



Predicting Body Image Satisfaction in Adolescents with Physical Disabilities: The Role of Frustration Tolerance and Social Competence

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ABSTRACT

This study aimed to examine the predictive role of frustration tolerance and social competence in body image satisfaction among adolescents with physical disabilities. This research utilized a correlational descriptive design with a sample of 350 adolescents with physical disabilities, selected based on Morgan and report measures assessing body image satisfaction (MBSRQ), frustration tolerance (FDS), and social competence (SSRS). Data analysis was conducted using Pearson correlation to explore associations between variables and linear regression to determine the predictive power of frustration tolerance and social competence on body image satisfaction. All statistical analyses were performed using SPSS-27, and assumptions of normality, linearity, and multicollinearity were confirmed before conducting the regression analysis. Descriptive statistics showed that participants had a mean body image satisfaction score of 74.56 (SD = 9.87), a frustration tolerance score of 62.34 (SD = 8.23), and a social competence score of 68.21 (SD = 7.95). Correlation analysis revealed significant positive relationships between body image satisfaction and frustration tolerance ($r = 0.52, p < 0.01$) and body image satisfaction and social competence ($r = 0.61, p < 0.01$). The regression model was statistically significant ($F(2, 347) = 90.75, p < 0.01, R^2 = 0.46$), indicating that frustration tolerance ($\beta = 0.42, \text{SE} = 0.39, t = 5.25, p = 0.01$) and social competence ($\beta = 0.56, \text{SE} = 0.47, t = 7.91, p = 0.01$) were both significant predictors of body image satisfaction. The findings suggest that higher frustration tolerance and greater social competence are associated with increased body image satisfaction in adolescents with physical disabilities, with social competence playing a slightly stronger role. These results highlight the importance of resilience-building and social skills interventions to enhance body image satisfaction in this population.

Keywords: body image satisfaction, frustration tolerance, social competence, adolescents, physical disabilities, psychological resilience, social adaptation.

1. Introduction

Body image satisfaction is a critical psychological construct that significantly influences adolescents' self-esteem, emotional well-being, and overall quality of life. Adolescents with physical disabilities often face additional challenges related to body image due to societal beauty standards, functional limitations, and social comparisons with their non-disabled peers (Argyrides et al., 2023). Research has highlighted that body image dissatisfaction in this population can lead to reduced self-esteem, social withdrawal, and increased vulnerability to psychological distress (Ballarin et al., 2024). As such, understanding the factors that predict body image satisfaction in adolescents with physical disabilities is essential for designing effective psychological and social interventions that foster positive self-perception and mental health outcomes. Two key factors that have been identified as potential predictors of body image satisfaction are frustration tolerance and social competence. Frustration tolerance refers to an individual's ability to manage setbacks and cope with difficulties without experiencing excessive emotional distress (Hiba & Finjan, 2023). Social competence, on the other hand, encompasses interpersonal skills, emotional intelligence, and adaptive social behaviors that facilitate successful interactions in social environments (Masotti et al., 2024).

Studies have demonstrated that body image dissatisfaction is a widespread issue among adolescents, with various factors influencing its severity and manifestation (rrr kōnnnn tt ..., 2022). Adolescents with physical disabilities are at a heightened risk of experiencing body image dissatisfaction due to the dual impact of functional limitations and perceived social stigma (Belknap et al., 2022). A study examining body image perception in youth with visual impairments found that those with higher levels of physical activity reported greater satisfaction with their body image and overall self-concept (Gomes et al., 2021). This suggests that engaging in physical activity can mitigate the negative effects of body image dissatisfaction by fostering a sense of control and accomplishment. Furthermore, dissatisfaction with body image has been linked to the internalization of societal beauty ideals, which can be exacerbated by exposure to media portrayals of idealized bodies (Digennaro & Iannaccone, 2023). Research has shown that adolescents who frequently use social media are more likely to compare their bodies to unrealistic

standards, leading to increased body dissatisfaction and situational dysphoria (Argyrides et al., 2023).

