International Journal of Movement Education and Social Science
Peer Reviewed and Indexed Journal
IJMESS Vol. 13 Issue 2 (Oct 2024)
ISSN: 2278-0793 (Print) & 2321-2279 (Online)
Impact Factor 5.62
www.ijmess.org

IMPACT OF BODY IMAGE ON PSYCHOMOTOR ABILITIES AMONG COLLEGE STUDENTS

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Abstract

This research investigates the connection between self-perceived body image and psychomotor capabilities in university students of both sexes. Body image, a vital component of self-concept, has been correlated with mental health and physical aptitude. Psychomotor skills, encompassing response speed and physical coordination, play a crucial role in the academic and social spheres of university life. The investigation utilises a cross-sectional methodology, involving 200 subjects (evenly split between males and females) from Gwalior. Information was gathered using validated body image surveys and assessments of psychomotor proficiency. The outcomes reveal that a poor body image is notably linked to reduced psychomotor abilities across both genders, with a more pronounced effect observed in female participants. These results imply that strategies focused on enhancing body image perception could lead to improvements in psychomotor performance, particularly among female students.

Keywords: Body Image, Psychomotor Abilities, Body Dissatisfaction and Vienna Test System (VTS).

Introduction

The concept of body image encompasses an individual's perceptions, emotions, and beliefs regarding their physical appearance (Cash & Pruzinsky, 2002). Studies indicate that a negative body image can adversely impact self-esteem and physical well-being. Psychomotor abilities, which involve tasks that combine cognitive and physical functions (such as coordination, dexterity, and reaction time), play a crucial role in academic achievement, sports performance, and everyday activities (Schmidt & Lee, 2011). However, the relationship between body image and psychomotor abilities remains largely unexplored, particularly among university students. In today's society, body image has become a significant concern, with individuals frequently comparing themselves to idealised physiques portrayed in the media. Research suggests that body image is linked not only to mental health outcomes, including self-esteem and anxiety, but also to physical and psychomotor performance (Grogan, 2016). Psychomotor abilities refer to physical functions regulated by the brain, involving the coordination of mental and physical actions. For university students, these abilities are essential in various aspects of life, ranging from academic pursuits to sporting activities and social interactions. An individual's self-perception of their physical appearance, known as body image, can significantly influence both mental well-being and physical capabilities (Cash & Smolak, 2011). Psychomotor abilities, which encompass the coordination of mental processes and physical actions, are essential for daily activities, including those related to academics and sports (Fleishman, 1975). Whilst research has increasingly demonstrated the impact of body image on various cognitive and motor functions, there is a dearth of studies examining this relationship specifically in

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university students. The development of body image is explained by several psychological theories, such as social comparison theory and self-objectification theory (Festinger, 1954; Fredrickson & Roberts, 1997). The former suggests that individuals assess themselves in relation to others, often resulting in dissatisfaction with their own appearance. The latter proposes that people internalise societal beauty standards, leading to a disconnect between physical appearance and personal contentment. Studies consistently indicate that females are more prone to body dissatisfaction than males, frequently due to societal pressures regarding slimness and attractiveness (Tiggemann & Slater, 2014). However, males may also experience pressures to achieve muscular and strong physiques, which can affect their physical performance. The translation of these gender differences to psychomotor abilities remains largely unexplored, highlighting the importance of further research in this area. Psychomotor abilities encompass the coordination of physical movements, control of motor functions, and cognitive processes (Fleishman, 1975). These capabilities play a crucial role in university students' academic achievements, sporting endeavours, and everyday activities. The synchronisation of mental and muscular actions, which characterises psychomotor abilities, is fundamental for effectively engaging in scholarly, social, and athletic pursuits (Magill, 1998). While limited research has explored the impact of body image concerns on these essential skills, initial findings indicate that a negative perception of one's body might hinder motor performance, potentially due to heightened anxiety levels and diminished self-assurance (Grogan, 2016).

Methodology

The study involved 200 university students from Gwalior, comprising an equal number of males and females, aged between 18 and 25. Prior to undertaking psychomotor assessments, all participants completed a Body Image Satisfaction Questionnaire. The experiments were conducted in a regulated laboratory environment, utilising identical equipment for each participant. This cross-sectional research employed quantitative methodologies to gather data on body image perception and psychomotor abilities.

To assess participants contentment with their physical appearance, researchers employed a validated instrument known as the Body Image Satisfaction Questionnaire (BISQ). This comprehensive scale comprises 30 items and yields scores ranging from 0, indicating extreme discontent, to 150, representing complete satisfaction with one's body image.

