

Perfectionism and Body Image in Female University Students: A Comparison of Rhythmic Gymnasts and Participants in Other Physical Activities

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ABSTRACT

Background. Rhythmic gymnastics, a sport that demands both technical mastery and aesthetic presentation, exerts a specific type of pressure on athletes concerning body image. The combination of perfectionistic tendencies and stringent aesthetic standards may heighten the risk of body dissatisfaction.

Objective. This study aims to examine differences in the relationship between perfectionism and body image perception among female university students practicing rhythmic gymnastics compared to those participating in other forms of physical activity.

Design. A cross-sectional study was conducted involving female rhythmic gymnasts ($n = 20$), females engaged in fitness/dance/yoga ($n = 26$), and females not engaged in regular physical activity ($n = 19$). Participants completed a battery of standardized questionnaires. These were: a) for assessing general perfectionism — the “Three-Factor Perfectionism Questionnaire” (measures different facets of perfectionism (socially prescribed perfectionism, self-oriented perfectionism and a focus on one’s own imperfections (perfectionist cognitive style))) and the “Short Almost Perfect Scale” (complements this by evaluating personal standards and the perceived discrepancy between these standards and actual performance); b) for assessing physical perfectionism — the “Three-Factor Physical Perfectionism Scale” (specifically assesses perfectionistic attitudes towards one’s body); c) for the appearance schemas — the “Appearance Schema Inventory-Revised — ASI-R” (measure core beliefs about the importance of appearance, specifically how much self-evaluation is influenced by others’ views (self-evaluative salience) and the motivation to manage one’s appearance (motivational salience); and d) for assessing body dissatisfaction — the “Body Image Questionnaire” (assesses the degree of subjective satisfaction or dissatisfaction with one’s own body).

Results. A significant positive correlation was found between general perfectionism and physical perfectionism. Physical perfectionism also positively correlated with the self-evaluative and motivational salience of appearance. Contrary to expectations, gymnasts

demonstrated lower body dissatisfaction compared to the other groups (physically active (fitness, dance, yoga) and inactive). One-way ANOVA revealed that gymnasts attributed less significance to their appearance than females from the two other groups.

Conclusion. While perfectionism, particularly physical perfectionism, correlates with a high salience of appearance, the study unexpectedly found that gymnasts exhibit a lower level of body dissatisfaction than other groups. This suggests that the emphasis on functionality and professional mastery in rhythmic gymnastics may serve as a protective factor against negative body image, potentially mitigating the detrimental effects of social pressures and perfectionistic tendencies. Further research is needed to explore these protective mechanisms and the specific types of perfectionism that may be adaptive in this population.

Keywords: Rhythmic gymnastics; body image; perfectionism; physical perfectionism; body dissatisfaction; university students

Highlights:

- Physical perfectionism is directly associated with a higher salience of appearance
- Female rhythmic gymnasts reported lower body dissatisfaction than both physically active (fitness, dance, yoga) and inactive females
- An emphasis on physical functionality and skill mastery may serve as a protective factor against negative body image and perfectionism in gymnasts

АННОТАЦИЯ

ПЕРФЕКЦИОНИЗМ И УДОВЛЕТВОРЕННОСТЬ ОБРАЗОМ ТЕЛА
У СТУДЕНТОК: СРАВНИТЕЛЬНЫЙ АНАЛИЗ ЗАНИМАЮЩИХСЯ
ХУДОЖЕСТВЕННОЙ ГИМНАСТИКОЙ И ДРУГИМИ ВИДАМИ
ФИЗИЧЕСКОЙ АКТИВНОСТИ

Актуальность. Художественная гимнастика как особый вид спорта предъявляет требования не только к техническому мастерству, но и к эстетической презентации. Это оказывает специфическое давление на спортсменок в отношении образа тела. Сочетание перфекционистских тенденций и высоких эстетических стандартов может повышать риск неудовлетворенности своим телом.

Цель. Данное исследование направлено на изучение различий во взаимосвязи между перфекционизмом и восприятием образа тела у студенток, занимающихся художественной гимнастикой в отличие от тех, кто занимается другими видами физической активности.