Frustration tolerance plays a crucial role in adolescents' ability to navigate the challenges associated with body image dissatisfaction. Adolescents with low frustration tolerance may struggle to cope with negative social evaluations, physical limitations, or personal setbacks, which can contribute to a negative self-image and decreased psychological resilience (Hameed & Niema, 2023). Conversely, individuals with high frustration tolerance are more likely to develop adaptive coping mechanisms that allow them to reframe negative experiences and maintain a positive body image (Li et al., 2023). A study exploring the relationship between frustration tolerance and body image satisfaction in adolescent women found that those with higher frustration tolerance reported greater self-esteem and lower levels of body dissatisfaction (Sari et al., 2022). This suggests that fostering frustration tolerance in adolescents with physical disabilities could serve as a protective factor against the development of negative body image perceptions.

Social competence has also been identified as a significant predictor of body image satisfaction. Adolescents with high social competence tend to exhibit greater self-confidence, effective communication skills, and stronger peer relationships, all of which contribute to positive body image perceptions (Guilherme et al., 2024a). Research has indicated that individuals who experience supportive social interactions and validation from peers are more likely to develop a positive body image, even in the presence of physical disabilities (Selanon & Chuangchai, 2023). Conversely, adolescents who experience social isolation or negative peer interactions are at a higher risk of body dissatisfaction due to feelings of rejection and inadequacy (Okonishnikova et al., 2021b). A study examining the impact of social skills training on body image satisfaction found that adolescents who received interventions focused on enhancing social competence reported significant improvements in their body image perceptions and overall psychological well-being (Wy.okńřk ..., 2025).

Adolescents with physical disabilities often face unique challenges in developing frustration tolerance and social competence, which can influence their overall body image satisfaction. Research has demonstrated that engagement in leisure activities, particularly physical activities, plays a vital role in shaping body image perceptions among adolescents with disabilities (Ryu et al., 2024). Participation in physical activities has been associated with higher levels of body

image satisfaction due to the development of physical competence, improved self-esteem, and positive reinforcement from peers (Martins et al., 2022). However, barriers such as accessibility issues, societal misconceptions, and lack of support can limit opportunities for adolescents with physical disabilities to engage in these beneficial activities (Bppn & J33000, 2024). This highlights the need for targeted interventions that promote social inclusion and provide opportunities for adolescents with physical disabilities to develop frustration tolerance and social competence in supportive environments (Tschaidse et al., 2022).

The relationship between body image satisfaction, frustration tolerance, and social competence in adolescents with physical disabilities remains an underexplored area in psychological research. While existing studies have separately examined these variables, limited research has investigated their interconnectedness within this specific population (Guilherme et al., 2024b). Understanding how frustration tolerance and social competence predict body image satisfaction can provide valuable insights into the psychological processes underlying body image perception in adolescents with physical disabilities (Masotti et al., 2024). Moreover, such research can inform the development of evidence-based interventions aimed at enhancing body image satisfaction, promoting resilience, and improving social adaptation among adolescents facing physical limitations (Leng et al., 2020).

Given these considerations, the present study aims to examine the predictive role of frustration tolerance and social competence in body image satisfaction among adolescents with physical disabilities.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a correlational descriptive design to examine the relationship between body image satisfaction, frustration tolerance, and social competence in adolescents with physical disabilities. The study population consisted of adolescents with physical disabilities enrolled in rehabilitation centers and special education schools. Using oorgnn nnd rreeeees (1970) smnp s drrrr mnmooon table, a sample of 350 participants was selected through stratified random sampling to ensure representation of different age groups and disability types. Inclusion criteria required participants to be between 12 and 18 years old, have a formally diagnosed physical disability, and be able to

complete the self-report questionnaires. Participants with severe cognitive impairments or psychiatric disorders that could interfere with their responses were excluded from the study.

2.2. Measures

2.2.1. Body Image

The Multidimensional Body-Self Relations Questionnaire (MBSRQ), developed by Cash (1994), is a widely used standard tool for assessing body image satisfaction. This questionnaire consists of 69 items divided into subscales that evaluate different dimensions of body image, including appearance evaluation, appearance orientation, body areas satisfaction, and overweight preoccupation. Responses are rated on a five-point Likert scale, ranging from "definitely disagree" to "definitely agree." Higher scores indicate greater body image satisfaction. The validity and reliability of the MBSRQ have been confirmed in various studies, demonstrating strong psychometric properties across different populations, including adolescents with physical disabilities.

