

**How does grunting influence masculinity, social dominance and attractiveness perceptions  
in gyms?**

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### **Abstract**

Grunting during weightlifting is common in gyms. Whilst a number of studies have attempted to investigate the motivations behind grunting, there remains a lack of empirical research on the perceptions of people who grunt. Therefore, this study aims to explore the effect of grunting on perceived masculinity, perceived social dominance, and perceived attractiveness in gyms. A total of 327 participants were recruited to watch a video clip of a target exercising whilst grunting or exercising whilst simply breathing (no-grunting condition). After viewing the video, participants answered questions assessing their perceptions of the target. One-way ANOVAs revealed significant main effects of condition on all three variables: the grunting target was perceived as less masculine and less attractive, though more socially dominant. Though no significant gender differences were found in how grunters are perceived, some intriguing differences emerged between how male and female participants rated the grunting target. Our findings suggest that grunting in gyms influences perceptions of masculinity, social dominance and attractiveness. Future research should explore these perceptions in greater depth to understand their underlying mechanisms and potential impacts on behavior and social interactions.

*Keywords:* grunting, gym behavior, social perception, masculinity perception, social dominance perception, attractiveness perception

## **How does grunting influence masculinity, social dominance and attractiveness perceptions in gyms?**

When I first started going to the gym two years ago, I was surprised to hear the extent to which some men make loud noises and grunt when performing an exercise. As a relatively new gym-goer, I had many conflicting thoughts about the phenomenon of grunting whilst working out. For the longest time, I believed these loud noises were made simply to attract other people's attention and were a way for the person to assert their dominance. However, I have since then caught myself grunting at the gym a multitude of times, without particularly having any of the aforementioned motivations. I then adhered to the belief that, in most cases, grunting was a natural phenomenon that occurred in times of extreme physical exertion. The exact reason we grunt when exercising has been an ongoing debate among professionals.

A grunt can be briefly defined as a low guttural sound. For many weight lifters, grunting is seen as a natural and involuntary loud noise as a reaction to such heavy physical work (Lev & Hertzog, 2021). A loud grunt is believed, by some, to help us push more weight and to momentarily increase physical performance (Spector, 2014). However, Morales et al. (1999) published a study in which results suggested that grunting did not increase maximal force production among a sample of both athletes and non-athletes. It is also common to find diverse reactions to such loud guttural noises in public fitness facilities.

Generally, there is a consensus that grunters are rude and do it to intimidate and assert dominance, as evidenced by interviews conducted by Lev and Hertzog (2021) on gym-goers. Shortly before getting started on this thesis, I then urged myself to look around and pay more attention to grunters; but especially on the reactions of surrounding people. Whilst many seemed to ignore the noises and carried on with their workout, I also noticed many people with annoyed

faces. Put simply, the popular opinion points to grunting as obnoxious and unnecessary. This research paper aims to address a particular problem: Grunting in gyms is a widely known phenomenon, but the exact reasons that gym-goers grunt still remains a mystery, as well as the ways they are perceived by others. The aim of this study is to investigate how these grunters are perceived by other people in gyms, thereby focusing on the social perceptions of grunting. Precisely, I researched the effects of grunting on a number of perceptions in order to answer the following research question: How does grunting influence masculinity, social dominance and attractiveness perceptions in gyms? Whilst there is much disagreement about the precise reason for grunting and a critical lack of research addressing the social perceptions of grunting, many researchers center their studies around the space of the gym itself.

### **Grunting in Gyms as a Social Space**

A large body of research explores the gym as a social space, in which different lifestyles, attitudes and motivations are communicated to others. Johansson (1996) wrote about gym culture and gender identities in the 1990s, expressing that “the gym is not merely a place where young people exercise: it is also a social place where gender identities are constructed” (Johansson, 1996). Additionally, Coen et al. (2018) explored the gym as a space where gender differences were reinforced and routinized. According to the authors, this reinforcement of gender disparities occurs through “the social and material boundaries separating men’s and women’s activities and spatialities in the gym” (Coen et al. 2018). In their article, Coen et al. (2018) discuss the differences in motivations, exercises and even space that both men and women take up. This notion of the gym being a gendered space is also seen in Johansson’s (1996) work in which he distinguishes “typical male and female territories within the gym”, or as he labels it: “front regions and back regions” respectively.

Whilst a number of studies investigate the circumstances and implications of the gym as a social space, fewer studies attempt to investigate grunting as a social phenomenon. Indeed, little research is found to explore the existence of potential sociological motivations behind grunting at the gym and its consequences. In their pioneering study, Lev and Hertzog (2021) set out to address the phenomenon of grunting at the gym as socially constructed and one that serves as a social symbol to express “identities gender norms and power relations”. However, many studies investigate the effects that grunting has on opponents during competitive sports, such as tennis or martial arts. For instance, Sinnett et al. (2018) discuss grunting’s competitive advantage, in that it may be intentionally used to distract one’s opponent and make them more prone to errors. Additionally, Sinnett and Kingstone (2010) talk about the “competitive edge” that the grunting tennis player has during tennis matches, though the exact mechanisms behind this phenomenon need further exploring. As a matter of fact, the oldest tennis tournament in the world put a certain limit on grunting, stating that players are not allowed to grunt if it is considered to be excessive and disruptive (Rutzler, 2020). Notwithstanding, the space we aimed to explore in this article, the gym, does not necessarily have a competitive nature. Therefore, I hope to fill this gap in the research by exploring the sociological effects of grunting in gyms. Many studies have pinpointed grunting as a way to dominate the social space of the gym, but there remains a severe lack of research addressing if grunTERS are indeed perceived that way by other people. In this study, I focused on those perceptions of grunTERS. In other words, I aimed to explore how grunTERS in gyms are perceived by other people, based on a number of measures.