Дизайн. Проведено кросс-секционное исследование с участием студенток, занимающихся художественной гимнастикой (n = 20), девушек, занимающихся фитнесом/танцами/йогой (n = 26), и девушек, не занимающихся регулярной физической активностью (n = 19). Участницы заполнили батарею стандартизированных опросников: а) для оценки общего перфекционизма — «Трехфакторный опросник перфекционизма» и «Краткая шкала почти совершенства»; б) для оценки физического перфекционизма — «Трехфакторная шкала физического перфекционизма»; в) для оценки схем внешности — «Пересмотренный опросник схем внешности» (ASI-R); д) для оценки неудовлетворенности телом — «Опросник образа тела».

Результаты. Была обнаружена значимая положительная связь между общим перфекционизмом и физическим (телесным) перфекционизмом. Физический перфекционизм также положительно коррелировал с самооценочной и мотивационной значимостью внешности. Вопреки ожиданиям, гимнастки продемонстрировали более низкую степень неудовлетворенности телом по сравнению с другими группами (занимающиеся танцами/фитнесом/йогой и не занимающиеся физиче-

ской активностью). Однофакторный дисперсионный анализ (ANOVA) показал, что гимнастки придают меньшее значение своей внешности, чем девушки из двух других групп.

Заключение. В то время как перфекционизм, особенно физический, коррелирует с высокой значимостью внешности, гимнастки демонстрируют более низкий уровень неудовлетворенности телом по сравнению с другими группами. Это позволяет предположить, что акцент на функциональности и профессиональном мастерстве в художественной гимнастике служит защитным фактором против негативного образа тела, потенциально смягчая пагубное воздействие социального давления и перфекционистских тенденций. Необходимы дальнейшие исследования для изучения этих защитных механизмов и специфических типов перфекционизма, которые могут быть адаптивными у гимнасток.

Ключевые слова: Художественная гимнастика; образ тела; перфекционизм; физический перфекционизм; неудовлетворенность телом, студент

Ключевые положения:

- Физический перфекционизм напрямую связан с более высокой значимостью внешности.
- У девушек, занимающихся художественной гимнастикой, была выявлена более низкая неудовлетворенность телом, чем у девушек, занимающихся другими видами физической активности (фитнес, танцы, йога).
- Акцент на физической функциональности и освоении навыков может служить защитным фактором от негативного образа тела и перфекционизма у гимнасток.

RESUMEN

PERFECCIONISMO E IMAGEN CORPORAL EN ESTUDIANTES UNIVERSITARIAS: UN ANÁLISIS COMPARATIVO DE GIMNASTAS RÍTMICAS Y PARTICIPANTES EN OTRAS ACTIVIDADES FÍSICAS

Antecedentes. La gimnasia rítmica, como deporte que exige tanto dominio técnico como presentación estética, ejerce un tipo específico de presión sobre las atletas en relación con la imagen corporal. La combinación de tendencias perfeccionistas y estrictos estándares estéticos puede aumentar el riesgo de insatisfacción corporal.

Objetivo. Este estudio tiene como objetivo examinar las diferencias en la relación entre el perfeccionismo y la percepción de la imagen corporal en estudiantes universitarias que practican gimnasia rítmica en comparación con aquellas que participan en otras formas de actividad física.

Diseño. Se realizó un estudio transversal con la participación de gimnastas rítmicas (n = 20), jóvenes realizando fitness/baile/yoga (n = 26) y jóvenes no practicantes de actividad física regular (n = 19). Las participantes completaron una batería de cuestionarios estandarizados: a) para evaluar el perfeccionismo general — el «Cuestionario Trifactorial de Perfeccionismo» y la «Escala Breve de Casi Perfección»; b) para evaluar el perfeccionismo físico — la «Escala Trifactorial de Perfeccionismo Físico»; c) para evaluar los esquemas de apariencia — el «Inventario Revisado de Esquemas de Apariencia» (ASI-R); d) para evaluar la insatisfacción corporal — el «Cuestionario de Imagen Corporal».

