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The Mediating Role of Body-Related Self-Conscious Emotions in the Relationship between Emotion Dysregulation and Muscle Dysmorphia Symptomatology among Young Men Attending Gyms

Abstract: Previous research on body image psychopathology has increasingly emphasized the role of self-conscious emotions in shaping men's body-related attitudes and behaviors. At the same time, difficulties in emotion regulation have been consistently identified as a transdiagnostic factor underlying various forms of dysfunctional appearance-related concerns. Building on this, the present study examined whether body-related self-conscious emotions (shame, guilt, authentic pride, and hubristic pride) mediate the relationship between emotion dysregulation and muscle dysmorphia symptomatology among young men engaged in weight training. A total sample of $N = 206$ male gym-goers aged 18–30 completed standardized measures assessing emotion dysregulation, body-related self-conscious emotions, and muscle dysmorphia symptoms. Four separate mediation models (PROCESS, Model 4) were tested. Results indicated that shame and guilt fully mediated the relationship between emotion dysregulation and muscle dysmorphia symptoms, whereas authentic pride and hubristic pride acted as partial mediators in opposite directions: authentic pride buffered, while hubristic pride amplified the association. Collectively, the models explained between 18% and 25% of the variance in muscle dysmorphia symptoms. These findings highlight the pivotal role of body-related self-conscious emotions as affective mechanisms linking difficulties in emotion regulation to men's drive for muscularity and broader dysmorphic symptomatology.

Keywords: *body-related self-conscious emotions, emotion dysregulation, muscle dysmorphia Symptomatology*

INTRODUCTION

Body image is a multidimensional construct comprising interrelated domains: a perceptual component (how one perceives one's body), a cognitive component (beliefs and thoughts about appearance), an affective component (emotions and feelings toward one's body), and a behavioral component (actions and strategies related to appearance and body care) (Cash & Smolak, 2011). Body image concerns — especially those centered on muscularity — remain a salient issue among young men (Stewardson et al., 2020). Evidence indicates that

muscularity-oriented behaviors can co-occur with eating-disorder symptomatology in young men (Lavender et al., 2017). Notably, heightened muscularity concerns are linked to muscle dysmorphia (MD), currently conceptualized as a specific form of body dysmorphic disorder (Blashill et al., 2020). MD occurs predominantly in men and is characterized by a persistent preoccupation with being “too small” or “not muscular enough,” which leads to clinically significant distress and/or functional impairment and motivates maladaptive behaviors aimed at “correcting” the perceived defect (Tod et al., 2016; Murray et al., 2010).



The overall severity of MD symptoms is best understood as a continuous dimension reflecting the degree of preoccupation with appearance and muscularity. At lower levels it may include behaviors typical of healthy exercise (e.g., regular training), whereas at higher levels it is associated with persistent body dissatisfaction, rigid routines (e.g., obligatory workouts, restrictive diets), and practices that may jeopardize health (Eik-Nes et al., 2018). Such patterns are more common in environments that emphasize muscularity and low body fat (e.g., bodybuilding, strength sports; Cella et al., 2012) and are linked to the internalization of a muscular ideal, frequent appearance comparisons, body-checking behaviors, and elevated depressive symptoms (Schaefer et al., 2021; Grossbard et al., 2013). These observations underscore the need for empirical work identifying factors that sustain (potentially unhealthy) pursuits of greater muscularity among boys and men.

Among the key emotional variables implicated in body image, self-conscious emotions—arising from self-evaluation in light of social norms and expectations—are especially relevant. This family includes shame, guilt, envy, and pride (Swami et al., 2022). Two complementary frameworks help explain their operation: the process model of self-conscious emotions (Tracy & Robins, 2007) and self-discrepancy theory (Higgins, 1987). The former posits that negative self-conscious emotions (e.g., shame, guilt) emerge when one's behavior is judged to violate moral or social standards, whereas conformity to standards elicits positive emotions (e.g., pride). Self-discrepancy theory conceptualizes emotions as products of gaps between the actual self and the ideal or ought self.