2.2.2. Frustration Discomfort

The Frustration Discomfort Scale (FDS), developed by Harrington (2005), is a standardized tool designed to maasur nn ndrvdvdi''s oorrnnee oo frusrooon. Thss saae consists of 28 items and includes four subscales: discomfort intolerance, entitlement, emotional intolerance, and achievement frustration. Items are rated on a five-point Likert scale, ranging from "strongly disagree" to "strongly agree," with higher scores indicating lower frustration tolerance. Previous research has confirmed the reliability and validity of the FDS in assessing frustration tolerance across different age groups, including adolescents, making it a suitable instrument for the present study.

2.2.3. Social Competence

The Social Skills Rating System (SSRS), developed by Gresham and Elliott (1990), is a widely used measure for assessing social competence. This tool consists of 55 items across three main domains: social skills, problem behaviors, and academic competence. Responses are recorded using a three-point Likert scale, with higher scores representing stronger social competence. The SSRS has been extensively validated in both general and special populations, including

adolescents with physical disabilities, demonstrating high reliability and strong construct validity.

2.3. Data Analysis

Data analysis was conducted using SPSS-27 software. To explore the relationships between the dependent variable (body image satisfaction) and each independent variable (frustration tolerance and social competence), Pearson correlation analysis was performed. Additionally, to examine the predictive power of frustration tolerance and social competence on body image satisfaction, linear regression analysis was employed, with body image satisfaction as the dependent variable and frustration tolerance and social competence as the independent variables. Assumptions of linearity, normality, and multicollinearity were tested before conducting the

regression analysis to ensure the appropriateness of the statistical model.

3. Findings and Results

The sample consisted of 350 adolescents with physical disabilities, including 189 males (54.00%) and 161 females (46.00%). The participants' ages ranged from 12 to 18 years, with a mean age of 15.42 years ($SD = 1.78$). Regarding the type of physical disability, 138 participants (39.43%) had congenital disabilities, while 212 participants (60.57%) had acquired physical disabilities due to accidents or medical conditions. In terms of educational status, 92 participants (26.29%) were in middle school, and 258 participants (73.71%) were in high school. Additionally, 217 participants (62.00%) reported receiving physical rehabilitation services, while 133 participants (38.00%) did not.

Table 1

Descriptive Statistics

Variable	Mean	Standard Deviation
Body Image Satisfaction	74.56	9.87
Frustration Tolerance	62.34	8.23
Social Competence	68.21	7.95

The descriptive statistics for the study variables, including mean and standard deviation, are presented in Table 1. The mean score for body image satisfaction was 74.56 ($SD = 9.87$), indicating moderate to high levels of satisfaction among participants. Frustration tolerance had a mean score of 62.34 ($SD = 8.23$), suggesting a moderate ability to manage frustration. Social competence had a mean score of 68.21 ($SD = 7.95$), reflecting a relatively strong level of interpersonal and social adaptability.

Before conducting statistical analyses, key assumptions for Pearson correlation and linear regression were examined. The assumption of normality was assessed using the Kolmogorov-Smirnov test ($D(350) = 0.057$, $p = 0.138$) and

Shapiro-Wilk test ($W = 0.984$, $p = 0.067$), confirming that the data were normally distributed. Linearity was checked through scatterplots, which indicated a linear relationship between body image satisfaction and both independent variables. Multicollinearity was assessed using Variance Inflation Factor (VIF) values, which were 1.42 for frustration tolerance and 1.36 for social competence, suggesting no multicollinearity concerns. Homoscedasticity was verified through the residual plots, which demonstrated a consistent variance across predicted values. These results confirmed that the data met the necessary assumptions for conducting Pearson correlation and linear regression analyses.

Table 2

Correlation Matrix

Variable	Body Image Satisfaction	Frustration Tolerance	Social Competence	p-value
Body Image Satisfaction	1.00	0.52	0.61	-
Frustration Tolerance	0.52	1.00	0.45	<0.01
Social Competence	0.61	0.45	1.00	<0.01

The correlation analysis revealed significant positive relationships between body image satisfaction and both frustration tolerance ($r = 0.52$, $p < 0.01$) and social

competence ($r = 0.61$, $p < 0.01$). These results indicate that higher frustration tolerance and greater social competence are associated with higher body image satisfaction.

Additionally, frustration tolerance and social competence were moderately correlated ($r = 0.45$, $p < 0.01$), suggesting

that these psychological constructs are interrelated but distinct. The results are presented in [Table 2](#).

