

## **Introduction**

Bodybuilding became popular during the “golden era” of the 1950s - 70s, when figures such as Arnold Schwarzenegger, Franco Columbu, and movie star Sylvester Stallone became household names (Inside Bodybuilding, 2021). Male bodybuilding is a sport characterized by training strategies that maximize skeletal muscle hypertrophy, ultimately building muscle mass (Alves et al., 2020). To optimally build this muscle mass, bodybuilding consists of an off-season (i.e., hypertrophy training combined with a caloric surplus), preparation period (i.e., hypertrophy training in a caloric deficit and low intensity cardio), peak week (i.e., careful dieting and training to look as defined as possible), competition day, followed by a de-load phase (i.e., lower intensity exercise and recovery period) (Helms et al., 2014). However, those who practice this style of training, competitive and/or non-competitive bodybuilders, are more likely to have mental illnesses such as eating disorders and/or body dysmorphia (BD) disorders (Devrim et al., 2018).

Bodybuilders may be at an exclusive disadvantage for mental illnesses such as BD (Devrim et al, 2018). Among 120 bodybuilding participants, 53.7% were found to have some form of body dissatisfaction, that can be classified as BD (Devrim et al., 2018). This finding suggests there may be an association between bodybuilding and BD, including its subcategory of muscle dysmorphia (MD). BD is characterized as a mental health disorder in which, “you cannot stop thinking about one or more perceived defects or flaws in your appearance — a flaw that appears minor or can't be seen by others” (Mayo Clinic, 2019). BD is classified as MD when, “obsession becomes the body or, more specifically, the level of muscularity and leanness

(Thomas et al., 2011). Muscle dysmorphia affects as many as 10% of the bodybuilding population and is more common amongst this population due their common reporting of bodily dissatisfaction (Mosley 2009).

While there are many factors that can cause the development of muscle dysmorphia, many factors are related to everyday societal influences, such as from media (Leit 2002). These societal influences include but are not limited to social media, media advertisements, television, and childhood experiences. While it is inevitable to be exposed to these factors, there may be a special relationship between these influences, the bodybuilding community, and mental illness, warranting further research into the phenomenon. This literature review will describe the relationship between bodybuilding, societal influences, and muscle dysmorphia.

### **Body Dysmorphia**

BD is related to obsessive compulsive disorder (OCD), a mental disorder that features patterns of unwanted thoughts and fears, usually resulting in rituals (e.g., excessive hand washing, unnecessary bedtime routines) or repetitive behaviors such as repeating words, checking, or praying (Mayo Clinic, 2022). OCD and its unwanted behaviors can decrease an individual's quality of life and cause additional mental health conditions to develop (Masellis, 2003).

Although BD is related to OCD, it has distinguishable differences in its symptoms, featuring thoughts and obsessions concerning one's physique, overexercising, as well as social physique anxiety (e.g., wearing baggy clothes constantly, checking physique frequently) (Griffin, 2021). As a result of these unwanted thoughts and obsessions, those suffering from OCD disorders (including related disorders such as BD) are 10 times more likely to attempt suicide

than the general population, warranting further investigation into those at risk (Fernández de la Cruz et al., 2017; Eskander et al., 2020). One population reporting showing symptoms of BD and at an increased risk for suicide includes bodybuilders, with many of them suffering from a specific subcategory of BD, muscle dysmorphia (Devrim et al., 2018). Shown in Figure 1 is the current theorized manner of how muscular dysmorphia may develop

