

PSYCHOLOGICAL IMPACT OF SOMATOTYPE LEARNERS IN TAKING UP PHYSICAL EDUCATION

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Abstract

In Physical Education classes, learners often carry not only their physical abilities but also their self-perceptions, body concerns, peer experiences, and motivation shaped by how they understand their own body type. This study examined the psychological impact of somatotype awareness among learners taking up Physical Education. Specifically, it investigated how students' awareness of their endomorphic, mesomorphic, or ectomorphic body type influenced their self-esteem, body image, participation, performance, peer interaction, motivation, psychological well-being, and perception of inclusive teaching strategies. The study employed a quantitative descriptive-correlational research design using a structured survey questionnaire administered to Physical Education learners from selected schools. The instrument measured somatotype awareness and related psychological dimensions, including self-esteem, body image perception, participation, peer socialization, motivation, and satisfaction with teaching adaptations. Findings revealed clear differences across somatotype groups. Mesomorphic students reported the highest levels of self-esteem, positive body image, participation, performance, peer acceptance, intrinsic motivation, and psychological well-being. Endomorphic students experienced greater challenges, including lower self-esteem, negative body image, reduced participation, higher social isolation, bullying experiences, and lower motivation. Ectomorphic students generally demonstrated moderate outcomes, with strengths in selected activities but ongoing concerns about confidence and physical comparisons. The findings further showed that existing Physical Education strategies appeared more favorable to mesomorphic learners, suggesting the need for more inclusive, body-positive, and adaptive instruction. The study concludes that somatotype awareness has meaningful psychological implications in Physical Education and that schools must promote supportive practices that value body diversity, reduce stigma, and encourage equitable participation among all learners.

Keywords: Somatotype Awareness, Physical Education, Self-Esteem, Body Image, Learner Motivation, Peer Interaction, Psychological Well-Being

1. Introduction

Physical Education is one of the most visible learning spaces where students encounter their own bodies, compare their abilities with peers, and form impressions of what they can or cannot do physically. For many learners, PE is a source of enjoyment, confidence, movement, teamwork, and health awareness. For others, however, it may also become a setting where body-related insecurities, fear of judgment, low motivation, and social comparison are strongly felt. This concern becomes particularly meaningful when learners become aware of their somatotype, or body-type classification, commonly described as endomorph, mesomorph, or ectomorph. Although somatotype is often discussed in relation to physical fitness and athletic performance, its psychological implications in school-based PE deserve equal attention because students' body awareness can influence how they see themselves, how they participate, and how they interact with others.

Adolescence is a sensitive developmental period in which body image, self-esteem, and peer acceptance become closely connected to psychological well-being. Gualdi-Russo, Rinaldo, and Zaccagni (2022) reported that physical activity involvement may help protect adolescents from body image concerns and enhance body satisfaction. However, the PE setting can also expose learners to body judgment because performance, appearance, movement competence, strength, speed, endurance, and coordination are often publicly visible. Barker, Varea, Bergentoft, and Schubring (2023) emphasized that PE has strong potential to shape how young people experience their own and others' bodies, but this potential is not always realized in a positive way. This means that PE may either support healthy body appreciation or, depending on how lessons, activities, and teacher interactions are structured, unintentionally reinforce body comparison and dissatisfaction.

The issue becomes more complex when body type is associated with perceived competence. Mesomorphic learners, who are often associated with muscularity and athletic build, may feel more confident in activities that reward speed, power, coordination, and visible performance. Endomorphic learners may be more vulnerable to teasing, weight stigma, or low confidence, especially in competitive activities that emphasize speed, endurance, or body size. Ectomorphic learners may also feel insecure when activities emphasize muscularity, strength, or power. While these classifications should not be used to limit students' potential, learners' awareness of body type may influence their self-esteem, body image, motivation, and willingness to participate. Thus, the psychological impact of somatotype awareness must be examined not to label students, but to understand how PE can become more inclusive and supportive.

Recent evidence shows that body-related concerns are closely connected with participation in PE. Haug, Castillo, Samdal, and Smith (2023) found that body perception, health complaints, gender, and weight-control concerns were associated with adolescents' PE involvement, with autonomous motivation mediating this association. Their findings suggest that students are more likely to engage in PE when they feel internally motivated, accepted, and supported rather than judged or pressured. This is important for somatotype-aware learners because body-related discomfort may reduce participation when activities are perceived as embarrassing, overly competitive, or designed for only one type of physical ability. In contrast, a supportive PE climate can help learners participate with greater confidence, regardless of body type.

