

**Gym Time: The Effects of Grunting and Homosexuality on Athletes' Perceived
Masculinity**

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Abstract

Grunting at the gym is a novel interest of research including its contextual effects of conveyed masculinity on others. When it comes to manliness, the sexual minority of gay men is especially exposed to a negative premature judgment which might also translate to how they are perceived when expressing manly behaviors. Our study explored the effects of grunting and sexual orientation on this perception of masculinity directly and in terms of associated attributes, predicting grunting to increase conveyed masculinity and homosexuality to decrease conveyed masculinity. To assess the evaluation of manhood, we displayed a video of an exercising athlete and subsequently administered an online survey based on a 2x2 between-subjects design (grunting, homosexuality) with a final sample of 333 American participants. After conducting an ANOVA, the results showed a significant negative effect of grunting on perceived masculinity, in the opposite direction to the hypothesis. There appeared to be no significant effect of sexual orientation on perceived masculinity and no interaction between the two independent variables grunting and homosexuality. However, the hypotheses were indirectly supported, as the grunting target was evaluated as less warm and feminine, and the homosexual target appeared to be more warm and feminine. A possible underlying factor in the difference of evaluation might be assumed overcompensation and the contrast between self-perception and judgment by others. Implications for future research to increase generalizability were discussed.

Keywords: grunting, homosexuality, masculinity, perception, athletes

Gym Time: The Effect of Grunting and Homosexuality on Athletes' Perceived

Masculinity

"A woman simply is, but a man must become. Masculinity is risky and elusive. It is achieved by a revolt from woman, and is confirmed only by other men. Manhood coerced into sensitivity is no manhood at all." – Camille Paglia (1992, p.82)

In the current times, the concept of masculinity is being ever so prominently discussed. Feminist movements and the creation of new concepts such as "toxic masculinity" call for a re-evaluation of desired traits associated with this gender-based construct. Gay men are often subject to the societal pressure of adhering to the declared norms (Brewster et al., 2017) as non-conformity can result in suffering various negative mental health outcomes simultaneous to both openly stated and subconscious adverse attitudes towards them (e.g., Eslen-Ziya & Koc, 2016; Kimmel & Mahalik, 2005; McCreary et al., 2005; Simonsen et al., 2000). A primary spot for males to not just work on their physique, but also establish virility among others is the gym. When trying to direct this social process of manhood, grunting when exercising appears to be a prominent and auxiliary tool for athletes (Lev & Hertzog, 2021). Since, so far, only little empirical data have been collected on this subject, our experimental research is rather explorative investigating the relationship between grunting while exercising, sexual orientation, and perceived masculinity. In the following, I will introduce these topics in detail, providing also a summary of psychological and gender-related constructs and theories.

Grunting

Upon entering the gym, we find ourselves in a soundscape of upbeat music, talk and maybe laughter, as well as the sounds we associate with intense exercise: the heavy exhalations and moans, as well as the curious sound that we find within especially the male of the species: grunting. Now what makes grunting different from the aforementioned two is that

it is voluntary, and a result of the social context – at least, that is what Lev and Hertzog found in a recent study (2021).

According to their research, this social context of grunting entails the exertion of control, strength, and dominance towards others. Therefore, grunting during working out could be viewed as a "measurement of masculinity" (Lev & Hertzog, 2021), which is congruent with the findings of previous research that defines these qualities as traditional masculine standards (Mahalik et al., 2003). However, as Lev and Hertzog (2021) were able to observe in their study, grunting does not only present itself as a function to establish one's own male identity while expressing the difference from female identity, but it also promoted the fostering of brotherhood with other males in the fitness center (Lev & Hertzog, 2021). Overall, grunting appears to be an influential factor or granting privilege in the area of anticipated gender norms when it comes to exercising in a social setting.

Since only minor research has been conducted regarding grunting and its effect on others, our present study aimed to further investigate the effect of our independent variable grunting on our main dependent variable, namely perceived masculinity.

Homosexuality and Masculinity

When it comes to the adherence to gender norms, it seems like the gay population is subjected to the force of establishing masculinity even more profusely as the failure to do so results in exposure to specific, negative homosexuality-related judgments by others (Eslen-Ziya & Koc, 2016). Derived from this apparent norm-related pressure, our study explored whether the second independent variable homosexuality would indeed reduce perceived masculinity. At the same time, minority stress factors such as the expected stigma for being gay contribute to the urge to adjust and result in distress if unable to do so (Kimmel & Mahalik, 2005). This gender-based weight put on the shoulders of gay men was proven to strongly influence psychological processes linked to their self-perception (Kimmel &

Mahalik, 2005) such as body image (Kimmel & Mahalik, 2005) and self-objectification (Martins et al., 2007) demonstrated in the following sections. While extensive investigation of the connection between homosexual orientation and masculinity *within* the subgroup has already been conducted, our study aimed to shed more light on the perception by outgroup members regarding this connection, hence, assessing perceived masculinity.