Within body image research, body-related shame has been identified as a mediator linking self-objectification (viewing one's body from an observer's perspective) and body surveillance (perseverative attention to appearance) to adverse outcomes, including depressive symptoms and sexual dysfunction (Castonguay et al., 2014). Guilt reflects the belief that one has not done "enough" to improve appearance (e.g., failing to adhere to diet or training) and involves tension, remorse, and regret. Appearance-related envy arises when individuals covet desirable physical attributes observed in others (e.g., leanness, pronounced muscularity; Swami et al., 2022; Castonguay et al., 2014). By contrast, body-related pride is a positive self-conscious emotion experienced when one's actions or attributes align with personal standards and/or social norms (Mackowiak et al., 2019; Tracy & Robins, 2007). A distinction is often drawn between authentic pride-rooted in genuine accomplishments, effort, and self-improvement (and associated with competence and agency)- and hubristic pride, which reflects a sense of superiority over others and is more egocentric and status-oriented (Mackowiak et al., 2019; Mendia et al., 2023).

Experiencing negative emotions toward the body motivates attempts to change disfavored aspects of appearance (e.g., weight, shape, muscularity) or one's overall stance toward the body (Hanin & Ekkekakis, 2014; Brand et al., 2025). However, such efforts are not

invariably health-promoting: appearance-focused individuals may neglect health considerations and fail to match exercise type or intensity to their capacities (Czepczor-Bernat, 2022). Self-conscious emotions play a pivotal role in exercise motivation: those experiencing negative body-related emotions more often report aesthetic motives for exercise, whereas individuals who feel pride in their bodies and report fewer negative emotions more frequently endorse health motives (Huellemann et al., 2021).

Emotion regulation refers to the set of processes through which individuals influence which emotions they have, when they have them, and how they experience and express them (Gross, 1998). In Gross's process model (2015), regulation unfolds across three stages: identification (recognizing one's current emotional state and evaluating the need for modification), selection (choosing the most appropriate regulatory strategy), and implementation (deploying the chosen strategy to alter emotional trajectories). Chronic failures at any stage may yield emotion dysregulation, characterized by excessive intensity and/or inappropriate expression of emotion, often tied to limited awareness and understanding of internal states, with downstream consequences for behavior and relationships (Grazt & Roemer, 2004; Thompson, 2019). In Grazt and Roemer's (2004) framework, dysregulation spans (a) deficits in awareness, understanding, and acceptance of emotions; (b) limited access to adaptive strategies for modulating intensity/duration; (c) unwillingness to experience emotional distress while pursuing goals; and (d) difficulties engaging in goal-directed behavior under stress. Emotion dysregulation is implicated across multiple forms of psychopathology, including depression (Joormann & Stanton, 2016), anxiety disorders (Amstadter, 2008), psychosomatic conditions (Mazaheri et al., 2014), and personality disorders (Sloan, 2017).

Within eating disorders, emotion dysregulation has been identified as a transdiagnostic feature (Oldershaw et al., 2010). Dominant theoretical models conceptualize hallmark behaviors—purging, binge eating, dietary restriction, and excessive exercise—as maladaptive emotion regulation strategies used to manage aversive or poorly controlled affective states (Cogodi et al., 2024; Leppanen et al., 2022). Some authors further argue that individuals with eating disorders often deem their emotions "unacceptable," which fosters secondary self-conscious emotions such as shame and guilt and exacerbates symptoms (Corstorphine, 2006; Goss & Allan, 2009). Empirical work also links self-conscious emotions to the selection of both adaptive and maladaptive regulation strategies (e.g., rumination, suppression; Lin et al., 2022; Piotrowski, 2019) and suggests that their impact on eating-disorder symptoms may depend on one's emotion regulation profile (Lin et al., 2022). To date, this hypothesis has been tested directly in only one study in a high-risk male sample, where body-related shame and guilt influenced eating-disorder symptoms via maladaptive strategies (Mendia et al., 2024).

Recent reviews and meta-analyses further document positive associations between emotion-regulation deficits

and body image concerns. For example, greater difficulties – particularly limited access to effective strategies – are linked to more severe body dysmorphic disorder symptoms among students (Lavell et al., 2018). In addition, low emotional awareness, heightened negative affect, and unconstructive coping partially mediated the link between body dissatisfaction and bulimic behaviors (Sim & Zeman, 2005). Among university samples, difficulties in emotion regulation correlate more strongly with appearance concerns in individuals who show higher internalization of sociocultural body ideals (Hutchison et al., 2020).