### **Effects of Grunting on Various Perceptions**

Given its novelty, there is a wide range of different variables that could be interesting to study in regards to the phenomenon of gym grunting. The goal of this study is to investigate how

people who grunt in gyms are perceived. In this paper, I focused on three variables: masculinity perceptions, social dominance perceptions, and attractiveness perceptions. The aggregation of these variables will serve to illustrate a broader view of how grunters in gyms are perceived, as a result of their grunting.

### ***Masculinity Perceptions***

The first outcome variable I assessed is masculinity perceptions. Generally, masculinity perceptions refer to the extent to which a person embodies societal expectations surrounding the concept of masculinity. This embodiment is typically manifested in different traits, behaviors and roles that are related to the typical view of men and masculinity (Whitehead & Barrett, 2002). In the context of this study, masculinity perceptions refer to the extent to which a grunting person is seen as traditionally masculine by other people.

A number of studies explore the concept of masculinity, as opposed to femininity, in gyms. According to Johansson (1996), the gym is a gendered space where clear boundaries are instilled to separate men and women. These boundaries manifest themselves in the different types of exercises done but also by the different spaces taken up by men and women. The author describes a certain “gender order” that is maintained through these boundaries. For instance, Johansson illustrates how masculinity is associated with the use of heavy free weights that are typically found in typical male territories of the gym. In his study, he expresses a close relation between hegemonic masculinity and weights. The aforementioned paper opens the door to exploring further aspects of the gym that are typically seen as more masculine. Furthermore, Lev and Hertzog (2021) clearly highlight the expectation of grunting for male gym-goers. As stated by the authors, grunting is a male privilege and serves as their masculinity’s measurement. This groundbreaking study addresses the role of grunting in shaping perceptions regarding one’s masculinity, which I will aim

to explore further in this paper. Precisely, I hypothesized that a grunting gym-goer would be perceived as more masculine than a non-grunting gym-goer.

### ***Social Dominance Perceptions***

The third outcome variable I assessed is social dominance perceptions. Rodriguez-Santiago et al. (2020) previously defined socially dominant males as being aggressive, socially central and as having strong influence over groups. In the context of this study, I defined social dominance as being associated with traits relating to one's leadership and influence on others. Social dominance perceptions refer to the extent to which a grunting person is seen as socially dominant by other people. Toscano et al. (2016) investigated both dominance and strength judgements and found that representations of both concepts were highly similar in their data. By creating computer-generated faces, the authors found that "faces that were rated as very dominant were also rated as physically strong" (p. 1611). This finding indicates that signs of physical strength were highly correlated with perceptions of dominance, ultimately suggesting that faces perceived as stronger were also perceived as more dominant. As previously mentioned, grunting is a physiological result of exertion of force, otherwise known as strength. I would like to explore this research gap by investigating how a manifestation of strength, or grunting, would be linked to social dominance perceptions. Consequently, I hypothesized that a grunting gym-goer would be perceived as more socially dominant than a non-grunting gym-goer.

### ***Attractiveness Perceptions***

The second outcome variable I assessed is attractiveness perceptions. Within this construct, I distinguished physical, social and task attractiveness perceptions. Firstly, I evaluated social attractiveness, which McCroskey and McCain (1974) referred to as being closely related to the concept of liking. Secondly, this construct also consists of physical attractiveness, refers to one's



quality to provide pleasure to others in their physical appearance. Lastly, task attractiveness refers to the extent to which participants would be willing to take training advice or simply work out with the grunter. Together, these three dimensions constitute the conceptualization of the attractiveness perceptions construct.

In the context of this study, attractiveness perceptions refer to the extent to which a grunting person is seen as physically attractive, socially likeable and as having high task competence by other people. Brewer and Howarth (2012) conducted a study in which women rated the attractiveness of men who play competitive sports aggressively or not. Results of their analysis suggest that men who play competitive sports aggressively are rated as more attractive. As mentioned above, grunting in gyms is a manifestation of intense physical exertion, which can be assimilated to some form of aggression. Therefore, the present study serves to explore if grunting itself is associated with attractiveness ratings and perceptions.

Additionally, research indicates that specific aspects of vocalization in males were found to be more or less attractive. In fact, Quené et al. (2016) found that “female listeners rate a male speaker as more attractive if his voice is lower” (p. 1086). Grunting can be conceptualized as a low-pitched vocalization and Quené et al.’s (2016) study would suggest that grunting in gyms would make people perceive the grunter as more attractive. However, we have also seen that grunting elicits a certain annoyance in many gym-goers (Lev & Hertzog, 2021). This finding would suggest the opposite effect of the aforementioned study and imply lower levels of perceived attractiveness when grunting. Consequently, I hope to address this gap in the literature by exploring the link between grunting and perceptions of attractiveness. Though the evidence is mixed, my second hypothesis states that a grunting gym-goer would be perceived as less attractive than the non-grunting gym-goer.