**Muscle Dysmorphia:**

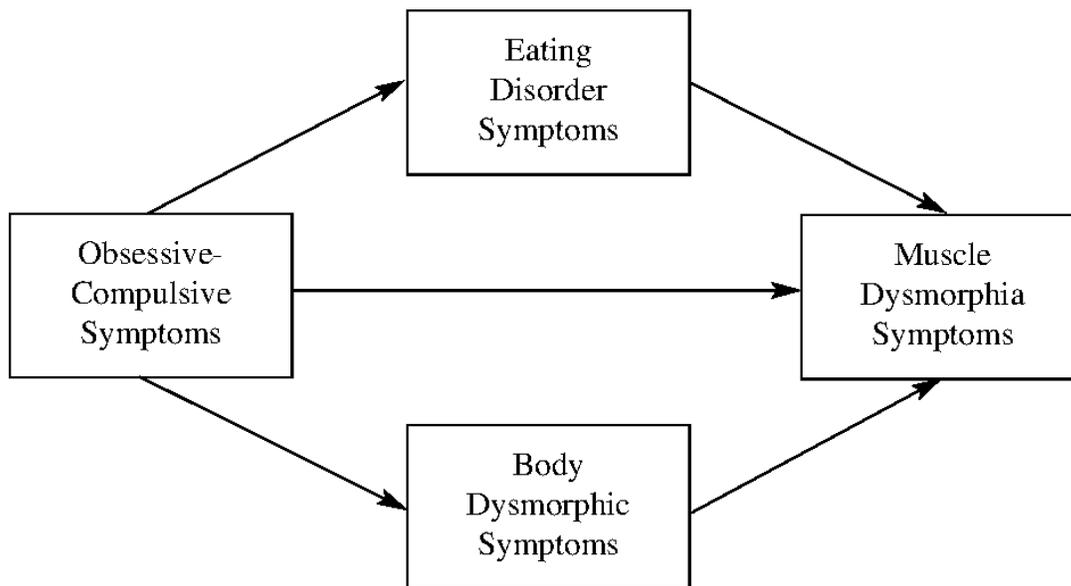


Figure 1: OCD spectrum disorders and their relationship to body and muscle dysmorphia from Maida & Armstrong, 2005

A subcategory of BD is muscle dysmorphia, a disorder characterized by a misconstrued body image where an individual interprets their body size as too small or weak, despite having a normal and/or muscular physique (Foster et al., 2015). Muscle dysmorphia can be considered obsessive due to its ritualistic-like behavior concerning exercise and physique (Chandler et al., 2009)..Examples of this obsessive nature that differs from BD include frequently checking their physique, frequent flexing and/or posing in mirrors, refusing to show their body to others, and

only feeling good about their physique while working out (Fabris et al., 2018). Muscle dysmorphia, which has shown to affect up to 10% of the bodybuilding community with this relationship having additional influences from society (Devrim et al., 2018).

## **Societal Influences, Muscle Dysmorphia, and Bodybuilding**

### **Societal Influences:**

One explanation behind the development of muscle dysmorphia in the bodybuilding population includes the impact of societal influences, such as gender identity and stereotypes that can impact the perception of the physique a woman or man should have (Mosley 2009). For men in particular, literature suggests society has a new standard for men, a “meta-male” (Chung, 2001). This “meta-male” suggests an ideal man has low percentage body fat, high muscle mass, and is tall and attractive (Chung, 2001). Men are now targeted by advertisement campaigns that prey on their insecurities, namely their physique, and it being linked to their overall masculinity (Pope et al., 2002). These advertisements can be seen everywhere, from commercial breaks on tv to seeing unrealistic body types on underwear and sock packaging (Chung 2001). Men who witness muscular men tend to view themselves in a more negative light as well (Lorenzen et al., 2004). With other societal influences like television, social media, and even action figures during childhood, these everyday influences contribute to muscle dysmorphia in young men (Leit et al., 2002; Pope Jr et al., 1999).

### **Childhood Experiences:**

Self-esteem issues can also stem from poor childhood experiences, such as experiences associated with childhood obesity (Strauss 2000). There is a correlation between poor childhood experiences and body dysmorphic disorder, with these experiences ranging from bullying in

grade school to poor family upbringing in their daily lives. (Fabris, 2018; Pikoos, 2021). The criticisms range from body critique at a young age to humiliation by their family or peers (Fabris 2018).