Resultados. Se encontró una correlación positiva significativa entre el perfeccionismo general y el perfeccionismo físico (corporal). El perfeccionismo físico también se correlacionó positivamente con la relevancia autoevaluativa y motivacional de la apariencia. Contrariamente a lo esperado, las gimnastas demostraron un menor grado de insatisfacción corporal en comparación con los otros grupos (practicantes de baile/fitness/yoga y

no practicantes de actividad física). El análisis de varianza unifactorial (ANOVA) mostró que las gimnastas atribuyen menos importancia a su apariencia que las jóvenes de los otros dos grupos.

Conclusión. Si bien el perfeccionismo, especialmente el físico, se correlaciona con una alta relevancia de la apariencia, las gimnastas exhiben un nivel más bajo de insatisfacción corporal en comparación con otros grupos. Esto sugiere que el énfasis en la funcionalidad y el dominio profesional en la gimnasia rítmica puede servir como un factor protector contra la imagen corporal negativa, mitigando potencialmente el efecto perjudicial de las presiones sociales y las tendencias perfeccionistas. Se necesitan más investigaciones para explorar estos mecanismos protectores y los tipos específicos de perfeccionismo que podrían ser adaptativos en las gimnastas.

Palabras clave: *Gimnasia rítmica; imagen corporal; perfeccionismo; perfeccionismo físico; insatisfacción corporal; estudiantes universitarias*

Aspectos destacados:

- El perfeccionismo físico está directamente relacionado con una mayor relevancia de la apariencia.
- Las jóvenes que practican gimnasia rítmica mostraron una menor insatisfacción corporal que las jóvenes que realizan otros tipos de actividad física (fitness, baile, yoga).
- El énfasis en la funcionalidad física y el dominio de habilidades puede servir como un factor protector contra la imagen corporal negativa y el perfeccionismo en las gimnastas.

RESUME

PERFECTIONNISME ET SATISFACTION DE L'IMAGE CORPORELLE CHEZ LES ÉTUDIANTES : ANALYSE COMPARATIVE ENTRE CELLES PRATIQUANT LA GYMNASTIQUE RYTHMIQUE ET D'AUTRES FORMES D'ACTIVITÉ PHYSIQUE

Origines. La gymnastique rythmique, en tant que discipline sportive spécifique, impose des exigences non seulement en termes de maîtrise technique, mais aussi de présentation esthétique. Cela exerce une pression particulière sur les athlètes en ce qui concerne l'image corporelle. La combinaison de tendances perfectionnistes et de standards esthétiques élevés peut accroître le risque d'insatisfaction corporelle.

Objectif. Cette étude vise à examiner les différences dans la relation entre le perfectionnisme et la perception de l'image corporelle chez les étudiantes pratiquant la gymnastique rythmique par rapport à celles engagées dans d'autres formes d'activité physique.

Méthode. Une étude transversale a été menée auprès d'étudiantes pratiquant la gymnastique rythmique (n = 20), de jeunes femmes pratiquant le fitness/la danse/le yoga (n = 26) et de jeunes femmes ne pratiquant pas d'activité physique régulière (n = 19). Les participantes ont rempli une batterie de questionnaires standardisés: a) pour évaluer le perfectionnisme général — «le Questionnaire sur le perfectionnisme à trois facteurs» et «la Brève échelle du presque parfait»; b) pour évaluer le perfectionnisme physique — «l'Échelle de perfectionnisme physique à trois facteurs»; c) pour évaluer les schémas liés à l'apparence — «le Questionnaire révisé des schémas d'apparence» (ASI-R); d) pour évaluer l'insatisfaction corporelle — «le Questionnaire de l'image corporelle».

Résultats. Une relation positive significative a été observée entre le perfectionnisme général et le perfectionnisme physique (corporel). Le perfectionnisme physique était également positivement corrélé à l'importance évaluative et motivationnelle de l'apparence. Contrairement aux attentes, les gymnastes ont montré un niveau d'insatisfaction corporelle plus faible que les autres groupes (danse/fitness/yoga et absence d'activité physique).

Une analyse de variance à un facteur (ANOVA) a révélé que les gymnastes accordent moins d'importance à leur apparence que les participantes des deux autres groupes.