Despite growing interest, empirical studies directly connecting emotion regulation and muscularity-focused concerns remain relatively scarce. Research show that among adolescent boys, MD symptomatology correlates positively with difficulties in emotion regulation measured by the DERS (Ganson et al., 2025). In previous studies, muscularity-oriented behaviors have been positively associated with alexithymia, reflecting reduced capacity to identify and describe feelings (Leone et al., 2015). Qualitative work with individuals diagnosed with MD indicates that compulsive exercise functions as a central emotion-regulation mechanism- providing rapid relief from tension and aversive arousal, while potentially reinforcing dysfunctional routines (Martenstyn et al., 2023). Contextually, the internalization of the socio-cultural muscular ideal appears salient: Morin and Meilleur (2024) showed that stronger internalization magnifies links between specific facets of regulation difficulties and muscularity-oriented behaviors.

The aim of the current study was to test whether body-related self-conscious emotions- shame, guilt, authentic pride, and hubristic pride mediate the association between emotion dysregulation and the severity of muscle dysmorphia symptoms in young men who regularly train in gyms. We advanced three hypotheses: (a) greater emotion dysregulation would be positively associated with MD symptom severity; (b) body-related self-conscious emotions would correlate with both emotion dysregulation and MD symptom severity; and (c) body-related self-conscious emotions would mediate the relationship between emotion dysregulation and MD symptomatology.

METHOD

Participants and Procedure

A total of 206 male participants aged 18 to 30 years ($M = 25.41$, $SD = 4.87$) were recruited through Facebook groups dedicated to strength training, bodybuilding, and gym-related topics in Poland. Inclusion criteria required participants to identify as male, be between 18 and 30 years of age, and engage in resistance or weight training at least once every two weeks. Individuals with a self-reported diagnosis of an eating disorder were excluded.

Data were collected using an anonymous online survey distributed via secure links posted in relevant Facebook groups. After accessing the survey link,

participants were presented with an informed consent form and, upon agreement, completed a battery of self-report questionnaires measuring emotion dysregulation, body-related self-conscious emotions (shame, guilt, authentic pride, and hubristic pride), and muscle dysmorphia symptomatology. Completion of the survey took approximately 20–25 minutes.

The study was conducted in accordance with the ethical standards of the institutional research committee and with the 1964 Helsinki Declaration and its later amendments. Ethical approval was obtained from the University Research Ethics Committee. All participants provided informed consent electronically prior to participation and were informed of their right to withdraw from the study at any time without penalty.

Measures

Difficulties in Emotion Regulation Scale (DERS)

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), adapted into Polish by Dragan (2016), is a widely used self-report measure assessing multiple facets of emotion regulation difficulties. It consists of 36 items rated on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always), with total scores ranging from 36 to 180. Higher scores reflect greater difficulties in regulating emotions. The DERS includes six subscales that represent distinct dimensions of emotion regulation: Awareness (difficulty noticing or acknowledging emotions), Clarity (difficulty understanding and labeling emotions), Goals (difficulty engaging in goal-directed behavior when emotionally distressed), Impulse (difficulty controlling impulsive behaviors when upset), Non-acceptance (tendency to have negative secondary responses to one's emotional experiences), and Strategies (limited access to effective regulation strategies when distressed). These subscales collectively capture both experiential and behavioral components of emotional dysregulation.

Body and Appearance Self-Conscious Emotions Scale (BASES)

The Body and Appearance Self-Conscious Emotions Scale (BASES; Castonguay et al., 2014), adapted into Polish by Razmus et al. (2019), measures self-conscious emotions related to one's perception of the body and physical appearance. It captures four distinct emotional experiences: shame and guilt related to perceived physical imperfections or failure to meet body-related expectations, as well as two types of pride. Authentic pride reflects a sense of satisfaction derived from personal effort and accomplishment regarding one's body (e.g., maintaining a training routine), while hubristic pride is rooted in feelings of superiority based on appearance and may reflect a more egocentric, status-driven orientation. Participants respond using a 7-point Likert scale (1 = not at all, 7 = completely), with higher scores indicating greater intensity of the respective emotional experience.

Muscle Dysmorphia Inventory (MDI)

The Muscle Dysmorphia Inventory (MDI; Rhea, Lantz, & Cornelius, 2004), adapted into Polish by Janowski, is a 27-item self-report questionnaire designed to assess the severity of muscle dysmorphia symptoms. Items are rated on a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree), with higher scores reflecting greater endorsement of beliefs and behaviors associated with muscle dysmorphia. The inventory evaluates core dimensions of the condition, including concerns about muscular size and symmetry, the frequency and perceived importance of supplement use, exercise dependence, pharmacological enhancement practices, dietary restriction, and efforts to protect the appearance of the physique in social contexts.