## **Overview of Study**

Overall, in this study, I addressed the three following hypotheses. Firstly, I expected that participants would perceive the grunting gym-goer as more masculine than the non-grunting gym-goer. Secondly, I expected that participants would perceive the grunting gym-goer as more socially dominant than the non-grunting gym-goer. Lastly, I hypothesized that participants would perceive the grunting gym-goer as less attractive than the non-grunting gym-goer. These three hypotheses ultimately served to answer the main research question: How does grunting influence masculinity, social dominance and attractiveness perceptions in gyms? For this, we conducted an experiment with a sample of mostly gym-goers to understand the effect of grunting on social perceptions. Additionally, this study also examines the potential differences between men and women when perceiving a grunting gym-goer; however, due to lack of previous research, we did not make any predictions regarding gender differences.

## **Method**

### **Participants and Design**

We aimed to recruit 320 participants so that we could have 80 participants per cell in the design. A total of 342 participants answered the online questionnaire, all recruited via Prolific ([www.prolific.com](http://www.prolific.com)), and exclusively from the United Kingdom. Fifteen participants were excluded from the study for various reasons: One person declined consent for data processing, eleven individuals withdrew from the study, and three people failed the manipulation check. There were no exclusion criteria for age. Initially, our intention was to exclude respondents who do not frequent the gym. However, due to an error by Prolific, the exclusion was not successful, and consequently, we decided to include these respondents in our analysis. This resulted in a final sample size of  $N = 327$ . The mean age of the remaining participants was 42 years, with a range

from 18 to 78 years ( $SD = 12.7$ ). Gender distribution was nearly equal with 49.5% identifying as female, and 50.5% identifying as male.

The study was registered by the Ethical Committee of the Faculty of Behavioral and Social Sciences at the University of Groningen (EC-BSS). This study was pre-registered (AsPredicted #171791). To investigate the relationship between grunting and perceptions of masculinity and other variables, we designed an experiment using a 2x2 design. The independent variables were gender (male vs. female) and grunting (grunting vs. no grunting). Participants were randomly assigned, based on their gender, to either watch a video featuring a man grunting or one without grunting. This allocation resulted in the following conditions: Female and grunting ( $N = 77$ ), female and no grunting ( $N = 85$ ), male and grunting ( $N = 85$ ) and male and no grunting ( $N = 80$ ).

### **Procedure**

Once participants opened the survey, the first thing they saw was a form detailing information about the study and requesting informed consent. Participants had the option to either give or decline their consent, without any consequences for them. Thereafter, the participants were exposed to attention and sound checks. Participants had to fill in the right digit span to continue the study, to ensure they could hear the sound in the video as well. This was a crucial step, as this research relies on the participant's audition of the target's grunting (or lack thereof). Therefore, it was important to make sure the potential grunting in the video would be properly heard by the participants.

Afterwards, the following text was shown: *“Now you will see a video of Jamie working out in the gym. Jamie likes working out at the gym regularly. In this video he is the person wearing a black T-shirt and green shorts. Please now watch the following video carefully. You will answer some questions evaluating Jamie based on his workout.”* Beneath the text the participants could

start the video of a man working out in a gym environment. Participants in the grunting condition were shown the man grunting during exercising and participants in the no grunting condition were shown the exact same video with the exception of the grunting noise. In the no-grunting condition, the man was solely exhaling. After watching the video, participants in both conditions were asked the same questions.

When participants went to the next page, they were asked three questions to check if they paid attention. The following questions were: “*What is the name of the man working out?*”, “*What is the man wearing in the video?*” and “*Was the man in the video making noisy breathing sounds (i.e., grunting)?*”, which served as a manipulation check.

After the manipulation check, participants answered questions about the measures outlined below. On the last page, participants were asked to fill in the following four questions regarding the demographic. Participants were asked about their (1) age, (2) gender, (3) how often they go to the gym, and (4) whether they frequent a mixed-gender gym. Finally, the participants were asked for their Prolific ID, were debriefed about the aim of the study, thanked and paid for their participation in the study.

## **Materials**

To test our hypotheses, a 44-second-long video was created in which a white male, who was 23 years of age, performs four different exercises in strict form: Incline dumbbell bench-press, dumbbell biceps curls, overhead triceps extensions at a cable tower, and back-squats at a smith machine respectively. Each exercise was recorded separately and cut together to create the final video. For each exercise, three repetitions were performed. These exercises were chosen because they are commonly implemented in the male trainings-regime, while also prioritizing free weights to foster the association to masculine norms regarding choice of equipment. The weights were

chosen in a fashion to justify the grunting noise in the grunting condition, resulting in 22kg, 16kg, 35kg, 60kg (excluding the weight of the Barbell) respectively. The man was filmed from about 2.5 – 3 meters using an iPhone 14 and a tripod. To ensure good audio quality, a separate microphone was used, placed close to the target. The man was filmed from an 80 – 90-degree angle, with the exception of a 135-degree angle used for the back-squat, to ensure that the facial expressions would not influence the grunting vs the no-grunting condition, while still making it possible for the participant to answer questions about the measured variables, e.g., attractiveness. There was no music in the gym, but air-conditioning noise from the building. During some exercises, one person worked out in the background or on the side, to facilitate an authentic atmosphere of a gymnasium as experienced by most gym-goers. Lastly, and most importantly, the video in the grunting and no-grunting condition were exactly the same, with the only difference being the grunting noise, which was edited out after filming.