Conclusion. Bien que le perfectionnisme, en particulier le perfectionnisme physique, soit associé à une forte importance accordée à l'apparence, les gymnastes présentent un niveau plus faible d'insatisfaction corporelle que les autres groupes. Cela suggère que l'accent mis sur la fonctionnalité corporelle et la maîtrise professionnelle en gymnastique rythmique peut agir comme un facteur protecteur contre une image corporelle négative, atténuant potentiellement les effets néfastes de la pression sociale et des tendances perfectionnistes. Des recherches supplémentaires sont nécessaires pour explorer ces mécanismes protecteurs et les types spécifiques de perfectionnisme pouvant être adaptatifs chez les gymnastes.

Mots-clés: Gymnastique rythmique; image corporelle; perfectionnisme; perfectionnisme physique; insatisfaction corporelle; étudiant

Points principaux:

- Le perfectionnisme physique est directement associé à une plus grande importance accordée à l'apparence.
- Les étudiantes pratiquant la gymnastique rythmique présentent un niveau d'insatisfaction corporelle plus faible que celles pratiquant d'autres formes d'activité physique (fitness, danse, yoga).
- L'accent mis sur la fonctionnalité physique et l'acquisition de compétences peut constituer un facteur protecteur contre une image corporelle négative et le perfectionnisme chez les gymnastes.

Introduction

Participation in university sports represents a significant aspect of student life, offering opportunities not only for physical development but also for promoting mental health, fostering social skills, and enhancing academic performance (Liu, Shi & Gao, 2024; Maksimenko et al. 2024). The prevalence of physical activity among students is driven by the wide range of available disciplines, from team sports to individual practices, allowing everyone to find a suitable activity and maintain an active lifestyle amidst demanding academic schedules. Regular physical exercise helps reduce stress levels, improve cognitive function, and cultivate discipline, which is particularly relevant for young people during higher education (Fyodorov, 2025; Li & Huang, 2025; Teuber et al., 2024).

Among the many sports popular with female university students, rhythmic gymnastics holds a unique position as a discipline that athletes often begin in early childhood and continue to pursue at the university level. This continuity allows former youth competitors to maintain high standards of physical fitness and commitment while representing their universities. Rhythmic gymnastics, combining elements of acrobatics, ballet, and apparatus manipulation, demands exceptional grace, flexibility, strength, and artistry, making it an aesthetically complex and demanding sport (Pang et al., 2024).

However, despite all the benefits and the beauty of rhythmic gymnastics, this sport is associated with a number of unique psychological challenges, particularly concerning body image (Petrigna et al., 2024; González-Valero et al., 2020). Rigid aes-

thetic standards, strict appearance requirements, constant monitoring of weight and body shape by coaches and judges, and the need to perform in revealing outfits create heightened pressure on athletes (Zaccagni & Gualdi-Russo, 2023; de Oliveira et al., 2021). These factors can contribute to the development of perfectionistic tendencies, which, in turn, are closely linked to body dissatisfaction, distorted self-perception, and an increased risk of eating disorders (Kovács et al., 2022). Research indicates that athletes in aesthetic sports, such as rhythmic gymnastics, often report lower levels of body satisfaction compared to their counterparts in other sports or non-athletes (Nuñez et al., 2024).

While numerous studies have examined body image and perfectionism in rhythmic gymnastics, there is a paucity of comparative research analysing the specific role of perfectionism in shaping body image perception among female university students engaged in rhythmic gymnastics relative to other groups of female students involved in various physical activities (e.g., fitness, dance, yoga) or those who are not physically active. Addressing this gap will provide deeper insight into whether heightened body preoccupation and perfectionism stem from the general nature of sports participation or the specific demands of rhythmic gymnastics, and it will help identify unique risk factors and protective mechanisms across different groups.

Objective: To compare the specific features of the relationship between perfectionism and body image perception among female university students from different physical activity groups.

Hypothesis 1: A direct positive association exists between physical perfectionism and negative body image among female rhythmic gymnasts.

Hypothesis 2: Body dissatisfaction is higher among students engaged in rhythmic gymnastics (who had existing levels of excellent proficiency) compared to non-athletes.