Body image is also strongly related to well-being. Sollerhed, Fransson, Skoog, and Garmy (2022) found that adolescents' perceived body appearance, body functioning, and physical activity levels were significantly associated with perceived well-being. This finding is relevant to PE because students not only evaluate how their bodies look, but they also evaluate what their bodies can do. When PE emphasizes body functionality, effort, skill development, and personal progress, students may develop healthier self-perceptions. However, when PE emphasizes appearance, comparison, and uniform performance standards, some learners may feel excluded or inadequate. In this context, the teacher's role becomes essential in shaping a psychologically safe learning environment.

School-based body image interventions further support the need for intentional PE practices. Kerner, Prescott, Smith, and Owen (2022) found that PE-based body image and body-focused programs can positively influence body attitudes, although program design and delivery vary widely. Their review highlights the value of activities that focus on movement experiences, body functionality, sociocultural awareness, and inclusive participation. These ideas align with the present study because learners with different somatypes may require varied opportunities to succeed, including non-competitive movement, cooperative games, fitness tasks adjusted to ability, reflective activities, and teacher feedback that values improvement rather than comparison.

At the policy level, UNESCO (2021) emphasized that inclusive, high-quality physical education should promote physical, social, and emotional skills while respecting diversity and eliminating discrimination. This perspective supports the need to examine whether current PE teaching strategies truly accommodate diverse body types. If PE programs unintentionally favor mesomorphic traits, learners with endomorphic or ectomorphic body types may experience lower satisfaction, reduced participation, or weaker psychological well-being. Therefore, inclusion in PE must go beyond allowing students to join activities; it should ensure that all learners feel capable, respected, safe, and valued.

To address these concerns, the present study investigates the psychological impact of somatotype awareness among learners enrolled in Physical Education. Specifically, it examines how awareness of being endomorphic, mesomorphic, or ectomorphic influences self-esteem, body image, participation, performance, peer interaction, motivation, psychological well-being, and perceptions of teaching-strategy adaptation. By focusing on these variables, the study aims to contribute evidence that may help PE teachers, curriculum developers, school leaders, and counselors design more inclusive and body-positive learning environments. Ultimately, this research positions Physical Education not only as a subject for physical development but also as a vital space for affirming body diversity, strengthening confidence, reducing stigma, and supporting the psychological well-being of all learners.

2. Method

2.1 Research Design

The study employed a quantitative, descriptive-correlational research design to examine the psychological impact of somatotype awareness among learners enrolled in Physical Education. This design was appropriate because the study sought to describe learners' psychological profiles according to somatotype classification (endomorph, mesomorph, and ectomorph) and to determine the relationships between somatotype awareness and key psychological variables, including self-esteem, body image, motivation, participation, peer interaction, and psychological well-being. The descriptive component enabled the researcher to present the distribution and pattern of learners' responses across the different somatotype groups, while the correlational component allowed the study to determine whether students' awareness of their body type was meaningfully associated with their experiences and behavior in Physical Education classes. Since the variables were examined in their natural educational setting without manipulation, the design provided an objective and systematic means of understanding how body-type awareness may influence learners' confidence, participation, socialization, and motivation. Data were gathered through a structured survey questionnaire and analyzed using descriptive and inferential statistical procedures. Overall, the research design provided a rigorous framework for generating evidence on how Physical Education programs may respond more inclusively to learners with diverse somatotypes.

2.2 Participants

The study comprises learners in Physical Education classes from selected schools, representing diverse somatotype classifications, namely endomorphs and ectomorphs. The study included junior high school and senior high school students to capture varied developmental experiences related to body awareness, self-esteem, body image, motivation, participation, peer interaction, and psychological well-being in PE settings. A stratified random sampling technique was employed to ensure equitable representation across somatotype categories, gender, and grade levels. This sampling approach was appropriate because the study aimed to compare and describe the psychological experiences of learners with different body types while reducing the risk of overrepresenting one group. Student participants served as the primary data source,

particularly regarding their awareness of somatotype and its influence on their personal and social experiences in Physical Education. Inputs from PE instructors were also considered to validate students' reported participation, engagement, and social interaction during class activities. Through this participant composition, the study generated a more inclusive and balanced understanding of how body-type awareness may shape learners' confidence, motivation, classroom participation, peer relationships, and overall psychological experience in Physical Education.