## **Measures**

The complete list of items for each measure is presented in Appendix A.

### ***Perceived Aggressiveness***

Participants were asked to rate the extent to which they perceived the target to be aggressive. The assessment of this construct was done using a single self-constructed item: “*To what extent do you think [the target] is aggressive?*”. The answer options were presented on a scale of 1 - *not at all*; to 7 - *entirely*.

### ***Perceived Masculinity***

We aimed to examine the extent to which the participants perceived the target to be masculine. We made use of the following self-constructed singular item to assess this construct: “*To what extent do you think [the target] is masculine?*”. The answer options were presented on a

scale of 1 - *not at all*; to 7 - *entirely*. Additionally, the Bem Sex-Role Inventory (BSRI; Bem, 1974) specified below measured specific traits about masculinity; as opposed to the aforementioned single item measuring the broad concept of masculinity.

### ***Traditional Male Gender Norms***

We assessed participant's perceptions of traditional male gender norms through three items derived from the Bem Sex-Role Inventory (BSRI; Bem, 1974). Participants were asked to what extent they rated the man in the video to be (1) "*Assertive*", (2) "*Independent*", and (3) "*Ambitious*" ( $\alpha = 0.80$ ). The anchors ranged from 1 - *not at all*; to 7 - *entirely*. The items were averaged to calculate a single composite score for perceived traditional masculinity.

### ***Perceived Social Dominance***

Participants were asked to rate to what extent they consider the target to be socially dominant. The operationalization of this construct was derived from Rodriguez-Santiago et al. (2020)'s study, which assimilated male social dominance to aggressiveness, leadership traits and as being socially central. The items for social dominance ( $\alpha = 0.85$ ) included "*I think this person typically takes on a leadership role in social settings*". The answer options were presented on a scale of 1 - *strongly disagree*; to 7 - *strongly agree*. All the items were averaged to compute one composite score for perceived social dominance.

### ***Perceived Attractiveness***

Participants were asked to rate the target's attractiveness. This construct was assessed using 9 items adapted from McCroskey and McCain (1974)'s study measuring interpersonal attractiveness. This measure consisted of three distinct domains: social attractiveness, task attractiveness and physical attractiveness. Participants were asked to indicate to what extent they agree with different statements. The items for social attractiveness ( $\alpha = 0.79$ ) included "I would

like to have a friendly chat with him”. The items for physical attractiveness ( $\alpha = 0.78$ ) included: “I think the man is handsome”. The items for task attractiveness ( $\alpha = 0.85$ ) included: “I have the feeling that he is a very good weightlifter”. Overall, the construct of attractiveness had a good reliability ( $\alpha = 0.85$ ). The answer options were presented on a scale of 1 - *strongly disagree*; to 7 - *strongly agree*. All the items were averaged to compute one composite score for perceived attractiveness.

### ***Perceived SES***

The MacArthur Scale of Subjective Social Status adult version (Adler et al., 2000) was used to measure participant’s perceived SES of the man in the video. Participants were shown a ladder with the numbers zero to ten on it and were told that the ladder represented society. People on top of the ladder are best off in terms of money, education and working the most respected jobs. People on the bottom of the ladder are worse off, so have less money, lesser education and the least respected job or no job. The task participants were shown was: “*Please select the number of the rung that best represents where you think the person in the video (Jamie) stands on the ladder*”. The answers options were presented on a scale from 1 - *ten*; to 11- *zero*.

As this Bachelor Thesis is part of a larger group project, other peers used variables that I was not personally interested in. The variables I chose are the following: perceived masculinity, perceived social dominance and perceived attractiveness.

## **Results**

Prior to starting our analyses, assumptions for homoscedasticity, normality and independence were checked and met.