Methods

Participants

This study involved female university students divided into three groups based on their physical activity engagement:

- 1) **Rhythmic gymnasts** (n = 20). The sample comprised athletes with the following competitive levels: Master of Sport — 12 gymnasts, Candidate for Master of Sport — 7, and First Adult Category — 1. The mean age was 19.9 years.
- 2) **Fitness, dance, or yoga practitioners** (n = 26, mean age = 20.5 years).
- 3) **Non-active controls** (n = 19, mean age = 20.4 years).

Procedure

Data were collected via an online questionnaire between November and December 2025.

Participants in the rhythmic gymnastics group were recruited from the Central Section of Lomonosov Moscow State University (MSU) and the Russian University of

Sport, Youth and Tourism. The fitness/dance/yoga group and the non-active control group comprised female students from MSU, as well as women who had completed their higher education.

Participation in the study was voluntary, and informed consent was obtained from all respondents. All participants completed the full battery of five psychodiagnostic instruments used in this study.

Questionnaires

The study employed a battery of five standardised self-report questionnaires. All instruments were administered in their validated Russian-language versions.

1) The Three-Factor Physical Perfectionism Scale (TF-PPS; Kholmogorova & Rakhmanina, 2020). This scale assesses perfectionistic tendencies specifically related to body and physical appearance. This includes the pursuit of unrealistically high standards for one's physical appearance, unfavorable social comparisons regarding one's body, and the endorsement of extreme measures (such as plastic surgery) to correct perceived physical flaws.

2) The Three-Factor Perfectionism Inventory (TF-PI; Garanyan & Kholmogorova, 2018). This instrument measures general perfectionism across three core dimensions: socially prescribed perfectionism (concern over others' evaluations and unfavorable comparisons with them), self-oriented perfectionism (high personal standards and demands on oneself), and perfectionistic cognitive style (negative selective attention to and fixation on one's own imperfections).

3) The Short Almost Perfect Scale (SAPS; Slaney et al., 1996/2001) in the Russian adaptation by Wang et al., (2016). This scale is widely used to differentiate between adaptive and maladaptive aspects of perfectionism through its two subscales. The 'Standards' subscale measures the extent to which individuals set high personal goals and expectations for themselves — an aspect of perfectionism that can be motivating and achievement-oriented. In contrast, the 'Discrepancy' subscale captures the perceived gap between one's expectations and actual performance; this reflects the tendency to be overly self-critical and experience distress when standards are not met, representing the more maladaptive, clinically relevant dimension of perfectionism.

4) The Appearance Schema Inventory-Revised (ASI-R; Cash, 2003) in the Russian adaptation by Baranovskaya & Tataurova (2011). This questionnaire evaluates cognitive and behavioural investment in one's appearance — that is, the extent to which individuals base their self-worth on their looks and engage in appearance-management behaviours. It comprises two subscales. 'The Self-Evaluative Saliency' subscale measures the degree to which self-esteem is contingent upon perceived physical attractiveness and others' evaluations of one's appearance. 'The Motivational Saliency' assesses the degree to which individuals are motivated to manage and enhance their appearance through various self-care behaviours and investments. In the context of the present study, we were particularly interested in whether athletes in aesthetic sports show distinct patterns of appearance investment compared to non-

athletes, and whether these patterns relate differentially to body dissatisfaction and perfectionism.

5) The Body Image Questionnaire (Skugarevsky & Sivukha, 2006). This instrument assesses the degree of satisfaction or dissatisfaction individuals feel toward their own bodies, capturing subjective perceptions and attitudes related to physical appearance. This measure provides a direct assessment of the affective component — specifically, how individuals evaluate their bodies and the extent to which they experience body dissatisfaction.

Results

Empirical data were processed using Microsoft Excel 2016 and Jamovi statistical software. The Shapiro-Wilk test indicated that the data distribution deviated significantly from normality ($0.853 < W < 0.957$; $0.001 < p < 0.024$).

Main Analysis: Group Differences in Body Perception. A one-way Welch’s ANOVA revealed significant differences in body perception depending on the type of physical activity (see *Table 1*). Specifically, it was found that female rhythmic gymnasts attribute less importance to their appearance compared to both non-active females and those engaged in fitness, dance, or yoga.

