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CAN WELL-BEING PROGRAM CHANGE THE BODY SELF-CONCEPT OF ADOLESCENT FEMALE STUDENTS? A RANDOMIZED CONTROLLED TRIAL

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Abstract

Physical self-concept is defined as an individual's descriptive and evaluative self-perceptions of his/her physical appearance and physical abilities. The previous studies have showed that physical self-concept had direct relationships with both global self-concept and leisure-time physical activity. One of an important mission of public schools is to enhance students' global self-concept through quality educational experiences, thus, this study has been undergone with the general objective of proving the effect of well-being program on body self-concept and its different dimensions such as sporting merit, body fat, appearance, flexibility, health, physical activity, coordination and self-esteem in 11-13 female students. At this experimental study 41 students were selected randomly (21 in control group) from public school of Gonbad/Iran.

At first, Physical Self-Description Questionnaire (Marsh et al., 1994) scale was executed as a pre-test in both groups. After which, only the experimental group was given well-being program consisted of 5 min warm-up, 10 min of health related physical fitness training, 10 min of traditional games and 5 min static stretching cool down with theory of the benefits of physical education for 16 (2*30 min.) weeks. At that time, control group had a routine physical education classes. After the end of intervention a post-test using the previous questionnaire were taken from both groups. The data were analyzed by independent T-test-differences between means- using SPSS-20 software program.

The results showed the meaningful difference between means of body self-concept ($p < 0.00$) between the groups. But, there was no difference between physical activity ($P = 0.27$) and coordination dimensions. According to the results, well-being program have a significant effect on body self-concept. This provides an important contribution to the literature because it highlights a process through which students in physical education who may not be intrinsically motivated can

still reach important physical education and health outcomes. Thus, the well design program is school has good potential in stimulating all students' development of body self-conception.

Key Words: well-being program, body self-concept, adolescent female students.

Introduction

Self-esteem is an important factor in promoting both mental and physical health, which in turn can have a positive effect on a student's success in school and life(1).Physical self-concept is defined as an individual's descriptive and evaluative self-perceptions of his/her physical appearance and physical abilities(2). Physical self-concept is the domain of interest regarding the adoption and maintenance of a physical activity program. It involves the conscious perceptions of sub-domains that comprise "physicality" such as Strength, Endurance, Athletic/Sport Competence, and Appearance (3).Physical self-concept had direct relationships with both global self-concept and leisure-time physical activity (4). Positive physical self-concept among adolescent females is associated with participation in physical activity not only during physical education class, but outside of school (5, 6). According to NASPE (2004), developing positive physical self-concept and global self-concept are fundamental psychological outcomes of quality physical activity (7). In physical activity environments such as physical education, physical self-concept is considered the domain-specific self-concept (8). Students in physical education have many opportunities to try new skills, display their physical abilities in front of others, receive feedback about their appearance, and experience both success and failure. Therefore, physical education is an educational environment that impacts physical self-concept development (9).

Enhancing self-concept in physical education, however, appears to be difficult for many adolescent girls. Findings from previous researchers suggest adolescent girls often report lower global and physical self-concepts than males in physical education (10-12).

In physical education, a positive physical self-concept is related to engagement levels, skill development, and motor learning (13, 14). During middle school self-esteem can quickly decline, and girls consistently experience lower levels of self-esteem than boys do. It is important for educators to provide research-based programs that will help students (specifically girls) increase self-esteem, which in turn, should increase success and happiness in school and in life (1). Females generally score lower on multiple dimensions of self-concept and there is considerable evidence that girls of all ages report a lower physical self-concept than boys on various subscales in a variety of settings, including physical

education (15). because adolescent girls' physical self-concept appears to be a mechanism that facilitates positive health outcomes in and outside the physical education context, it may be especially important for physical educators to find ways to enhance it (4).

Past researchers have also demonstrated that if physical education undermines physical self-concept, both long and short term gains in skill development can be restricted (16). there is some good evidence indicate that when students value and identify with the goals of physical education, they are more likely to have higher physical self-concept and engage in physically activity outside of school (17). If students see the activities in physical education as beneficial and identify with lesson objectives, then they will be more likely to have a positive physical self-concept and will also be more active outside of class. Likewise, teachers need to explain both the short and long-term benefits of physical education to students. When students align their personal belief systems with those of the physical education class, teachers can have a lasting impact on students' self-concept and leisure-time physical activity(4).