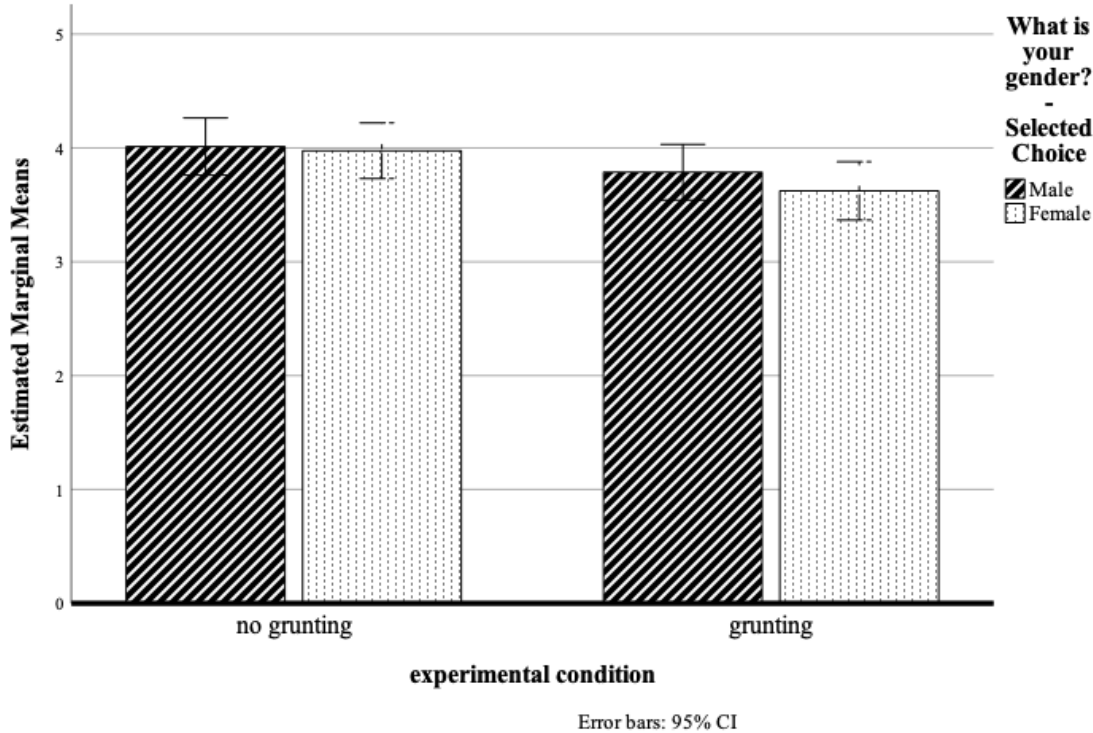
A series of two-way ANOVAs were performed to test the effects of condition (grunting vs no grunting) and gender of the participant (male vs female) on perceived masculinity, perceived social dominance and perceived attractiveness.

When testing for masculinity using the single item, results showed that there was a significant main effect of condition,  $F(1, 323) = 5.19, p = .023, \eta^2 = .016$ , but neither the main effect of gender,  $F(1, 323) = 0.628, p = .429, \eta^2 = .002$ , nor the interaction effect were significant,  $F(1, 323) = 0.258, p = .612, \eta^2 = .001$ . As opposed to my hypothesis, participants in the no grunting condition perceived the target as more masculine ( $M = 3.99, SD = 1.13$ ) than participants in the grunting condition ( $M = 3.71, SD = 1.16$ ). Interestingly, we found that when testing for traditional male gender norms, none of the three effects were significant. Neither the main effect of condition ( $F(1, 323) = 0.11, p = .73, \eta^2 = .000$ ), the main effect of gender ( $F(1, 323) = 0.05, p = .83, \eta^2 = .000$ ), nor the interaction effect were significant ( $F(1, 323) = 0.47, p = .49, \eta^2 = .001$ ). The estimated marginal means of masculinity with both conditions and gender are shown below in Figure 1.

### **Figure 1**

*Estimated Marginal Means of Masculinity*

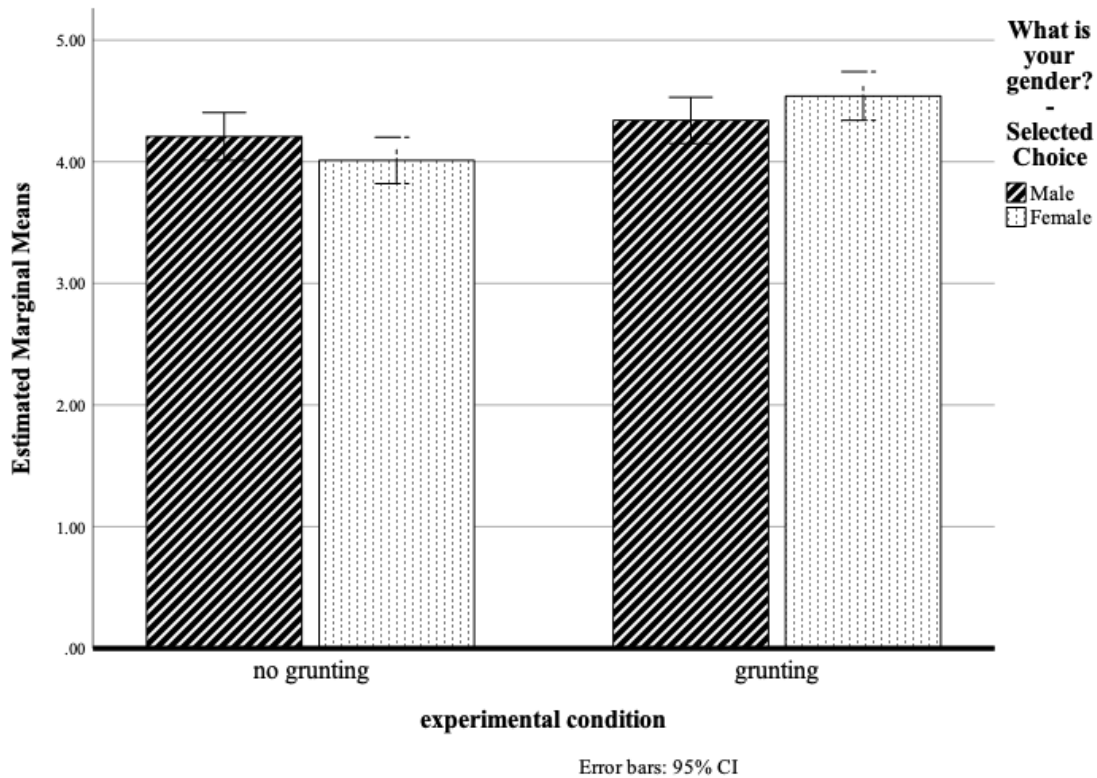




*Note.* Estimated marginal means of masculinity are shown for grunting and no grunting conditions, as well as for male and female participants.