Table 1
Differences in the “ASI-R Total Score” by Type of Physical Activity

Parameters		F	P	
ASI-R Total Score		3.933*	0.027	
ASI-R Total Score				
Type of Physical Activity	N	Mean	SD	SE
Non-Active	19	3.54	.515	.118
Fitness/Dance/Yoga	26	3.77	.671	.132
Rhythmic Gymnastics	20	3.25	.591	.132

Note: * $p < .05$

Note: ASI-R = Appearance Schema Inventory-Revised. Higher scores indicate greater investment in appearance-related beliefs, meaning that self-worth is more strongly contingent upon perceived physical attractiveness and others’ evaluations of one’s appearance. Lower scores suggest a more adaptive pattern in which self-esteem is less dependent on appearance. Thus, among the three groups, rhythmic gymnasts exhibited the lowest level of dysfunctional appearance investment (Mean = 3.25), while the fitness/dance/yoga group showed the highest (Mean = 3.77).

Post Hoc Pairwise Comparisons. Post hoc pairwise comparisons (see *Table 2*) identified a significant difference in body satisfaction between the non-active group and the rhythmic gymnasts ($F = 7.799$, $p = .037$). According to the Body Image Questionnaire, non-active females reported significantly higher body dissatisfaction ($M = 17.0$) than rhythmic gymnasts ($M = 10.2$).

Table 2

Results of Pairwise Comparisons: Differences in the “Body Dissatisfaction” Parameter by Type of Physical Activity

Parameters	F	p		
Body Dissatisfaction	7.799	.037		
Body Image Questionnaire				
Type of Physical Activity	N	Mean	SD	SE
Non-Active	19	17	12.8	2.9
Rhythmic Gymnastics	20	10,2	5.8	1.3

Note: The Body Image Questionnaire (Skugarevsky & Sivukha, 2006) measures the degree of dissatisfaction individuals feel toward their own bodies. Higher scores indicate greater body dissatisfaction. The table presents pairwise comparison results showing that rhythmic gymnasts reported significantly lower levels of body dissatisfaction (Mean = 10.2) compared to non-active females (Mean = 17.0), with $p = 0.037$.

Correlation Analysis. To examine the relationship between the parameters of general and physical perfectionism and the measures of appearance salience (ASI-R) and body dissatisfaction (Body Image Questionnaire), correlation matrices were constructed.

A correlation analysis of the Three-Factor Physical Perfectionism Scale (TF-PPS) and the Appearance Schemas Inventory-Revised (ASI-R) revealed statistically significant positive associations (see *Table 3*).

Table 3

Relationship Between Physical Perfectionism Parameters and Appearance Salience Indicators

Parameters	Physical Perfectionism	Appearance Standards	Social Comparisons
ASI-R: Total Score	.777***	.641***	.642***
ASI-R: Self-Evaluative Salience	.734***	.497***	.696***
ASI-R: Motivational Salience	.551***	.648***	.312*

*Note: * $p < .05$, ** $p < .01$, *** $p < .001$*

Furthermore, a significant positive correlation was found between the “Body Dissatisfaction” subscale of the Body Image Questionnaire and the “General Physical Perfectionism” score ($r = .609$, $p < .001$). This result indicates that participants who reported higher levels of perfectionistic attitudes toward their physical appearance also tended to experience greater dissatisfaction with their bodies. In other words, the more perfectionistic individuals were about their appearance, the more negatively they evaluated their own bodies.

Discussion

The aim of this study was to compare the relationship between perfectionism and body image among female university students from different physical activity groups. The university years are a critical developmental period when academic pressures, social comparisons, and identity formation converge — often intensifying both perfectionistic tendencies and body dissatisfaction. When perfectionism extends from academics to appearance, self-worth becomes contingent on meeting unrealistic standards across multiple life domains. Understanding how different types of physical activity moderate this relationship can inform targeted interventions to support students' psychological well-being during this vulnerable period.

In testing the first hypothesis, a significant association between physical perfectionism and negative body perception was confirmed among female rhythmic gymnasts. Specifically, a direct positive link was found between physical perfectionism and body dissatisfaction. This result is consistent with existing research indicating that physical perfectionism can foster negative body attitudes (Tarkhanova, 2014; Yang & Stoeber, 2012). This phenomenon may manifest in constant self-comparison with an unattainable ideal, ultimately generating feelings of inadequacy and self-dissatisfaction. It is important to note that for university-level gymnasts, this type of perfectionism may be exacerbated by dual pressures: the pursuit of academic excellence and athletic achievement.