Psychomotor Performance Tests:

a. Reaction Time Test: Measured in milliseconds using VTS (Test form: S4)
b. Sensomotor Coordination: Measured using VTS (Test form: S3)
c. Time movement Anticipation: Measured using VTS (Test Form S5)

Data Analysis

SPSS was employed for data analysis. Pearson's correlation was utilised to determine the relationships between body image and psychomotor performance. Gender disparities were examined using an independent t-test.

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Findings

TABLE 1:
DESCRIPTIVE STATISTICS FOR BIQ AND PSYCHOMOTOR TESTS

Variable	Overall Mean	Male Mean	Female Mean	SD
Body Image (BIQ)	3.41	3.60	3.22	0.73
Reaction Time (ms)	312.4	305.1	319.7	25.6
Sensomotor Coordination (%)	91.2	93.5	88.9	8.1
Time Movement Anticipation	85.7	87.3	84.1	7.3

A comprehensive overview of the descriptive statistics for body image perception and psychomotor performance assessments, encompassing the entire sample and gender-specific groups, is presented in Table 1.

TABLE 2
PEARSON CORRELATION BETWEEN BODY IMAGE AND PSYCHOMOTOR TESTS

Psychomotor Test	Correlation with BIQ	p-value
Reaction Time	-0.42	0.001
Sensomotor Coordination	0.37	0.003
Time Movement Anticipation	-0.28	0.015

The Pearson correlation coefficients between body image (BIQ) and the psychomotor test results are presented in Table 2. The findings reveal a notable inverse relationship between body image perception and reaction speed ($r = -0.42$, $p = 0.001$), indicating that students who are more satisfied with their body image generally demonstrate quicker reaction times. Additionally, a positive association was observed with sensomotor coordination ($r = 0.37$, $p = 0.003$), suggesting that individuals with higher body image satisfaction tend to exhibit enhanced coordination skills.

TABLE 3
GENDER DIFFERENCES IN BODY IMAGE AND PSYCHOMOTOR PERFORMANCE

Variable	t-value	p-value
Body Image (BIQ)	2.74	0.007**
Reaction Time (ms)	2.02	0.04*
Sensomotor Coordination (%)	2.85	0.005**
Time Movement Anticipation	1.45	0.15

* $p < 0.05$, ** $p < 0.01$

The t-test outcomes comparing body image and psychomotor assessments between males and females are presented in Table 3. The statistical analysis using t-tests revealed notable disparities between genders in several areas. Body image satisfaction exhibited significant differences ($p = 0.007$), as did reaction time ($p = 0.04$) and sensomotor coordination ($p = 0.005$). Overall, male participants demonstrated superior performance in psychomotor assessments and expressed greater contentment with their body image compared to their female counterparts.

Discussion of Findings

The findings of this research indicate that body image plays a significant role in influencing the psychomotor capabilities of university students. In line with expectations, individuals exhibiting higher degrees of body dissatisfaction demonstrated poorer performance on psychomotor assessments, with women experiencing more pronounced negative effects compared to men. This outcome is consistent with earlier investigations that have shown body dissatisfaction to be more common among females and capable of inducing anxiety, which may subsequently impair motor control and coordination (Tiggemann, 2004).

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Association between Psychomotor Skills and Body Image

The research indicates a notable correlation between one's perception of body image and psychomotor capabilities. Those who scored higher in body image assessments demonstrated enhanced performance in tests measuring reaction time and sensomotor coordination. These outcomes are consistent with earlier studies suggesting that individuals with a positive body image tend to exhibit superior cognitive and motor skills. Conversely, students who expressed greater dissatisfaction with their body image showed poorer results in psychomotor evaluations, particularly in reaction time tests. This observation aligns with previous findings, indicating that a negative body image may impact confidence, resulting in diminished performance in tasks that require coordination and swift responses (Grogan, 2016).

Differences in Gender

The notable disparities in body image contentment and psychomotor capabilities between male and female students underscore possible psychological and societal factors at play. Male participants generally expressed greater satisfaction with their body image and demonstrated superior performance in psychomotor assessments. In line with earlier studies, female students showed increased levels of body image discontent and lower psychomotor aptitude compared to their male peers (Tiggemann, 2013). These observations indicate that societal expectations may exert a more pronounced negative effect on females, subsequently impacting their physical capabilities.

Conclusion

This research indicates a substantial correlation between one's perception of body image and psychomotor capabilities, with notable distinctions observed between genders in both aspects. The study enhances our comprehension of the psychological and physiological components of body image and their influence on motor skills. The results demonstrate that dissatisfaction with one's body image adversely affects psychomotor abilities, particularly in areas such as reaction time and sensomotor coordination. Gender-based disparities were also apparent, with female participants experiencing more pronounced negative effects compared to their male counterparts.

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Impact Factor 5.62
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