The link between identified regulation in physical education and physical self-concept may provide insights for physical educators. Guay, Delisle, Fernet, Julian, and Senecal (2008) posit that identified regulation helps to focus thoughts and feelings about oneself to a personal standard of success, and limits concern about social judgment. Similarly, participating in physical activities perceived to be meaningful and valuable creates greater opportunities to enhance thoughts about one's physical self because the behavior is fulfilling personal goals (4). Researchers have shown multiple benefits that students receive from participating in a structured physical fitness program especially increasing self-esteem. It is also quite probable that a physical fitness program created for children or adolescents will have multiple, long lasting, positive effects which include: An increase in an individual's self-esteem and physical appearance, a reduction in Type 2 diabetes, heart disease, cancer, and obesity, less risk-taking activities such as attempting suicide, or becoming pregnant, and brain growth, including the production of new neurons, increasing the flow of oxygen-rich blood, and increased intersynaptic connections (1).

Quasi-experimental studies indicate strong positive effects of physical activity on physical (sport competence) and global self-concept and weaker positive effects on social and academic self-concept. The influence of physical activity on self-concept may be mediated by mode of activity, with beneficial effects associated with aerobics, aerobics combined with strength/ flexibility activities, dance, perceptual-motor, and cognitive behavioral modifications to augment physical

activity. Although sport activities are positively associated with global self-concept, they have the potential for negative influence. Coaching and teaching styles are particularly relevant to the self-concept in organized sport and physical education (18).

An important mission of public schools is to enhance students' global self-concept through quality educational experiences. Similarly, quality physical education is designed to develop positive perceptions of one's physical characteristics, physical competence, and overall self-esteem while promoting physical activity. According to the US Department of Education (2003), many adolescent girls are at risk for having negative self-concept due, in part, to physical self-concept pressures and disturbances.

Since increased self-esteem provides so many positive benefits to children and adolescents, it is important to look at the research on this subject. Unfortunately, there has been much more research done on older adults rather than adolescents. This study has been undergone with the general objective of proving the effect of well-being program on body self-concept and its different dimensions such as sporting merit, body fat, appearance, flexibility, health, physical activity, coordination and self-esteem in 11-13 girl students in Gonbad/Iran.

Methodology

This trial was a non-stratified, non-blinded parallel group study with the allocation ratio of 1 to 1 conducted in Iran. An experimental, descriptive design was used. The participants were 41 girl students (control=21) 11 to 13 years old who used to have secondary sexual characteristics. Those who were aware of the project were excluded. The study was held in a feminine guidance school located in public school of Gonbad/ Golestan/Iran. Permission was obtained from principals, physical education teachers, and parents. Parents of all participants provided written, informed consent and all of the adolescents provided their written assent. All procedures were approved by the Tehran Medical University's Ethics Committee. Permission to conduct the study was also obtained from the schools' principals.

Data were collected by the primary researcher and students completed questionnaires during their regular physical education class time in place of their usual class activities. The Physical Self-Description Questionnaire (PSDQ) test for physical self-concept, were done. In the past research, exploratory and confirmatory factor analyses provided evidence for eight factors of physical self-concept (sporting merit, body fat, appearance, flexibility, health, physical activity, coordination and self-esteem) for adolescent girls describing aspects of physical appearance and physical ability. The