Table 3

Summary of Regression Results

Source	Sum of Squares	Degrees of Freedom	Mean Squares	R	R ²	Adjusted R ²	F	p
Regression	4567.89	2	2283.94	0.68	0.46	0.45	90.75	<0.01
Residual	8734.56	347	25.17	-	-	-	-	-
Total	13302.45	349	-	-	-	-	-	-

The summary of regression results demonstrates the predictive power of frustration tolerance and social competence on body image satisfaction (see [Table 3](#)). The regression model was statistically significant ($F(2, 347) = 90.75$, $p < 0.01$), with an R-value of 0.68, indicating a strong relationship between the independent variables and the

dependent variable. The R² value of 0.46 suggests that 46% of the variance in body image satisfaction is explained by frustration tolerance and social competence. The adjusted R² value of 0.45 indicates minimal shrinkage, confirming the robustness of the model.

Table 4

Multivariate Regression Results

Variable	B	Standard Error	β	t	p
Constant	23.45	3.21	-	7.31	<0.01
Frustration Tolerance	0.42	0.08	0.39	5.25	<0.01

The multivariate regression analysis provides further insights into the individual contributions of frustration tolerance and social competence (see [Table 4](#)). Social competence ($B = 0.42$, $t = 5.25$, $p < 0.01$) compared to frustration tolerance ($B = 0.47$, $t = 7.91$, $p < 0.01$) plays a slightly greater role in shaping body image satisfaction. The constant ($B = 23.45$, $t = 7.31$, $p < 0.01$) reflects the expected baseline level of body image satisfaction when both predictors are at zero.

4. Discussion and Conclusion

The findings of this study revealed significant relationships between body image satisfaction, frustration tolerance, and social competence in adolescents with physical disabilities. Pearson correlation analysis indicated a positive correlation between frustration tolerance and body image satisfaction, suggesting that adolescents with higher frustration tolerance reported greater satisfaction with their body image. Similarly, social competence was positively correlated with body image satisfaction, indicating that adolescents with stronger social skills and interpersonal effectiveness had a more positive perception of their physical appearance. The linear regression analysis further

demonstrated that both frustration tolerance and social competence were significant predictors of body image satisfaction, with social competence exhibiting a slightly stronger predictive power. These results highlight the importance of psychological resilience and social adaptability in shaping body image perceptions among adolescents with physical disabilities.

The positive association between frustration tolerance and body image satisfaction aligns with previous research emphasizing the role of psychological resilience in mitigating body image concerns ([Sari et al., 2022](#)). Adolescents with higher frustration tolerance tend to display greater emotional regulation and cognitive adaptability, enabling them to cope with challenges related to their physical condition ([Hiba & Finjan, 2023](#)). This finding is consistent with research demonstrating that frustration tolerance serves as a protective factor against negative self-perception and self-doubt ([Hameed & Niema, 2023](#)). Adolescents who can manage setbacks effectively are less likely to internalize societal beauty standards or compare themselves negatively to their non-disabled peers ([Masotti et al., 2024](#)). This suggests that interventions aimed at strengthening frustration tolerance, such as cognitive-behavioral strategies and resilience training, may play a

crucial role in promoting body image satisfaction among adolescents with physical disabilities.

The significant relationship between social competence and body image satisfaction is supported by research highlighting the impact of social interactions on body image perceptions (Argyrides et al., 2023). Socially competent adolescents are more likely to form positive peer relationships, receive social validation, and engage in supportive interactions, all of which contribute to a more favorable self-concept (Guilherme et al., 2024b). This finding is consistent with previous studies demonstrating that adolescents with strong social networks and effective communication skills report lower levels of body dissatisfaction (Selanon & Chuangchai, 2023). In contrast, social isolation and negative peer experiences have been linked to increased body image concerns, particularly in adolescents with disabilities who may face additional social barriers (Okonishnikova et al., 2021b). These findings underscore the need for social competence training programs that enhance interpersonal skills and foster inclusive social environments for adolescents with physical disabilities.