The university environment creates a unique context in which perfectionistic tendencies, once confined to sport, can generalize across life domains. When student-athletes apply the same rigid standards and self-critical evaluation to their academic performance, their self-worth becomes contingent on meeting unrealistic expectations in multiple spheres. This cross-domain perfectionism intensifies the psychological burden, as perceived failures in either academics or appearance are processed through the same maladaptive cognitive lens — fueling rumination, social comparison, and ultimately greater body dissatisfaction.

The positive correlation between the ASI-R parameters (“Total Score,” “Self-Evaluative Saliency,” “Motivational Saliency”) and the scales of the “Three-Factor Physical Perfectionism Scale” (“General Physical Perfectionism,” “Appearance Standards,” and “Social Comparisons”) confirms a close relationship between one's perception of their appearance, its impact on self-esteem on one hand, and the pursuit of physical perfection on the other. Individuals with high levels of physical perfectionism tend to attach greater importance to their appearance, both in terms of its influence on their self-esteem and their motivation to actively work on themselves to achieve an ideal image. Furthermore, dependence on external evaluations (“Self-Evaluative Saliency”) and the drive to improve one's appearance are linked to a propensity for social comparisons and rumination about one's own looks, which can lead to negative consequences. For example, the constant pursuit of an unattainable ideal and negative comparisons with others results in the systematic devaluation of one's own appearance and, consequently lower self-esteem. Additionally, preoccupation with conforming to societal beauty standards and the fear of negative evaluation contribute to heightened

anxiety and impair emotional well-being. Thus, these findings indicate that physical perfectionism is a complex phenomenon rooted in social factors, and understanding it requires consideration of both individual and sociocultural aspects.

Contrary to the second hypothesis — that body dissatisfaction among students engaged in rhythmic gymnastics (who had existing levels of excellent proficiency) would be higher than among non-athletes — the results revealed an inverse pattern. It was found that body dissatisfaction among gymnasts was lower than among both non-active females and those engaged in fitness, dance, or yoga.

A one-way analysis of variance revealed that female rhythmic gymnasts attribute less importance to their appearance compared to both non-active females and those engaged in fitness, dance, or yoga. This finding can be interpreted as follows. The lower appearance investment observed among rhythmic gymnasts likely reflects not merely participation in sport per se, but rather the cumulative effect of long-term, high-level athletic training. Unlike fitness, dance, or yoga — where engagement is often recreational and may be oriented toward achieving a specific body shape — the gymnasts in our sample were elite athletes. This level of attainment represents years of dedicated training from early childhood, entailing a process of both skill acquisition and psychological adaptation.

It is plausible that athletes who reach this elite level have developed distinct frameworks for self-evaluation. For the gymnasts in our sample, the body is likely valued primarily as an instrument of professional mastery and athletic achievement, rather than as an object of appearance. Krane et al. (2001) suggested that athletes may focus more on their abilities than on their appearance; in the context of elite rhythmic gymnastics, athletic skill may indeed excessive preoccupation with body image.

The psychological profile observed here probably emerges through years of successful adaptation to the demands of an aesthetic sport, rather than from sports participation per se. The athletes in our sample have not simply “participated” in rhythmic gymnastics — they have endured its pressures, met its rigorous standards, and achieved elite status. This selection effect implies that the protective patterns identified cannot be generalized to recreational participants without further longitudinal investigation.

Furthermore, systematic training in rhythmic gymnastics within a university sports setting not only promotes the development of a harmonious and proportionate physique that aligns with social ideals but also provides a structured environment where physical activity serves as an effective coping strategy (Reinboth et al., 2022). Regular exercise helps shift focus from negative thoughts about one’s body to the positive sensations of physical activity, improves mood, and reduces stress levels, which is particularly relevant for female students facing academic pressures. Research has demonstrated that physical activity is inversely correlated with body dissatisfaction and has a positive effect on body image (*ibid.*).