eight factors explained 44.6 percent of the total variance and overall Cronbach's alpha was 0.87(19, 20). Questionnaires were explained to the students and they were informed that their responses would be kept confidential. Data collection took approximately thirty minutes to complete. The students were randomly allocated into 2 equal groups (by the coin flip). No group difference was found in age, weight, height and overall PSDQ score. After reviewing the articles and consulting the authorities in this field an appropriate development plan was designed. It was held for the study group for 16 weeks and two 30 minute sessions each week in the experimental group. Each session included a 5 min warm-up, 10 min of health related physical fitness training, 10 min of traditional games and a 5 min static stretching cool down with theory of the benefits of physical education. The health related fitness training included muscle strength and endurance, aerobic, flexibility training. Traditional games are those specifically played in Golestan/Iran(21). The control group used to do the routine scholastic physical education activities simultaneously. The procedure of research was such that after random selection of case and control groups, Pre-test was performed on groups in a specific day to evaluate self-concept and its dimensions. At the end of intervention, post-test was performed in both groups. In this study a 5% significance level and a power of 5% for the determination of the sample size was assumed and 41 students (21 in control group) were selected. Drop out percentage was predicted near zero. No blinding was done in this study. Descriptive statistics, means (M) and standard deviation (SD) were calculated for each of the items of the tests. Relevant tests for normality and homoscedasticity were carried out to ensure homogeneity of variance.

We calculated the asymmetry and kurtosis indices that were generally close to zero and < 2.0 , as recommended by Bollen and Long (1994), indicating similarity to the normal curve. The Kolmogorov-Smirnov analysis confirmed the normal distribution of the sample ($p = 0.2$). A preliminary analysis used the Student t-test for independent samples, comparing the experimental group with the control group with the aim of checking whether the two groups were homogeneous. The effect of the intervention on outcome measures was determined using independent T-test in $P < 0.05$. SPSS/20 software was exploited to analyze data.

Data Analysis

A total of 41 participants attended baseline testing and were randomly allocated to the Intervention ($n=20$) or Control ($n=21$) group. Data were initially screened for outliers and distribution characteristics were also examined. There is no difference in age, weight and height of participants in different program (Table 1).

Table-1: Demographic characteristics of participants in different groups.

| | group | N | Mean | Std. Deviation | t | Sig. (2-tailed) |
|--------|---------|----|----------|----------------|-------|-----------------|
| age | Prog. | 20 | 12.9000 | .55251 | -.538 | .594 |
| | control | 21 | 13.0000 | .63246 | | |
| weight | Prog. | 20 | 50.1500 | 4.47537 | -.498 | .621 |
| | control | 21 | 50.8095 | 3.99524 | | |
| hight | Prog. | 20 | 154.2500 | 3.33837 | -.093 | .926 |
| | control | 21 | 154.3333 | 2.30940 | | |

PSDQ outcome scores are presented in table 2. At baseline, no statistical difference was found between the measures, allowing comparability between groups. As demonstrated in table 2, there is a significant difference in total self-concept of the program group. It can be mentioned that well-being program has a positive and significant effect on body self-concept in 11-13 year female students in Gonbad/ Iran. The P-value of t- test didn't become statistically significant just in physical activity and coordination aspects by PSDQ.

Table-2: Comparison between changes in PSDQ before and after intervention in different groups (t-test).

| | class | N | Pretests Mean | PreT Std. Deviation | Pre Sig. (2-tailed) | Posttests Mean | Po T Std. Deviation | t | Sig. (2-tailed) |
|-------------------|---------|----|---------------|---------------------|---------------------|----------------|---------------------|--------|-----------------|
| Sporting Merit | Prog. | 20 | 44.7500 | 12.29837 | .927 | 56.0500 | 9.85941 | 2.279 | .028 |
| | control | 21 | 44.3810 | 13.35094 | | 48.4286 | 11.44365 | | |
| Body fat | Prog. | 20 | 18.6000 | 7.09633 | .142 | 13.7000 | 3.06251 | -4.689 | .000 |
| | control | 21 | 22.6190 | 9.77996 | | 23.6667 | 9.01850 | | |
| Self-steam | Prog. | 20 | 16.8000 | 2.93078 | .672 | 20.3500 | 1.78517 | 4.407 | .000 |
| | control | 21 | 17.1905 | 2.92607 | | 17.3333 | 2.51661 | | |
| health | Prog. | 20 | 32.9500 | 6.99981 | .318 | 36.1500 | 5.81536 | 2.752 | .009 |
| | control | 21 | 30.6190 | 7.70374 | | 31.2381 | 5.61164 | | |
| Physical activity | Prog. | 20 | 14.1000 | 5.61858 | .495 | 20.6000 | 6.89317 | 1.914 | .063 |
| | control | 21 | 15.3810 | 6.25681 | | 17.1429 | 4.47533 | | |
| flexibility | Prog. | 20 | 21.4000 | 5.43284 | .754 | 28.6000 | 5.33509 | 4.395 | .000 |
| | control | 21 | 20.8571 | 5.58825 | | 22.0000 | 4.24264 | | |
| appearance | Prog. | 20 | 34.4500 | 5.35552 | .408 | 37.9000 | 3.72615 | 2.871 | .007 |
| | control | 21 | 32.8571 | 6.73265 | | 33.8571 | 5.14087 | | |
| coordination | Prog. | 20 | 14.3000 | 3.51089 | .334 | 18.1000 | 4.90864 | 1.473 | .149 |
| | control | 21 | 15.2381 | 2.58660 | | 16.2857 | 2.72292 | | |
| total | Prog. | 20 | 197.3500 | 24.48904 | .824 | 231.4500 | 9.85407 | 4.378 | .000 |
| | control | 21 | 199.1429 | 26.62947 | | 209.9524 | 19.73443 | | |