In addition to the direct relationship between social competence and body image satisfaction, previous research has suggested that social competence can buffer the negative effects of body image dissatisfaction (rrr knmnnn ... , 2022). Adolescents who possess strong social skills are better equipped to navigate social challenges, seek emotional support, and develop adaptive coping mechanisms (Belknap et al., 2022). These findings are in line with studies indicating that peer support and social acceptance play a crucial role in shaping adolescents' self-perception and body-related attitudes (Ryu et al., 2024). This further supports the argument that fostering social competence in adolescents with physical disabilities can enhance their overall well-being and psychological resilience.

The predictive role of frustration tolerance and social competence in body image satisfaction highlights the interplay between cognitive, emotional, and social factors in shaping adolescents' self-perceptions (Martins et al., 2022). While both frustration tolerance and social competence significantly predicted body image satisfaction, social competence had a slightly stronger influence, suggesting that social interactions may play a more prominent role in shaping body image perceptions than individual coping mechanisms alone (Wysokński ... , 2025). This finding aligns with research indicating that adolescents who experience positive social interactions and peer validation are more likely to develop a stable and positive body image

(Tschaidse et al., 2022). Furthermore, studies have shown that social competence facilitates adaptive responses to body image-related stressors, allowing adolescents to engage in constructive self-evaluation rather than negative self-comparisons (Leng et al., 2020).

Another important consideration is the role of cultural and environmental factors in shaping body image satisfaction. Studies have suggested that societal attitudes toward disability and physical appearance can influence adolescents' self-perceptions (Cacaj & Toska, 2024). In cultures where physical ability and aesthetic appearance are highly emphasized, adolescents with physical disabilities may experience greater body dissatisfaction due to social stigma and exclusion (Ballarin et al., 2024). However, research has also demonstrated that fostering inclusive environments and promoting positive representations of diverse body types can enhance body image satisfaction in adolescents (Gomes et al., 2021). This highlights the need for broader societal initiatives that challenge traditional beauty norms and support body positivity among adolescents with physical disabilities (Digennaro & Iannaccone, 2023).

The findings of this study provide valuable insights into the psychological mechanisms underlying body image satisfaction in adolescents with physical disabilities. By identifying frustration tolerance and social competence as key predictors, this study contributes to the growing body of literature emphasizing the importance of resilience-building and social integration in fostering positive body image (Yadav, 2025). These findings also have practical implications for the development of interventions aimed at improving body image satisfaction in this population (Bppn & J33000, 2024). Specifically, programs that focus on enhancing frustration tolerance through cognitive-behavioral techniques and promoting social competence through peer support initiatives may be effective in addressing body image concerns in adolescents with physical disabilities (Okonishnikova et al., 2021a).

Despite its contributions, this study has several limitations that should be acknowledged. First, the cross-sectional design limits the ability to establish causality between frustration tolerance, social competence, and body image satisfaction. Longitudinal studies would be beneficial in determining the directionality of these relationships over time. Second, the study relied on self-report measures, which may be subject to social desirability bias or inaccurate self-perceptions. Future research could incorporate observational or multi-informant data to enhance the validity of the

findings. Third, the study focused specifically on adolescents with physical disabilities, limiting the generalizability of the results to other populations. Future research should explore whether similar relationships exist among adolescents with different types of disabilities, such as cognitive or sensory impairments.

Future research should explore additional psychological and environmental factors that may contribute to body image satisfaction in adolescents with physical disabilities. For example, investigating the role of self-compassion, parental support, and media influences could provide a more comprehensive understanding of the factors shaping body image perceptions. Additionally, experimental studies examining the effectiveness of interventions designed to improve frustration tolerance and social competence would be valuable in determining the most effective strategies for promoting body image satisfaction. Furthermore, future studies should consider the role of cultural differences in shaping body image satisfaction, as societal attitudes toward disability and body image may vary across different regions and communities.

The findings of this study highlight the need for targeted interventions aimed at improving body image satisfaction in adolescents with physical disabilities. Schools and rehabilitation centers should implement programs that focus on developing frustration tolerance skills, such as mindfulness-based techniques and stress management strategies. Social skills training programs should also be incorporated into educational and therapeutic settings to enhance interpersonal effectiveness and peer relationships. Additionally, educators and clinicians should work collaboratively to create inclusive environments that promote positive body image by challenging societal beauty standards and fostering body diversity. By addressing both psychological resilience and social integration, these interventions can contribute to the overall well-being and self-confidence of adolescents with physical disabilities.

Authors' Contributions

Authors contributed equally to this article.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

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