Statistical Analysis

Descriptive statistics, including means, standard deviations, and Cronbach's alpha reliability coefficients, were computed for all demographic and psychological variables. Pearson's correlation coefficients were calculated to examine bivariate relationships among the main study variables: emotion dysregulation, body-related self-conscious emotions, and muscle dysmorphia symptomatology. To test the hypothesized mediation effects, Hayes's PROCESS macro for IBM SPSS Statistics 26.0 (version 4.2) was employed. Model 4 (simple mediation) was used, with four separate analyses conducted for each mediator: body-related shame, body-related guilt, authentic pride, and hubristic pride. Emotion dysregulation served as the independent variable (X), body-related self-conscious emotions as mediators (M), and muscle dysmorphia symptoms as the dependent variable (Y). For each model, three effects were estimated: (1) the total effect (c) — the association between X and Y before including the mediator; (2) the direct effect (c') — the association between X and Y controlling for the mediator; and (3) the indirect effect ($a \times b$) — the product of the path from X to M and the path from M to Y. Indirect effects were tested using a nonparametric bootstrapping procedure with 5,000 resamples and 95% bias-corrected confidence intervals (CI). A mediation effect was considered significant when the 95% CI did not include zero.

RESULTS

Correlations Between Variables

Descriptive statistics and intercorrelations between the main study variables are presented in Table 1. All skewness and kurtosis values were within acceptable ranges (–1 to +1), indicating approximately normal distributions for all variables. As hypothesized, emotion dysregulation was positively associated with body-related shame ($r = .41, p < .001$), guilt ($r = .33, p < .001$), and hubristic pride ($r = .27, p < .01$), and negatively associated with authentic pride ($r = -.30, p < .001$). Muscle dysmorphia symptomatology showed significant positive correlations with shame ($r = .39, p < .001$), guilt ($r = .31, p < .001$), hubristic pride ($r = .34, p < .001$), and emotion dysregulation ($r = .43, p < .001$), while being negatively related to authentic pride ($r = -.23, p < .01$). Additionally, shame and guilt were positively correlated ($r = .54, p < .001$), while both showed significant negative associations with authentic pride and positive associations with hubristic pride.

Mediation Analysis

The mediation analysis revealed that emotion dysregulation was significantly and positively associated with shame, and shame, in turn, positively predicted the severity of muscle dysmorphia symptoms. The indirect effect was significant ($b = 0.11, 95\% \text{ CI } [0.06, 0.19]$), while the direct effect of emotion dysregulation on the dependent variable became nonsignificant after including the mediator ($b = 0.07, p = .386$). This indicates that shame fully mediated the relationship between emotion dysregulation and muscle dysmorphia symptoms. The model including shame explained 21% of the variance in muscle dysmorphia symptomatology ($R^2 = .21$).

A similar pattern was observed for guilt. Emotion dysregulation was positively associated with guilt, which, in turn, significantly increased muscle dysmorphia symptoms. The indirect effect was significant ($b = 0.05, 95\% \text{ CI } [0.01, 0.11]$), whereas the direct effect of emotion dysregulation was nonsignificant ($b = 0.10, p = .235$), suggesting full mediation. This model accounted for 18% of the variance in the dependent variable ($R^2 = .18$).

Table 1. Descriptive Statistics and Pearson Correlations Between Main Study Variables (N = 143)

Variable	1	2	3	4	5	6	M	SD	Sk	k
1.Shame	—						2.34	0.92	0.42	–0.41
2.Guilt	.54***	—					2.81	0.81	0.27	–0.35
3.Authentic pride	–.36***	–.28**	—				2.44	0.79	–0.31	–0.26
4.Hubristic pride	–.29**	–.26**	–.18*	—			2.12	0.72	0.22	–0.22
5.Emotion dysregulation	.41***	.33***	–.30***	.27**	—		82.27	20.60	0.44	0.12
5.Muscle Dysmorphia Symptomatology	.39***	.31***	–.23**	.34***	.43***	—				