Discussion

The aim of this study was comparing well-being program to current physical education that was focused on body self-concept development in Iranian girl students. The results of PSDQ test and subtypes are significantly better in well-being

group compared with current physical education group. This study confirms the well-being program effect on body self-concept of students.

The current findings support that well-design/ multi-dimensional physical activity program led to higher levels of subsequent physical self-worth in adolescent girls. Physical activity program conducted by trained nursery physical activity instructors and traditional game program have been shown effective and practical way of increasing levels body self-concept previous study (4). In this study, we found well-being program had significant effect on total body self-concept but was more effective on body fat in comparison to others. Sports and physical activity can help to understand and reveal abilities and can effect on self-confidence, self-esteem, social relationships and adaptability aspects which enhance self-concept (22). It is very likely that by promoting increased physical fitness, students will start to feel better about their physical performance. This in turn, will reduce body mass and cause individuals to have a positive feeling about their body image. Children who feel better about themselves are likely to receive positive feedback from their peers, which will lead to an improvement in one's self-image. Well-program provides adolescent with an appropriate evidence based discipline without interfering with the enjoyment of the activities or academic achievements. The time spent with this program is comparable with the time allocated to routine physical education activities.

Although it is currently unclear why self-concept disparities exist for so many adolescent girls, it is possible that motivation in physical education may be a contributing factor(4).Previous research has indicated that when teachers take students 'feedback and preferences into consideration, students will feel a greater sense of autonomy (3). Although this may sound straightforward in theory, implementing simplistic or mindless physical activities (e.g., running, laps, dodge ball, and jumping-jacks) without providing any explanation of the educational, health, or social benefits is a far too common practice in secondary physical education. Our results indicate that when students value and identify with the goals of physical education, they are more likely to have higher physical self-concept and engage in physically activity outside of school. This provides an important contribution to the literature because it highlights a process through which students in physical education who may not be intrinsically motivated can still reach important physical education and health outcomes. Therefore, physical educators should consistently gather feedback on students' values and preferences of physical activities when making curricular and instructional choices as well as explicitly highlight the value of engaging in physical education activities.

Consistent with several studies that have reported a decline in physical activity during adolescence(23), the well-being program didn't effect on amount of sport activities out of school.

A recent review reported that, on average, the adolescents physical activity declines 7% per year. In girls, surprisingly, this drop in physical activity was higher in early adolescence compared to later ages (23, 24). Recently, Craggs et al. demonstrated that higher levels of previous physical activity and self-efficacy resulted in smaller declines in physical activity in the 10_13-year-olds (25). Other factors which were longitudinally related to physical activity decline during early adolescence were perceived behavioral control, physical self-perceptions, parental role modeling, parental activity and barriers for physical activity (26). Obviously, in Iran, the cultural attitudes are stronger than short term effects of this kind of program. The gender stereotyping of physical abilities leads to the sex differences in participation motives, length of activity participation, and type of activity preference. Generally, males are encouraged to participate in competitive sports to develop masculine aspects of their self-identity, but females are often discouraged from participating in competitive athletics out of fear of "masculinizing" their physiques, attitudes, and behaviors. As in Western countries, although parents encourage girls to participate in competitive sports in Middle East countries, this is usually limited to sports characterized as aesthetically appropriate, such as gymnastics and volleyball. Therefore females are less likely to participate in sports in which the body is employed as an instrument of strength. It can be said that sex differences in socialization in sports and having different experiences with sport and physical activities may explain the great sex differences in body self-concept (15). However, future research should be directed towards comprehensive assessments of determinants and mediators of change in physical activity during late childhood and adolescence.