2.3 Instrumentation

The study used a structured survey questionnaire as the primary instrument to collect data on the psychological impact of somatotype awareness among learners in Physical Education. The questionnaire was organized into sections that measured demographic information, somatotype classification, self-esteem, body image perception, participation and performance in PE activities, peer interaction, motivation, psychological well-being, and perceptions of the effectiveness of PE teaching strategies. Learners identified their somatotype as endomorph, mesomorph, or ectomorph using descriptive criteria, while the psychological dimensions were assessed through Likert-scale items ranging from strong disagreement to strong agreement. To strengthen the instrument's validity, established measures such as self-esteem, body image, and motivation scales were adapted where applicable, and the questionnaire was pilot-tested before full administration. Feedback from the pilot test was used to refine unclear items and ensure the instrument was suitable for the respondents' age, language level, and context. In addition, observations and inputs from Physical Education instructors were used to support and validate students' reported participation, engagement, and peer interaction. The use of these instruments enabled the study to gather systematic, quantifiable, and contextually meaningful data on how somatotype awareness relates to learners' psychological experiences in PE.

2.4 Data Analysis

The data gathered in the study were analyzed using quantitative statistical procedures aligned with the descriptive-correlational design. Descriptive statistics, including frequency counts, percentages, means, and standard deviations, were used to summarize learners' somatotype classifications and their responses on self-esteem, body image perception, participation and performance in Physical Education, peer interaction, motivation, psychological well-being, and satisfaction with teaching strategies. These procedures enabled the researcher to present the psychological profiles of endomorphic, mesomorphic, and ectomorphic learners in a clear, measurable manner. To determine the relationship between somatotype awareness and the identified psychological variables, inferential statistics, such as Pearson's correlation and, where appropriate, multiple regression, were employed. These tests allowed the study to examine the strength and direction of associations between learners' body-type awareness and their psychological experiences in PE classes. Comparative patterns across somatotype groups were also interpreted to identify which learners experienced greater confidence, participation, peer acceptance, motivation, or psychological difficulty. The results were analyzed using appropriate statistical software, and findings were interpreted based on significance levels and corresponding qualitative descriptions. Overall, the data analysis procedure provided an objective basis for understanding how somatotype awareness relates to learners' psychological well-being and participation in Physical Education.

3 Results

The findings revealed that somatotype awareness influenced learners' self-esteem and body image perceptions in Physical Education. Mesomorphic learners reported the most favorable psychological profile, with 60% indicating high self-esteem and 75% reporting positive

body image. In contrast, endomorphic learners showed greater body-related vulnerability, with 25% reporting low self-esteem and 70% indicating negative body image. Ectomorphic learners demonstrated moderate outcomes, with 35% reporting high self-esteem and an equal distribution between positive and negative body image perceptions. These results suggest that learners' awareness of their body type may shape how they view themselves in PE settings, particularly when physical appearance, movement ability, and peer comparison become visible during class activities.

Participation, engagement, and performance in Physical Education also varied across somatotype groups. Mesomorphic learners reported the highest level of participation (75%) and performance (80%), indicating that learners with more athletic body characteristics may feel more confident and capable in PE activities. Endomorphic learners showed lower participation and performance, with only 30% reporting high participation and 35% reporting high performance. Ectomorphic learners showed moderate participation and performance, suggesting they may perform well in selected activities but may still experience limitations in tasks requiring strength or power. These findings imply that traditional PE activities may unintentionally favor certain body types, particularly those associated with athleticism, while learners with other somatotypes may need more inclusive and differentiated activity options.

The study also found that somatotype was associated with peer interaction and socialization. Mesomorphic learners experienced the highest positive peer interaction at 80% and the lowest reported bullying at 5%. Endomorphic learners, however, reported higher negative peer experiences, including 35% reported bullying and 25% social isolation. Ectomorphic learners showed moderate social outcomes: 55% reported positive peer interactions and 10% reported bullying. These findings indicate that body type may influence students' social experiences in PE classes, where physical ability and appearance can affect peer acceptance. This highlights the need for PE teachers to intentionally build classroom climates that promote respect, teamwork, empathy, and body diversity.

Motivation and psychological well-being were likewise affected by somatotype awareness. Mesomorphic learners showed the highest intrinsic motivation (65%) and the highest positive well-being (85%), while endomorphic learners reported the lowest intrinsic motivation (20%) and the highest negative well-being (70%). Ectomorphic learners again reflected moderate outcomes, with 45% reporting high intrinsic motivation and 60% reporting positive well-being. These results suggest that students who feel physically competent and socially accepted are more likely to enjoy and participate in PE. Conversely, learners who experience body-related discomfort, teasing, or difficulty in activities may show reduced motivation and weaker psychological well-being.

