraduate psychology students from Angelo State University. We recruited participants using the university's online SONA system, which allowed participants to sign up for a specific time slot to participate in our study. In total, we had 77 participants. Our participant pool included 22.1% men and 77.9% percent women. Furthermore, 37.7% of our participants were white, 2.6% were Native American or American Indian, 7.8% Asian/Pacific Islander, 3.9% Black or African American, and 45.5% were Hispanic or Latino. The ages of participants ranged from 18 to 51 ($M = 20.06$, $SD = 4.72$) and 50.6% of our participants were freshmen, 31.2% were sophomores, 10.4% were juniors, and 7.8% were seniors.

Design

Because we focused on the relationship between health and self-esteem, our study utilized a correlational, within-subjects design rather than an experimental one. Because our study was not experimental in nature, our analysis could determine if a relationship existed between our two dependent variables (health and self-esteem) but could not determine causality of this relationship. Our design was within-subjects because we had only one group of participants (no random assignment).

Measures

We used a two-part questionnaire to measure 1) overall health, based on physical activity, nutrition, and mental health, and 2) self-esteem. To measure self-esteem, we utilized the Rosenberg scale, adapted from Rosenberg (1965). For this part of the questionnaire, participants were given 10 statements and were asked to rank how much each statement applied to themselves using a Likert scale from 1 to 4 (1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly disagree). A few statements from this category included: *I feel that I'm a person of worth, at least on an equal plane with others*; *I take a positive attitude towards myself*; and *On the whole, I am satisfied with myself*. Items 2, 5, 6, 8, 9 were reverse scored. The highest score possible on the self-esteem scale was 40. Higher scores were indicative of higher levels of self-esteem.

To measure overall health, we created a questionnaire that assessed three contributing factors: physical activity, nutrition, and mental health. This portion of the survey included 16 questions that participants were asked to answer using a Likert scale from 0 to 6. Questions 1-5 inquired about the physical health of the participant, asking questions such as, *How often do you walk/jog/run in a week?;* and *How much sleep a night do you get on average?* Next, items 6-11

asked questions about nutritional health, including, *How many sugary drinks do you drink in a week?; Do you live off campus (are you able to cook)?;* and *If so, how often do you cook at home?* Lastly, items 12-16 asked questions about mental health, including, *How much stress do you feel in your courses?;* and *Overall, how do you feel you are doing in your courses?* Items 6, 7, and 12 were reverse scored. Item 1 asked participants where they exercised (school gym, other gym, outside, or none). If participants did not answer "none" then they received 1 point for this question. Item 9, which asked if participants lived on or off campus, was not included in the total score. All other questions were scored using the 0 to 6 Likert scale. Therefore, the maximum score for the overall health scale was 85. Higher scores indicated higher levels of overall health.

A demographics section was included at the end of our questionnaire. Our demographics included gender, age, race/ethnicity, and school classification (freshman, sophomore, junior, or senior). The demographics portion of our questionnaire was necessary to understand the diversity of our sample. This also allowed us to determine the extent to which our study was generalizable.

Procedure

Participants arrived at our study during their selected time slots, which they chose using the online SONA system. After arrival, participants were asked to silence their phones. The present researcher then gave an introduction, explaining that during the session, participants would be asked to complete a survey that included questions about their health. All researchers followed a script, to ensure consistency across each session. After a brief introduction, participants were asked to read and sign an informed consent form, thereby giving consent to participate in the research. Participants were then given further instructions prior to completing their surveys. The researcher directed participants to place completed surveys in a folder at the front of the room, to ensure confidentiality of responses. Then, the researcher gave each

participant a survey. Upon placing the completed survey in the designated folder, participants were given a debriefing form, were thanked for their participation, and were free to leave the session.

Results

We hypothesized that there would be a positive correlation between overall health and self-esteem. To determine this, I used SPSS to compute two new variables: total health and total self-esteem. Total health was calculated by adding the scores of 14 questions from the overall health scale we created, with scores from three questions reverse scored (items 6, 7, and 12). Total self-esteem was calculated similarly, by adding up the scores from the 10 question Rosenberg scale, with items 2, 5, 6, 8, and 9 being reverse scored. Our participants ($N = 77$) showed a mean of 45.55 ($SD = 9.88$) out of a possible 85 for total health scores, and a mean of 26.31 ($SD = 6.56$) out of a possible 40 for total self-esteem scores. To determine if there was a positive correlation between the two scores, I utilized a Pearson's bivariate correlation in SPSS. I did not find a significant correlation between the two scores, Pearson's $r(77) = .13$, $p = .270$. As such, the data does not support our hypothesis.