Mediation Analysis

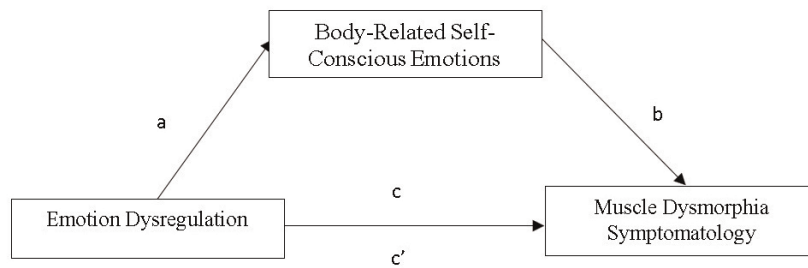


Figure 1. Model 1. Mediation model illustrating the total (c), direct (c'), and indirect ($a \times b$) effects of emotion dysregulation on muscle dysmorphia symptoms. Body-related self-conscious emotions operate as mediators linking emotion dysregulation to muscle dysmorphia symptoms. Path c represents the total effect prior to inclusion of the mediator.

Table 2. Results of Mediation Analyses with Body-Related Self-Conscious Emotions as Mediators of the Relationship Between Emotion Dysregulation and Muscle Dysmorphia Symptoms

Mediator	a (X → M)	b (M → Y)	Indirect Effect ($a \times b$) [95% CI]	Direct Effect (c')	Total Effect (c)	Model R^2
Shame	.32***	.34***	.11 [.06, .19]	0.07	0.18*	0.21
Guilt	.21*	.25**	.05 [.01, .11]	0.10	0.15*	0.18
Authentic pride	-.26**	-.17*	-.04 [-.09, -.01]	0.28**	0.24**	0.23
Hubristic pride	.29**	.24**	.07 [.02, .14]	0.24**	0.31***	0.25

Note. X = Emotion dysregulation; M = Body-related self-conscious emotions; Y = Muscle dysmorphia symptoms. Unstandardized coefficients (b) are reported. Indirect effects were estimated using a bootstrapping procedure with 5,000 resamples and 95% confidence intervals (CI). A mediation effect was considered significant when the 95% CI did not include zero. $p < .05$, $p < .01$, $p < .001$.

In the case of authentic pride, a partial mediation was observed. Emotion dysregulation was negatively related to authentic pride, and authentic pride negatively predicted muscle dysmorphia symptoms. The indirect effect was significant ($b = -0.04$, 95% CI [-0.09, -0.01]), although the direct effect of emotion dysregulation remained significant ($b = 0.28$, $p = .002$). This suggests that authentic pride attenuated, but did not fully suppress, the examined association. The model explained 23% of the variance in muscle dysmorphia symptoms ($R^2 = .23$).

Finally, emotion dysregulation was positively associated with hubristic pride, which significantly predicted higher levels of muscle dysmorphia symptoms. The indirect effect was significant ($b = 0.07$, 95% CI [0.02, 0.14]), and the direct effect also remained significant ($b = 0.24$, $p = .003$), indicating partial mediation. This model explained the largest proportion of variance in the dependent variable—25% ($R^2 = .25$).

DISCUSSION

The primary aim of this study was to examine whether body-related self-conscious emotions mediate the relationship between emotion dysregulation and the severity of muscle dysmorphia (MD) symptoms among young men engaged in weight training. The separate mediation models indicated that shame and guilt fully transmitted the effect of emotion dysregulation on MD symptoms, whereas authentic and hubristic pride acted as partial mediators. Together, the models explained between

18% and 25% of the variance in MD symptomatology. These findings suggest that specific self-conscious emotions constitute a key affective mechanism linking regulatory deficits with a broader spectrum of MD-related behaviors, including compulsive exercise, rigid dietary practices, supplement and pharmacological use, physique protection, and preoccupation with size and symmetry (Rhea et al., 2004; Tod et al., 2016; Eik-Nes et al., 2018).

The present findings corroborate previous evidence showing that greater difficulties in emotion regulation are associated with heightened appearance-related concerns, traditionally conceptualized as body dissatisfaction (Nejati et al., 2014; Babaei & Alizadeh, 2020). A lack of awareness, acceptance, and understanding of one's emotional experiences may intensify negative affect and contribute to somatization, which in turn amplifies anxiety and preoccupation with body image (Shriver et al., 2020). The existing literature consistently demonstrates that emotion regulation deficits play a critical role in the etiology, maintenance, and exacerbation of eating disorder symptoms: the more pronounced the regulatory difficulties, the more severe the psychopathology (Prefit et al., 2019; Monell et al., 2018). In the current study, emotion dysregulation was positively correlated with MD symptoms among men, a finding consistent with prior research (Ganson et al., 2024; Roche et al., 2021). Men may experience a strong drive to develop muscularity as a way to compensate for perceived inadequacies in masculinity and to alleviate associated negative emotions. When faced with such aversive affective states, individuals who lack

effective emotion regulation strategies—or perceive themselves as lacking them—may be more likely to engage in maladaptive or even self-destructive behaviors aimed at increasing muscularity (Cunningham et al., 2020). In line with the “threatened masculinity” framework, these behaviors can serve a compensatory function by helping to maintain or restore a sense of masculinity when it is perceived as undermined (Mills & D’Alfonso, 2007).

