Not All Adolescents See Their Bodies the Same Way: Profiles of Body Functionality and Physical Activity. A Cross-Sectional Study

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Introduction

Adolescents' conversations about body ideals and appearance provide insight into body image disturbance. According to Grogan (2021), body image is defined as "a person's perceptions, thoughts, and feelings about his or her body".

Several factors influence body image among adolescents, such as peer criticism of appearance, exposure to appearance-focused magazines, and the rapid changes in body size and shape during puberty(Sattler et al., 2020)

Body profiles are a unique subcategory of people who share a similar combination of variables, such as their body image concerns, body esteem, or physical attributes (Jackson et al., 2022)

Using Latent Profile Analysis (LPA) as a person-centered approach rather than a variable-centered one, three classes of adolescents are identified: the great concern class, which shows greater concern about their body appearance and usually has a high level of body dissatisfaction. The low-concern class shows fewer worries about their body appearance and greater acceptance and satisfaction with their bodies. The borderline or mid concern class, which fits between the two classes in terms of body concerns and body satisfaction (Hoffmann & Warschburger, 2018)

Regarding gender differences, there is a distinct distribution between men and women across these classes, as most men are categorized in the low concern class, and women are likely to be categorized in the great concern class(Hoffmann & Warschburger, 2018)

Body functionality refers to how individuals perceive what their bodies can do, rather than focusing solely on appearance. During adolescence, this concept

becomes quite important due to the rapid physical and psychological changes that influence self-perception and identity formation. Adolescents who focus on body functionality, such as strength, mobility, and physical ability, tend to develop more positive attitudes toward their bodies compared to those who focus mainly on appearance (Alleva et al., 2015)

Unlike body image, which is often influenced by external appearance and social comparison, body functionality emphasizes the body's internal abilities and its role in performing daily activities and maintaining overall health. This perspective may also reduce negative body-related thoughts and promote self-acceptance. Moreover, previous studies have indicated that adolescents who appreciate their body functionality are more likely to engage in physical activity and adopt healthier lifestyle behaviors (Alleva & Tylka, 2021). Therefore, understanding bodily functions can provide valuable insights into differences in adolescents' physical activity levels and help explain variations in their behavioral patterns.

Good well-being was significantly associated with regular physical activity (PA) (Petracci & Cavrini, 2013) and with several health benefits (Janssen & Leblanc, 2010; Warburton & Bredin, 2017) . Physical activity (PA) is any form of body movement produced by skeletal muscles that requires energy expenditure.

It has a positive impact on adolescents by promoting self-respect and resulting in a confident body image. In other words, Low physical activity is considered one of the Potential negative health consequences that may result from the weight state and body image dissatisfaction. Consequently, body-related factors can influence the scale and participation of adolescents in PA. Furthermore, participation varies by age and gender. Despite the tireless efforts of various Concerned authorities to boost physical activity, a large proportion of adolescents fail to meet physical activity recommendations.

Statement of the Problem

Do Egyptian adolescents' perceptions of their body appearance influence their body functionality and physical activity levels?

The Purpose of the Study

1. To explore how Egyptian adolescents perceive their body image.
2. To assess the relationship between body image perception and levels of body functionality and physical activity among adolescents.

Significance of the Study

This study is important because it helps us understand how adolescents perceive their bodies and how this perception relates to their level of physical activity. Adolescence is a critical stage marked by physical and psychological changes that may influence self-perception and health-related behaviors. Recently, more attention has been given to body functionality rather than appearance, focusing on what the body can do rather than how it looks.(Alleva & Tylka, 2021).

Understanding this concept may help explain differences in physical activity levels among adolescents. It has been suggested that adolescents with a more positive body image are more likely to engage in physical activity and adopt healthier lifestyles (Babic et al., 2014). Additionally, this study may provide useful insights for healthcare professionals, especially physical therapists, to develop strategies that promote physical activity and improve adolescents' overall well-being (Alleva & Tylka, 2021).

Null Hypothesis

H_0: There is no statistically significant difference in body functionality or physical activity levels across the different body image perception profiles (i.e.,

high concern, mid concern, and low concern classes) among Egyptian adolescents aged 14–17 years.

Delimitations of the Study

1. The study is confined to adolescents (aged between 14 and 17 years old).
2. Generation Z
3. The study utilizes scales written in the English language.
4. The study utilizes a cross-sectional survey design, capturing data at a single point in time.

Exclusion criteria

1. Non-adolescents (those over 17 or under 14).
2. Non-English speakers.

Subjects, Instrumentation, and Procedures

Sample Size

The sample size was calculated using the standard formula for infinite populations (Cochran, 1977) With a 95% confidence level, a 5% margin of error, and a conservative 50% response distribution, the required sample size was 385 participants.

Instrumentation

Body Image & Shape

The Body Shape Questionnaire-34 (BSQ-34)

It is a self-report scale designed to assess concerns and dissatisfaction with body shape. It consists of 34 items about the previous 4 weeks, rated on a 6-point Likert scale (e.g., 1 = never, 6 = always), with total scores typically ranging from 34 to 204; higher scores indicate greater body-shape concern and dissatisfaction (Melisse et al., 2024).

Function

Functionality Appreciation Scale (FAS)

It is the main research tool used to measure how much people appreciate, respect, and honor their bodies for what they can do, rather than how they look (Rekkers et al., 2025).

Body Appreciation Scale-2 (BAS-2)

The Body Appreciation Scale-2 (BAS-2) is a 10-item self-report measure of positive body image, specifically body appreciation, defined as accepting,

holding favorable opinions toward, and respecting one's body, while rejecting narrow appearance ideals (Lemoine et al., 2018).

Physical Activity

The Global Adolescent and Child Physical Activity Questionnaire (GAC PAQ)

The Global Adolescent and Child Physical Activity Questionnaire is a new tool designed to measure physical activity in 8–17-year-olds across all key domains of daily life, including school, chores, work/volunteering, transport, free time, and outdoor time (Larouche et al., 2026).

Data analysis

SAS© on demand for academics will be used for statistical analysis. Multiple linear regression analysis was employed to investigate the predicted link between body image and physical activity and functions.

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