Our results also showed that social dimension of body self-concept was significantly higher in the well-being program group. Self-concept refers to the perception of self, whereas self-esteem refers to the value placed on one 'physical self-concept is also positively associated with physical activity outside of physical education and often impacts future adherence to physical activity (23).

Although the results of the present study are encouraging, some caution should be exercised when interpreting the results. Given the age period during which data were collected, maturational status is potentially an important issue and may influence both physical self-worth and physical activity behavior (27). Validated measures of pubertal status should be included in any future research.

Furthermore, it is important to bear in mind that changes in physical self-concept are, of course, potentially cumulative over time (23). Partially, Schmalz et al. found that global self-esteem of adolescent girls did not predict participation in physical activity two years later. However, physical activity at the ages of 9 and 11 predicted higher self-esteem at the ages of 11 and 13 (28). It seems that stronger effects of self-esteem on physical activity amongst adults and adolescents may be observed at domain-specific levels (23).

Finally, the data is not representative on a national level, and the sample, although randomly selected, was only from one city. Therefore, the findings have limited generalizability and causal statements are limited. Additional research should be conducted using an experimental study design.

Conclusions

In conclusion, the results of the present investigation have significant implications for the importance placed on well-being program as a means of facilitating girls' physical self-concept, as well as being an important outcome variable. Increasing the level of habitual moderate- to vigorous intensity physical activity in youth is a health promotion and a disease-prevention strategy. Sedentary youngsters should progress toward the recommended level of physical activity gradually. The recommendations are consistent with presently available scientific evidence and are also in general accord with recommendations promoted by governmental agencies and professional organizations (18). We believe this approach should continue to be tested, modified, or adapted to examine its feasibility and predictive utility. Based on the increased interest of the scientific community to various aspects of health across adolescence and young adulthood future studies should examine the causal ordering of physical self-concept and participation in physical activity in the different age and sex groups using objective measures of physical activity, controlling potential mediators and employing experimental research design. Understanding the most salient factors that influence health and well-being of individuals and how relationships among these factors change across time is a worthwhile endeavor that should be approached in both a developmental and a systematic manner.

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References

1. Harmon L. A program for sedentary middle school girls to increase physical activity, self-esteem, and academic achievement: California State University, Northridge; 2013.
2. Marsh HW. The measurement of physical self-concept: A construct validation approach. 1997.
3. Brewer WA. Relationships among physical self-concept, physical activity and physical fitness in three different participant groups. 2014.
4. Beasley EK, Garn AC. An investigation of adolescent girls' global self-concept, physical self-concept, identified regulation, and leisure-time physical activity in physical education. *Journal of Teaching in Physical Education*. 2013;32(3):237-52.
5. Cumming SP, Standage M, Loney T, Gammon C, Neville H, Sherar LB, et al. The mediating role of physical self-concept on relations between biological maturity status and physical activity in adolescent females. *Journal of adolescence*. 2011;34(3):465-73.
6. Welk GJ, Joens-Matre R. The Effect of Weight on Selfconcept, and Psychosocial Correlates of Physical Activity in Youths. *Journal of Physical Education, Recreation & Dance*. 2007;78(8):43-6.
7. Sport Naf, Education P. National standards for physical education: McGraw-Hill Humanities/Social Sciences/Languages; 2004.
8. Marsh H, O'Mara A. Self-concept is as multidisciplinary as it is multidimensional: A review of theory, measurement, and practice in self-concept research. 2008.
9. Gehris J, Kress J, Swalm R. Students' views on physical development and physical self-concept in adventure-physical education. *Journal of Teaching in Physical Education*. 2010;29(2):146-66.
10. Marius C, Claudia R, Florina GE, Densia P. Gender differences in adolescents' physical self-perceptions. *Science, Movement, and Health*. 2011;11:292-6.
11. Martin AJ, Liem GAD, Coffey L, Martinez C, Parker PP, Marsh HW, et al. What happens to physical activity behavior, motivation, self-concept, and flow after completing school? A longitudinal study. *Journal of Applied Sport Psychology*. 2010;22(4):437-57.