When testing for social dominance, results showed that there was a significant main effect of condition,  $F(1, 323) = 11.22, p < .001, \eta^2 = .034$ , as well as for the interaction effect  $F(1, 323) = 4.02, p = .046, \eta^2 = .012$ . However, the main effect of gender was not significant,  $F(1, 323) = 0.00, p = .99, \eta^2 = .000$ . In line with my hypothesis, participants in the grunting condition perceived the target as more socially dominant ( $M = 4.44, SD = 0.83$ ) than participants in the no grunting condition ( $M = 4.41, SD = 0.95$ ). In the no grunting condition, male participants perceived the target to be more socially dominant ( $M = 4.21, SD = 0.92$ ); whereas in the grunting condition, female participants perceived the target to be more socially dominant ( $M = 4.54, SD = 0.85$ ).

The estimated marginal means of social dominance with both conditions and gender are shown below in Figure 2.

**Figure 2***Estimated Marginal Means of Social Dominance*

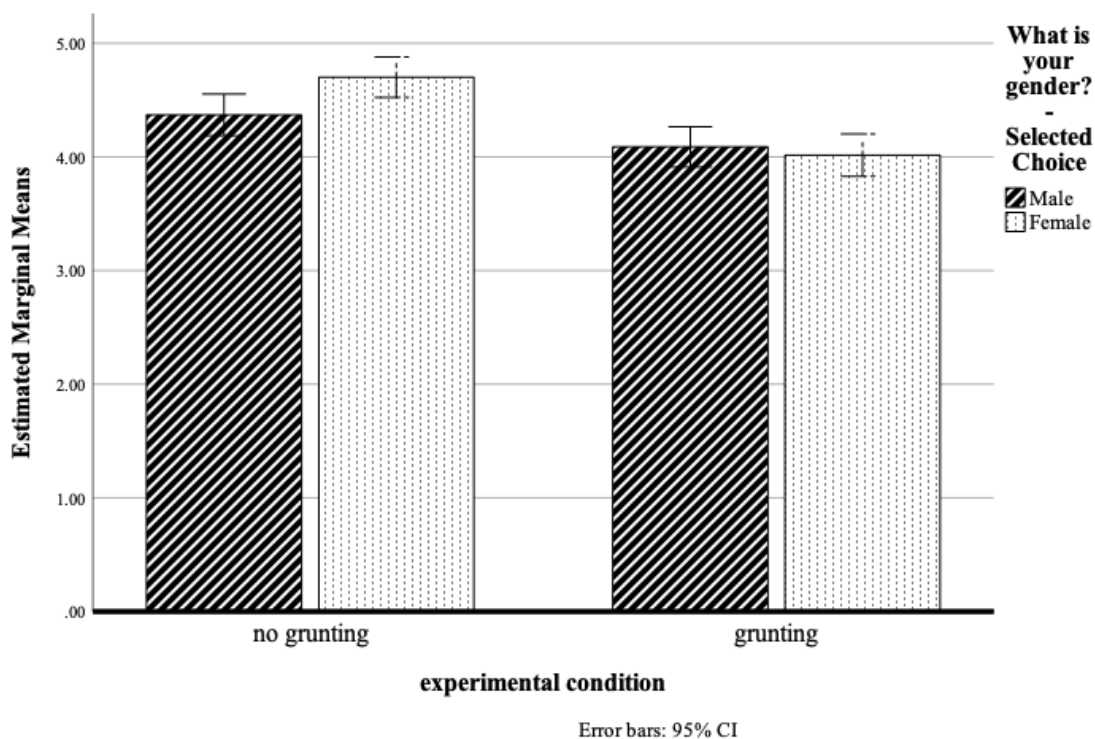
*Note.* Estimated marginal means of social dominance are shown for grunting and no grunting conditions, as well as for male and female participants.

When testing for attractiveness, results showed that there was a significant main effect of condition,  $F(1, 323) = 27.7, p < .001, \eta^2 = .079$ , as well as for the interaction effect  $F(1, 323) = 4.83, p = .03, \eta^2 = .015$ . However, the main effect of gender was not significant,  $F(1, 323) = 1.97, p = .16, \eta^2 = .006$ . In line with my hypothesis, participants in the no grunting condition perceived the target as more attractive ( $M = 4.54, SD = 0.85$ ) than participants in the grunting condition ( $M = 4.05, SD = 0.82$ ). In the no grunting condition, female participants perceived the target to be

more attractive ( $M = 4.70$ ,  $SD = 0.92$ ); whereas in the grunting condition, male participants perceived the target to be more attractive ( $M = 4.09$ ,  $SD = 0.87$ ). The estimated marginal means of attractiveness with both conditions and gender are shown below in Figure 3.