Young men are more susceptible to self-esteem and mental health issues compared to older and wealthier men. (Yang et al., 2018). This, coupled with the fact that self-esteem and physique perceptions can become intertwined in those with self-confidence issues, suggesting a connection between low-morale (reduced confidence, lower productivity, and performance) men and bodybuilding (Emini & Bond, 2014). Additionally, dysmorphic issues are already on the rise in youth, raising concern for this issue (Himanshu 2020). Many men associate their identity with their bodybuilding lifestyle, with some willing to drive extreme distances solely to train (Brown, 1999). The time commitment to bodybuilding alone, aside from the dietary and habit changes, forces many to choose between what they value most: either family and friends or aesthetics (Brown, 1999). Some men choose to turn towards weightlifting, specifically a bodybuilding training style to combat these insecurities, hoping that becoming bigger will garner attention and recognition from their peers (Bridges, 2009). Despite many gaining the muscle mass they initially desired, many bodybuilders report feelings of being too small and lower self-esteem as result of their obsessive training and dieting (Wolke & Sapouna, 2008).

Despite these negative aspects of bodybuilding, bodybuilding can have a positive impact on an individual. Many participants report increased self-confidence and even more respect from their peers because of bodybuilding participation (Wiegers, 1998). Despite these benefits, there is a subset of bodybuilders of up to 10% that report increased levels of anxiety and obsession concerning their training, eating, and physique (Mosley, 2009). This group of bodybuilders, who typically do not show any unique physical differences from their fellow trainees, are willing to

train through injuries, and report no concern for their long-term health (Mosley, 2009). This can not only impact their distant future, but their current social and occupational lifestyle, with some reporting skipping social and work events to attend the gym or even for the fear of others judging their physique (Mosley, 2009).

### **Application:**

Current research findings indicate that a relationship exists between societal influences, bodybuilders, and muscle dysmorphia. Insecurities in young men may prompt some to become involved with a bodybuilding style of training to combat these insecurities stemming from societal influences, therefore resulting in the development of muscle dysmorphia. Figure 2 demonstrates the hypothesized relationship between societal influences, bodybuilders, and muscle dysmorphia. Future research is needed to determine and validate if this relationship exists by clarifying if 1) there is a correlation between societal influences and taking on a bodybuilding lifestyle; and if 2) there is cyclical relationship connecting societal influences, bodybuilding, and muscle dysmorphia development.

### **Conclusion**

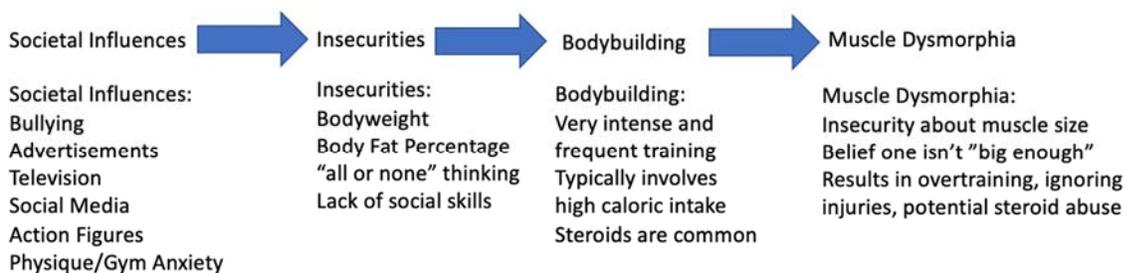


Figure 2: Societal influences leading into eventual muscle dysmorphia

MD is a subcategory of BD, both being OCD related disorders. MD is characterized by insecurity in one's physique, overtraining and with these symptoms being exaggerated in bodybuilding (Mosley, 2009). Our findings suggest a relationship exists between bodybuilding, BD, MD, and societal influences such as advertisements, media, and childhood experiences (Leit, 2002). Future research should be conducted to better understand the nature of this relationship and what can be done to remedy it; this may include validated measures on these societal influences and the development of muscle dysmorphia as well as interventions to improve symptoms of muscle dysmorphia in bodybuilders.