12. Marsh HW, Trautwein U, Lüdtke O, Köller O, Baumert J. Integration of Multidimensional Self-Concept and Core Personality Constructs: Construct Validation and Relations to Well-Being and Achievement. *Journal of personality*. 2006;74(2):403-56.
13. Guérin F, Marsh HW, Famose J-P. Generalizability of the PSDQ and its relationship to physical fitness: The European French connection. *Journal of Sport and Exercise Psychology*. 2004;26(1):19-38.
14. Peart N, Marsh H, Richards G. The physical self-description questionnaire: Furthering research linking physical self-concept, physical activity and physical education. *Educational Psychology Review*. 2005;2(1):71-7.
15. Caglar E. SIMILARITIES AND DIFFERENCES IN PHYSICAL SELF-CONCEPT OF MALES AND FEMALES DURING LATE ADOLESCENCE AND EARLY ADULTHOOD. *Adolescence*. 2009;44(174).
16. Marsh HW, Peart ND. Competitive and cooperative physical fitness training programs for girls: Effects on physical fitness and multidimensional self-concepts. *Journal of Sport and Exercise Psychology*. 1988;10(4):390-407.
17. Cook HD, Kohl III HW. *Educating the Student Body:: Taking Physical Activity and Physical Education to School*: National Academies Press; 2013.
18. Strong WB, Malina RM, Blimkie CJR, Daniels SR, Dishman RK, Gutin B, et al. Evidence Based Physical Activity for School-age Youth. *The Journal of Pediatrics*. 2005;146(6):732-7.
19. Bahram a, zadeh ms. Validity and reliability of the physical self-description questionnaire and The factors affecting it in students of tehran. tehran: sport science research institute, 2004.
20. Abdolmaleki Z, SALEH SB, Bahram A, Abdolmaleki F. Validity and reliability of the physical self-description questionnaire among adolescent girls. 2011.
21. Beheshti m, khodaverdi k. A selection of Golestan local traditional games gorgan: gorgan Cultural Publishing institute; 2005. 111 p.
22. Tavakolizadeh J, Abedizadeh Z, Panahi M. The Effect of Swimming on Self Concept's Girl High School Students. *Procedia-Social and Behavioral Sciences*. 2012;69:1226-33.
23. Raudsepp L, Neissaar I, Kull M. A longitudinal assessment of the links between physical activity and physical self-worth in adolescent females. *European journal of sport science*. 2013;13(6):716-22.

24. Dumith SC, Gigante DP, Domingues MR, Kohl HW. Physical activity change during adolescence: a systematic review and a pooled analysis. *International Journal of Epidemiology*. 2011;40(3):685-98.
25. Craggs C, Corder K, van Sluijs EM, Griffin SJ. Determinants of change in physical activity in children and adolescents: a systematic review. *American journal of preventive medicine*. 2011;40(6):645-58.
26. Inchley J, Kirby J, Currie C. Longitudinal changes in physical self-perceptions and associations with physical activity during adolescence. *Pediatric Exercise Science*. 2011;23(2):237.
27. Knowles A-M, Niven AG, Fawkner SG, Henretty JM. A longitudinal examination of the influence of maturation on physical self-perceptions and the relationship with physical activity in early adolescent girls. *Journal of adolescence*. 2009;32(3):555-66.
28. Schmalz DL, Deane GD, Birch LL, Davison KK. A longitudinal assessment of the links between physical activity and self-esteem in early adolescent non-Hispanic females. *Journal of Adolescent Health*. 2007;41(6):559-65.

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