The result indicating that non-active females exhibit higher body dissatisfaction ($M=17.0$) than rhythmic gymnasts ($M=10.2$), as measured by the Body Image Questionnaire, can be interpreted as follows. Engagement in rhythmic gymnastics fosters a functional rather than a purely aesthetic body perception, which may shield athletes

from the negative impact of sociocultural beauty stereotypes. In contrast, the absence of such structured physical experience renders non-active females more vulnerable to these pressures.

This finding aligns with existing literature. For instance, Hausenblas and Symons Downs (2001) noted that athletes generally report higher body satisfaction than non-athletes, a difference often attributed to athletes' physiques more closely aligning with societal ideals (Zaccagni & Gualdi-Russo, 2023). This underscores the protective role of university-level sports in fostering a positive body image and supporting psychological well-being. The structured, mastery-oriented environment of rhythmic gymnastics appears to cultivate an appreciation for the body's capabilities, potentially mitigating the risks associated with appearance-based perfectionism.

The result indicating that non-active females exhibit higher body dissatisfaction ($M = 17.0$) than rhythmic gymnasts ($M = 10.2$), as measured by the Body Image Questionnaire, can be interpreted as follows. Engagement in rhythmic gymnastics fosters a functional rather than a purely aesthetic body perception, which may shield athletes from the negative impact of sociocultural beauty stereotypes. In contrast, the absence of such structured physical experience renders non-active females more vulnerable to these pressures.

This finding is consistent with previously conducted studies. Thus, Hausenblas and Symons Downs (2001) noted that athletes generally report higher body satisfaction than non-athletes, a difference often attributed to athletes' physiques more closely aligning with societal ideals (Zaccagni & Gualdi-Russo, 2023). This underscores the protective role of university-level sports in fostering a positive body image and supporting psychological well-being. The structured, mastery-oriented environment of rhythmic gymnastics appears to cultivate an appreciation for the body's capabilities, potentially mitigating the risks associated with appearance-oriented perfectionism.

Conclusion

Thus, the results of this study confirmed a positive association between general and physical perfectionism, as well as between physical perfectionism and body dissatisfaction (supporting Hypothesis 1). This underscores the significant role of perfectionism in negative body image perception.

Contrary to expectations, however, the level of body dissatisfaction among gymnasts was found to be lower than among non-active females and those engaged in alternative activities such as fitness, dance, or yoga. This finding can be explained by the emphasis on functionality and professional mastery in rhythmic gymnastics, coupled with the positive influence of structured training on physique development. These factors appear to mitigate the detrimental impact of sociocultural beauty standards, suggesting a unique protective mechanism within this high-performance sporting context.

The analysis of the scientific literature conducted in this study highlights the primary challenges faced by female gymnasts. This necessitates targeted psychological

interventions for athletes, their families, and coaches. Key areas of focus for such work include:

- Addressing perfectionistic attitudes and behaviours.
- Preventing the development of eating disorders.
- Fostering a positive body image and healthy body perception.
- Enhancing the psychological literacy of coaches and parents regarding the specific pressures in aesthetic sports.
- Creating a supportive and healthy sporting environment that prioritises athlete well-being alongside performance.

Limitations

This study has several limitations. First, the findings are constrained by a relatively small sample size, which may affect the statistical power and robustness of the results. Second, there was potential data contamination within the groups. Specifically, the sample included individuals who had previously engaged in athletic activities but were not currently active. This factor could influence the interpretation of the results and limit their overall validity and generalisability.

Furthermore, the study did not account for the level, intensity, or duration of current physical activity. Variations in these parameters (e.g., training volume, competitive level) may significantly influence both body perception and perfectionistic tendencies. Future research would benefit from more precise operationalisation and measurement of physical activity engagement.

Ethics Statement

Approved by the Ethics Commission for Scientific Research at the Federal Scientific Centre for Psychological and Interdisciplinary Research (conclusion dated 27.09.2024 No. 15)

Author Contributions

N.V. performed the experiments, performed the analysis, drafted the manuscript and designed the figures; A.Y. developed the theoretical framework and aided in interpreting the results. Both authors discussed the results and contributed to the final manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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