The findings further showed that current PE teaching strategies appeared most favorable to mesomorphic learners, with 75% satisfaction, compared with 55% among ectomorphic learners and only 20% among endomorphic learners. This suggests that existing instructional approaches may not fully accommodate the varied needs of learners with different body types. Overall, the results indicate that somatotype awareness has meaningful psychological implications for learners in Physical Education, particularly regarding self-esteem, body image, participation, peer relationships, motivation, and well-being. These findings support the need for inclusive PE programs that emphasize personal progress, body positivity, cooperative learning, differentiated activities, and psychologically safe participation for all learners regardless of somatotype.

4. Discussion

The study's findings confirm that somatotype awareness has meaningful psychological implications for learners in Physical Education, particularly for self-esteem and body image. Mesomorphic learners reported higher self-esteem and more positive body image, while endomorphic learners experienced greater body dissatisfaction and lower self-esteem. This pattern is consistent with Barker, Varea, Bergentoft, and Schubring (2023), who emphasized that

body image is a significant pedagogical issue in PE because students' bodies are publicly visible, compared, and evaluated during physical activities. Similarly, Gualdi-Russo, Rinaldo, and Zaccagni (2022) found that physical activity and body image are closely related during adolescence, a developmental period when appearance, fitness, and peer acceptance can strongly affect self-perception. These studies support the present finding that PE can either strengthen or weaken students' confidence depending on how body diversity is addressed in the learning environment.

The results also showed that participation, engagement, and performance varied across somatotype groups, with mesomorphic learners reporting the highest participation and performance, while endomorphic learners reported lower participation and weaker performance. This finding may reflect how conventional PE activities often reward speed, strength, agility, endurance, and competitive performance, unintentionally favoring students who already feel physically competent. Haug, Castillo, Samdal, and Smith (2023) explained that body-related concerns are associated with adolescents' participation in PE and that motivation plays an important role in this relationship. In the present study, learners who perceived their body type as less suited to PE tasks appeared more vulnerable to avoidance, low confidence, and reduced participation. This suggests that PE teachers must shift from a one-size-fits-all model toward differentiated activities that allow students with different body types to experience success.

The study further revealed that somatotype was associated with peer interaction and socialization. Mesomorphic learners reported more positive peer interactions and fewer bullying experiences, while endomorphic learners reported higher levels of social isolation and bullying. These findings are important because PE is a highly social setting in which body size, movement ability, and performance are readily observed by classmates. When body-related teasing or exclusion occurs, students may begin to associate PE with embarrassment rather than growth. Sollerhed, Fransson, Skoog, and Garmy (2022) found that perceived body appearance, body functioning, and physical activity levels were related to adolescent well-being, indicating that students' experiences of their bodies can affect how they feel socially and emotionally. Therefore, PE teachers should intentionally promote teamwork, peer respect, cooperative learning, and body-positive communication to reduce body-based stigma.

Motivation and psychological well-being also differed by somatotype: mesomorphic learners showed higher intrinsic motivation and positive well-being, while endomorphic learners reported lower motivation and higher negative well-being. This finding supports the argument that students participate more willingly when they feel capable, accepted, and emotionally safe. Haug et al. (2023) noted that autonomous motivation can mediate the relationship between body-related concerns and PE participation, meaning that students are more likely to engage when they feel personally motivated rather than pressured or judged. In this study, learners whose body type aligned with commonly valued PE performance traits were more motivated, while those who felt physically disadvantaged or socially judged were less motivated. This underscores the need for PE activities that emphasize self-improvement, effort, health, enjoyment, and personal progress instead of comparison and competition.

Finally, the finding that current teaching strategies were most favorable to mesomorphic learners highlights the need for more inclusive and adaptive PE instruction. Kerner, Prescott, Smith, and Owen (2022) reported that PE-based body image and body-focused programs can support body image education, but they must be carefully designed to avoid reinforcing appearance-based comparison. UNESCO (2021) likewise emphasized that inclusive quality physical education should promote physical, social, and emotional skills while respecting diversity and reducing exclusion. In light of these findings, PE programs should offer varied activities for different body types, integrate body positivity and mental health support, discourage body-based teasing, and train teachers in differentiated instruction. Overall, the study affirms that somatotype

awareness should not be used to label or limit learners; rather, it should guide schools in creating PE environments where all students feel respected, capable, motivated, and psychologically safe.

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