Body-related self-conscious emotions represent a central component of the affective dimension of body image. In the present study, these emotions were significantly associated with emotion dysregulation: negatively valenced emotions—shame, guilt, and hubristic pride—were positively correlated with emotion regulation difficulties, whereas authentic pride was negatively correlated. This pattern aligns with findings by Mendia et al. (2024), who reported positive associations between maladaptive regulation strategies (e.g., rumination, catastrophizing) and shame and guilt, alongside a negative association with authentic pride. This pattern also reflects theoretical accounts suggesting that deficits in emotional identification, acceptance, and modulation contribute to the internalization of sociocultural appearance ideals and more frequent social comparisons (McComb & Mills, 2021), thereby heightening vulnerability to negative self-conscious emotions. These mechanisms create a self-perpetuating cycle: the greater the regulatory deficits, the stronger the experiences of shame and guilt, which in turn further impair emotion regulation and reinforce dysfunctional behaviors associated with MD.

A similar process may apply to hubristic pride. Individuals with emotion regulation difficulties may be more prone to seeking compensatory sources of self-worth, which foster an egocentric and comparative form of pride. Hubristic pride—rooted in feelings of superiority over others—may function as a maladaptive coping mechanism for unstable affective experiences and diminished sense of control (Tran et al., 2024). The opposite pattern was observed for authentic pride. As a self-conscious emotion grounded in effort, mastery, and personal accomplishment, authentic pride is linked to a more adaptive regulatory profile. Individuals who experience authentic pride more frequently tend to show greater emotional awareness and acceptance, which facilitates flexible use of constructive regulation strategies (Lin et al., 2022).

The relationship between body-related self-conscious emotions and muscle dysmorphia can also be understood through the lens of objectification theory (Fredrickson & Roberts, 1997). Adopting an observer’s perspective toward one’s own body fosters self-monitoring (body surveillance; Fitzsimmons-Craft et al., 2015) and appearance-based comparisons with the male muscular ideal, thereby amplifying the perceived discrepancy between the actual and ideal self. This discrepancy gives rise to shame (a global devaluation: “I am not good enough”) and guilt (a sense of having failed to do enough), which serve as affective drivers of compensatory appearance-oriented behaviors, including an intensified pursuit of muscularity

(Czepczor-Bernat, 2022; Gy et al., 2021). Simultaneously, hubristic pride—rooted in status comparison and dominance motives—reinforces body exhibitionism and perpetuates the cycle of self-objectification: the more gratification one derives from visible muscularity, the greater the pressure to further “improve” the physique (Sabiston et al., 2020). In contrast, authentic pride redirects focus from appearance evaluation toward agency and mastery (process-oriented goals; Gilchrist et al., 2018; Tylka & Wood-Barcalow, 2015), which may buffer the impact of external objectification and reduce pressure toward excessive muscularity.

Overall, the results indicate that shame and guilt function as full mediators in the relationship between emotion dysregulation and the drive for muscularity. This mechanism may be interpreted as a normative-performance pathway, whereby regulatory difficulties enhance perceptions of failing to meet training or dietary standards, eliciting negative self-conscious emotions that in turn intensify engagement in appearance-focused behaviors. In contrast, pride emerged as a partial mediator operating in opposite directions: authentic pride, grounded in real achievements and agency, attenuated the association between emotion dysregulation and MD symptoms, serving as a protective factor; hubristic pride, by contrast, amplified this link. This suggests that under conditions of regulatory deficits, the status-competitive component of pride may further strengthen motivation to pursue appearance-centered goals. Collectively, these findings reveal distinct affective pathways: shame and guilt fully explain the connection between emotion dysregulation and the drive for muscularity, whereas the two forms of pride modulate this association in opposite directions. This nuanced understanding enhances our comprehension of the psychological mechanisms underlying muscularity-oriented behaviors in young men.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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