Psychological and Gender-Related Constructs

In the following section, I will explain the choice of psychological and gender-related constructs and models to be considered with regard to the topic. They served as dependent variables in exploring the effect of grunting while exercising and sexual orientation on perceived masculinity.

Perceived Femininity

As prior research has shown, identifying as a gay man often comes along with the label of exhibiting femininity and related traits (e.g. primping or being delicate) (Ferrante, 1985). The phenomenon of defining an individual based on their sexuality alone often results in the expectation that other stereotypical characteristics will automatically be exhibited by the individual as well (Ferrante, 1985). Along the lines of the Stereotype Content Model (Cuddy et al., 2009) among other constructs, the present study examined whether the identification as a gay man will affect others' evaluation of possessing attributes directly associated with masculinity vs. femininity.

If one was to believe in the binary of gender, the presence of feminine traits would consequently diminish the presence of masculine ones (Spence et al., 1975). Logically derived, the exhibition of masculinity would therefore reduce manifestations of femininity. When it comes to grunting, women seem to be discouraged from performing the manliness-associated mechanism during exercising indeed (Lev & Hertzog, 2021), which demonstrates

its segregation from femininity. Therefore, we explored whether the presence of grunting will diminish the indication of athletes' femininity.

Stereotype Content Model

When it comes to social perception, according to the Stereotype Content Model (Cuddy et al., 2009), we base our primary evaluation of others on two dimensions: warmth and competence. The construct of warmth is associated with the degree of assumed friendliness, trustworthiness, being good-natured and sincere, and is linked to others' presumed intent during social interaction. High scores on the warmth-associated attributes are closely connected with femininity and often assigned to groups that are perceived to be subordinate (Cuddy et al., 2009). As a consequence of the previously mentioned connection between homosexuality and femininity (Ferrante, 1985), and the sexual minority's common societal subordination to the heterosexual population (Eslen-Ziya & Koc, 2016), our study investigated if sexual orientation enhances one's impression of being warm. While warmth relates to someone's alleged intent, the other dimension, competence, relates to the assumed capability of successfully realizing that intent. The impression of competence depends on someone's perceived degree of being, for example, intelligent, efficient, confident, and skillful. According to Cuddy et al. (2009), all these traits are closely associated with masculinity and high-status groups. As the exertion of power and control appears to be a common masculinity-based theme in both competence (Cuddy et al., 2009) and grunting (Lev & Hertzog, 2021), our research explored whether grunting elevates the perception of competence.

Self-Esteem, Body Image, and Life Satisfaction

In the context of manhood, men's conformity to desired masculine attributes (such as previously mentioned) has formerly been associated with high-self-esteem, as this conformity possibly contributes to both personal and social effectiveness (Spence et al., 1975). The

current study was aimed at investigating whether grunting as the expression of conformity with these gender standards has an impact on self-esteem presumed by others. A psychological concept closely related to self-esteem is body image, which relates to how one evaluates one's own body through associated thoughts and awareness (Schwartz et al., 2010). In modern times, the male body functions as a projection screen to the ideal of virility, dominance, and control (Murnen & Don, 2012). Complying with these ideals thus becomes a key factor in judging one's own physique (Gattario et al., 2015). Hence, we assessed whether grunting as an expression of masculine attributes influences the perceived degree of an athlete's wellbeing in terms of body image satisfaction and general life satisfaction. Furthermore, dissatisfaction regarding body image appears to be a more prominent phenomenon among gay than among heterosexual men (Duncan, 2007). Possible reasons for this divergence are far-reaching, ranging from sexual minorities' urge to assimilate with the dominant culture (Gattario et al., 2015), directing the norms of our heteronormative society towards oneself (see e.g. Brewster et al., 2017; Kimmel & Mahalik, 2005) to the dominant focus on appearance and internalized beauty standards within the male homosexual community (see e.g. Brewster et al., 2017, Drummond, 2002). Our research examined whether heterosexual individuals correspondingly perceive gay men to be more vulnerable to body image dissatisfaction and general life dissatisfaction based on being part of a sexual minority.

Self-Objectification

Another concept similarly based on the integral part that appearance plays when evaluating oneself is self-objectification. Self-objectification refers to the process of making one's own value dependent on external factors determined by society (Schwartz et al., 2010). As it is heteronormative and patriarchal standards that determine what and who the ideal man ought to be (Eslen-Ziya & Koc, 2016), it is reasonable to expect these standards to be what

this self-objectification is measured against. Hence, we explored whether the perceived self-objectification of athletes by others will be decreased by grunting as an expression of adherence to these heteronormative norms. Self-objectification is closely and positively related to body image dissatisfaction and a phenomenon more common in the homosexual than in the heterosexual population (Martins et al., 2007). One possible reason for the comparably higher prevalence in the gay community might be the previously mentioned extreme emphasis that is placed on looks (Drummond, 2002). Additionally, according to the femininity hypothesis (Lakkis et al., 1999), the expression of stereotypically feminine traits, commonly associated with being gay (Ferrante, 1985), might result in the tendency to seek approval from others. As this pursuit of outward confirmation reflects self-objectification's aspect of basing one's own value on external factors, and the previously mentioned exhibition of femininity is commonly associated with homosexuality (Ferrante, 1985), the present study aimed at investigating whether homosexual orientation increases the degree of how much athletes are assumed to objectify themselves.