**Figure 3**

*Estimated Marginal Means of Attractiveness*



*Note.* Estimated marginal means of attractiveness are shown for grunting and no grunting conditions, as well as for male and female participants.

Originally, one of the exclusion criteria specified that the participants had to be gym-goers, regardless of how often they went. However, an error on Prolific allowed participants to sign up despite not going to the gym. This included 108 participants. In order not to lose power, it was

decided that they would not be excluded. However, when we run the analysis excluding these participants, this factor makes no significant difference in the results. This shows the robustness of our results.

### **Discussion**

The aim of this study is to explore the effect of grunting in gyms on a number of different social perceptions. For that, we tested the effect of grunting on perceived masculinity. We found that the grunting target was perceived as less masculine than the non-grunting target. Therefore, this significant result proved contrary to my initial hypothesis. It is reasonable to assert that grunting is generally thought of as a display of masculinity; however, this unexpected finding suggests that grunting could actually be perceived as quite the opposite. It is a possibility that grunting is perceived as a sign of struggle. Typically, masculinity is associated with qualities relating to strength; a man struggling and having weaknesses would then be perceived as less masculine (Berdahl et al., 2028). Alternatively, grunting can be perceived as the target needing to overcompensate for something, notably a lack of masculinity. In that case, a grunting target would be making a severely critical effort to be perceived as masculine by others. As our results show, observers could easily see past this attempt and thus perceive the grunting target as less masculine.

Secondly, we tested the effect of grunting on perceived social dominance. We found that the grunting target was not only perceived as more socially dominant than the non-grunting target, but also that female participants rated the target as more socially dominant than male participants in the grunting condition. Therefore, this significant result proved to be in line with my initial hypothesis. This finding aligns with the well-established idea that vocalizations (e.g.: grunts...) are more often used by more dominant individuals to assert their dominance (Cheney et al., 1995). However, we also found that females perceived the grunter as more socially dominant than males

did. Research does suggest that females are naturally more attentive to social signals and cues than males (Hall, 1978). This would support the idea that outward nonverbal displays of dominance, such as a grunt, are more likely to be discerned by women.

Thirdly, we tested the effect of grunting on perceived attractiveness. We found that the grunting target was not only perceived as less attractive than the non-grunting target, but also that male participants rated the target as more attractive than female participants in the grunting condition. Therefore, this result also proved to be in line with my initial hypothesis. This suggests that grunting is viewed as a negative trait when one evaluates another's attractiveness. A number of blogs and online forums serve as evidence for this suggestion, specifically from the point of view of women towards grunting men (Laidler, 2017). Interestingly, males perceived the grunting target as more attractive than females did. This intriguing gender difference presumably reflects a difference in criteria for attractiveness.

As previously mentioned, we attempted to explore the existence of potential differences between men and women when perceiving a grunting target. However, we did not find any significant differences in views on masculinity, social dominance and attractiveness. Regardless, some interesting discrepancies on views regarding social dominance and attractiveness between male and female participants were observed. In conclusion, results show that men and women generally perceive a grunting target similarly. Future research should investigate the specific mechanisms and reasons behind these perceptions and the gender differences that may accompany them.

### **Practical Implications**

The findings of this study have several implications on the phenomenon of grunting in gyms. Specifically, our research has shed some light on the nuanced perceptions of grunts in gyms.

This experiment revealed that grunting gym-goers are perceived as less masculine and less attractive than their non-grunting peers, although perceived as more socially dominant. As the first experiment to test this specific idea, our results can be used alongside existing literature to fill in the gaps in the literature. The findings in Lev and Hertzog's 2021 study showed the aspect of grunting as a social symbol that can occur as a way of reaffirming gender norms and power relations. Specifically, "grunting is [...] utilized to achieve something" (Lev & Hertzog, 2021, p. 3). Additionally, Hertzog and Lev (2019) found that grunting can be used by men to take up and control their space in gyms. This is intriguing, as it suggests that men grunt thinking they will be perceived positively and do it purposely in order to achieve some sort of image. Yet, the reality might be disheartening for these grunTERS. Our groundbreaking results show that grunTERS are perceived as less masculine and less attractive by others. So far, existing literature has focused on the phenomenon of grunting itself and its potential motivations. However, this research explores the novel idea of how grunting is perceived by others instead. By focusing on how grunting is perceived by others, our findings highlight the discrepancy between what men think they achieve by grunting and how they are actually perceived by others. Moving forward, future research should analyze the impact of these perceptions on individual behavior and group dynamics in gyms.

### **Limitations and Future Research**

A number of limitations can be found in this study. We made use of a UK sample for this study, which naturally limits generalizability across other cultures. In order to improve that generalizability, replications of this study should make use of participants from different countries. Secondly, analyses revealed that the mean age of participants was approximately 42 years of age. As a result, this study also focuses on the perceptions of older individuals; but the original intent was to assess the social perceptions of younger individuals. Johansson (1996) addressed the gym