Additional Analyses

To determine if our scales for self-esteem and health were reliable, I performed a scale reliability analysis using SPSS. The overall health scale had relatively low reliability, Cronbach's alpha = .71. When broken down by domain, physical activity had the lowest reliability, Cronbach's alpha = .41. The nutrition and mental health scales also had low reliability, Cronbach's alpha = .70 and .63, respectively. The Rosenberg self-esteem scale, however, was reliable, Cronbach's alpha = .92. This indicates that our overall health questionnaire was not consistent across our participants, and therefore was not a reliable measurement for assessing

overall health. Our self-esteem scale, however, was internally consistent and is thus an appropriate measure for assessing self-esteem.

Discussion

We predicted that those with higher self-esteem scores would have higher overall health scores, giving us a positive correlation between self-esteem and health. However, this hypothesis was not supported by our data; we did not find any significant relationship between the scores of overall health and self-esteem. We measured overall health using three domains: physical activity, nutrition, and mental health. None of the domains were significantly related to total self-esteem when measured separately. Therefore, our results are inconsistent with the findings of Maher et al. (2012), who determined a positive correlation between daily exercise and self-esteem levels. Our results are also inconsistent with the findings of Barton, Griffin, and Pretty (2012), who determined a causal relationship between physical activity and self-esteem levels, finding that more exercise led to higher levels of self-esteem. Regarding nutrition and self-esteem, our findings were also inconsistent with those of Farmer, Touchton-Leonard, and Ross (2018), who asserted self-esteem would increase with cooking, potentially due to improved nutritional status. Therefore, it is likely that our hypothesis was not supported, not because our theory was incorrect, but because of our methodology; specifically our questionnaire.

Though our hypothesis was not supported by our data, our findings are still important since they contribute information to the link between self-esteem and health, specifically among college students. College students especially would benefit from health-related interventions, because of the physical, nutritional, and mental health challenges they experience. Therefore, our findings are relevant for developing a method of assessing health-related deficits in college students, and in the future, interventions for combating these deficits. Furthermore, unlike previous studies in the

literature that focused on only one aspect of health, our study focused on all three domains of overall health and their relation to self-esteem. That being said, our study had several limitations. First, our sample size was relatively small, with only 77 participants. Furthermore, of these 77 participants, only a small portion were men, meaning our study is not necessarily generalizable. Moreover, because our study is correlational in nature, we were unable to assess any causal relationship between overall health and self-esteem. If we were to perform this study again, I would change our survey. It would be helpful to generate a variety of health-related questions and conduct a preliminary study to determine which questions best indicate healthiness. Then, when these questions are narrowed down, and shown to be reliable, we could utilize them in our survey with the full Rosenberg Scale, rather than an adapted version, to determine if there is a correlation between health and self-esteem. As determined by a scale reliability analysis, our overall health survey that we developed was not highly reliable. If our health survey had been reliable, we could have more confidence in the validity of our methodology, and it is possible that our findings would have been consistent with the literature.

Future research should continue to focus on the relationship between self-esteem and overall-health, including the three domains of mental health, physical activity, and nutrition, as a whole. This may reveal specific interactions between the domains, which may help inform theory. Moreover, research methods that reliably assess the prevalence health- and self-esteem-related deficits among college students are needed to draw attention to the issue. Currently, health-related interventions are mostly unsuccessful. Through better understanding of the relationship between self-esteem and health, researchers should be able to construct improved intervention methods that would greatly benefit college students.

To conclude, college is generally a time in which individuals may experience diminished nutrition, higher stress levels, and decreased exercise levels (think "the freshman 15"). Research indicates that not only do deficits in these areas put individuals at risk for health problems later in life, but also may be detrimental to self-esteem levels. Low self-esteem levels serve as a predictor for poor life outcomes, such as mental health problems. Therefore, research that focuses on understanding the connection between self-esteem and health behaviors in college students is needed for creating interventions to prevent long-term problems. Our study is particularly important because it sought to gain insight into this relationship. Though our hypothesis was not supported, our study still highlights the importance of research on this subject, especially regarding multiple domains of health.

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