culture and marked a clear distinction between female and male regions in gyms. Additionally, the author talks about the rise of female bodybuilding and the consequent negative attitudes it garnered. Notably due to female bodybuilding putting “the male hegemony in question” (Johansson, 1996, p. 36). One can reasonably assert that individuals who are currently in their 40’s must have a rather old-fashioned and stereotypical view of gyms and masculinity. One can also posit that gym culture, as well as views on masculinity, have change and evolved to be slightly less restrictive and less discriminatory. Old and young people certainly have very different perceptions of the ever-evolving gym culture and concept of masculinity, and it is important for research to study the current perceptions and attitudes adopted by the younger generation. Therefore, future research should place more focus on obtaining a younger sample. Lastly, our sample consisted solely of heterosexual individuals. Gerrard et al. (2022) found that gay men have a preference for other men who present themselves in a more traditionally masculine manner. This recent study raises the question of whether gay male participants would perceive the grunting target to be particularly more masculine and attractive, as grunting is associated with hegemonic masculinity. For instance, Lev and Hertzog (2021) discuss “the role of grunting in conveying the image of manhood and control” (p. 4). It would be interesting to subsequently use a sample of gay men to explore whether sexual orientation, notably homosexuality, would affect results in future studies.

Some additional limitations were found upon analyzing the results of the experiment. As previously mentioned, we originally wanted the sample to consist solely of gym-goers. However, the sample included both gym-goers and non-gym-goers due to technical errors. To make sure there are no differences in the results while excluding those who do not go to the gym, we re-ran the analysis focusing only on the gym-goers. We found that this factor made no significant

differences in the results. Notwithstanding, the intention of wanting a sample that goes to the gym originates from the potential expected differences between gym-goer and non-gym-goer. For instance, a gym-goer will not only have more regular exposure to grunting but will also be more accustomed to the gym culture. This could result in gym-goers perceiving a grunting target less negatively than non-gym-goers would, on account of their habituation. Regardless, future research should certainly explore whether this factor would in fact make a difference, by reason of the difference in experiences with grunting. Additionally, as previously stated in the section above, the traditional male gender norms scale made use of 3 items assessing masculinity traits (BSRI; Bem, 1974), whereas the masculinity construct assessed the broad concept of masculinity with a single item. Upon our analysis of masculinity, we found that there was a significant main effect of condition. However, none of the effects were significant when testing for traditional male gender norms. This difference in significant between the two constructs unveils some interesting implications, such as the social perception of masculinity. This could be explained by the that people do not associate the concept of masculinity with the three items originating from the Bem Sex Role Inventory (BSRI; Bem, 1974). This opens a more general discussion about the perception of masculinity as a whole and the perceptions of masculinity traits.

Furthermore, some limitations are brought on by the study design and context. Firstly, participants had a one-time exposure to a video of someone grunting, whereas going to the gym gives us repeated exposure to grunters. This generates the aforementioned possibility that repeated exposure to grunting would create fewer negative perceptions of it, as a result of familiarization. This limitation goes hand-in-hand with the context effect, which evokes the fact that the grunting is only happening behind a screen. This opens the question of whether the effects would be stronger when grunting is heard in real life. A longitudinal field experiment can be employed to investigate



if the effects found in this study are not only replicated but also if they are actually stronger. An additional aspect to consider is the fact that the grunting target was virtually a stranger to the rating participants. It is interesting to consider if and how familiarity to the person could affect the results, for example by using a target known to the participant. Lastly, we previously alluded to a number of studies relating to the gym as a social space and that focus on the gender disparity in gyms. A male grunting target was used in our study. However, the gender of the grunting target could certainly alter the results. Johansson (1996) previously mentioned the feelings of disgust and outrage towards female bodybuilders, due to their embodiment of traditionally male activities and body ideals. This negative attitude could potentially translate to a female emitting such low and guttural sounds at the gym. Future research should widen those horizons and explore whether the results are indeed affected when the grunting target is female.

## **Conclusions**

To conclude, this study explored the effect of grunting on a number of social perceptions using an experimental design. We found that grunters are perceived as being less masculine, more socially dominant and less attractive. Additionally, we discovered that there are no major differences in how men and women perceive people who grunt in gyms, these perceptions are generally similar. This research has opened new avenues for more studies to further explore the effects of grunting, but also the discrepancy in how people want to be perceived and how they are actually perceived.

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## **Appendix A: Measurement Items**

### **Scale Item for Perceived Aggression**

1. To what extent do you think Jamie is aggressive?

### **Scale Items for Perceived Masculinity**

1. To what extent do you think Jamie is masculine?

### **Scale Items for Traditional Male Gender Norms (BSRI; Bem, 1974)**

1. To what extent do you think the man is assertive?
2. To what extent do you think the man is independent?
3. To what extent do you think the man is ambitious?

### **Scale Items for Perceived Social Dominance**

1. This person tends to assert their opinions and preferences in social settings
2. I think this person typically takes on a leadership role in social settings
3. This person maintains control and influence over others in social settings

### **Scale Items for Perceived Social Attractiveness (McCroskey & McCain, 1974)**

1. I would like to have a friendly chat with him
2. We could never establish a personal relationship with each other
3. He wouldn't fit into my circle of friends

### **Scale Items for Perceived Physical Attractiveness (McCroskey & McCain, 1974)**

1. I think the man is handsome
2. He is not very good-looking
3. I find him very attractive physically

### **Scale Items for Perceived Task Attractiveness (McCroskey & McCain, 1974)**

1. I have the feeling that he is a very good weightlifter

2. I have confidence in his ability to give me gym advice
3. If I worked out with him, I would accomplish a lot