The Interplay of Grunting and Homosexuality

As previous research has revealed, gay men seem to compensate by acting more masculine when questioned in their gender identity (Eslen-Ziya & Koc, 2016). Interpreting this finding regarding our independent variables grunting and sexual orientation, grunting while exercising might serve as an instrument to compensate for the internalized negative perceptions about one's homosexuality in regard to exhibiting masculinity. Hence, we examine whether the presence of grunting will increase a homosexual athlete's perceived masculinity.

Considering all the previously mentioned variables, the guiding question of this study is "Is the perception of an athlete's masculinity influenced by the presence of grunting and their sexual orientation?"

Predictions

Prediction 1. The presence of grunting at the gym will have a positive main effect on perceived masculinity including perceived competence, perceived life satisfaction, and perceived self-esteem regardless of an athlete's sexual orientation.

Prediction 2. Homosexuality will have a negative main effect on perceived masculinity including high perceived femininity, high perceived body dissatisfaction and high perceived self-objectification regardless of the presence of grunting at the gym.

Prediction 3. There will be an interaction effect between the presence of grunting at the gym and homosexuality, implying that a homosexual man who grunts at the gym will be perceived as more masculine than one who does not.

Method

Participants and Procedure

The initial sample size in the conducted study was 369, where a total of 16 participants dropped out of the study before completion and 12 participants were excluded due to failing the manipulation check. Furthermore, five participants who reported a sexual orientation other than heterosexual were removed from the sample to increase the homogeneity of the participant pool, and three outliers were removed, leaving us with a total sample size of $N = 333$. Of the 333 participants, 79 were male (23.72%), 253 (75.98%) were female and one person identified as non-binary (0.3%). The age range of participants was 18-79 years old ($M = 34.75$, $SD = 13.11$). A requirement for participants to take part in the study was that they would not identify as homosexual.

The survey was hosted on Qualtrics, the participants were recruited through the Prolific Academic, and the study was conducted in English. The recruitment text used to advertise the study, briefly mentioned the nature and content of the experiment, namely

watching a video of a man working out followed by a questionnaire measuring multiple variables. Participation was voluntary and there was monetary compensation of 1.50 euros for completing the study. The participants had to provide consent for processing their data, and information about participant identity was kept anonymous.

After having chosen to take part in the study, participants were required to read and fill out the informed consent prior to starting the experiment. Once the participants agreed to the requirements of the study and filled out the informed consent form, certain demographic data were collected. Participants were asked about their gender, age, sexual orientation, perceived socioeconomic status, education, and how often they go to the gym to exercise. Participants were able to choose not to answer these questions if they did not want to. Afterward, they were randomly allocated to one of the conditions, watched the video with audio, and responded to the dependent variables. Furthermore, the participants' prolific ID was needed to transfer the compensation amount following the completion of the experiment. The data was collected anonymously and will be securely stored for 10 years on Qualtrics.

After completing the questionnaire, participants were debriefed on the study. The debriefing made participants aware of the other possible conditions of the study. Furthermore, it described the aim of the study and the variables the study intended to measure, which has been purposefully vague in the informed consent. The benign deception resulting from the manipulation of the sexuality variable was also made clear to the participants. Finally, the reasons for conducting the study were briefly explained, as well as the expected effects. The overall duration of the study was approximately 10 minutes.

Design

The current study used a 2x2 between-subjects design. Therefore, two independent variables were manipulated, namely, sexual orientation (heterosexual vs homosexual) and grunting (grunting vs no grunting). The participants were randomly assigned to one of the four conditions, which are 1. grunting-heterosexual (HEG $n = 78$), 2. non-grunting-heterosexual (HEN $n = 88$), 3. grunting-homosexual (HOG $n = 78$), and 4. non-grunting-homosexual (HON $n = 89$).

Experimental Manipulation

Each participant was put into one of four conditions. The sexuality variable was manipulated through means of a text appearing on the screen before the video, stating that the athlete in the video is being filmed by his romantic partner, a female name in the heterosexual condition, and a male name in the homosexual condition. The participant would then watch a video of the man performing several exercises. These exercises were a leg press, deadlift, overhead barbell, and bench press. The grunting variable was manipulated by having the subject in the video grunt during his workouts through a voice-over or remain silent. There were two video versions of each exercise, where the subject would either grunt or remain silent, meaning there was no difference in video material in the different sexuality conditions. The subject was the same in every condition

Measures

Variables pertaining to three different clusters were investigated, namely the psychological cluster, the physical cluster, and the gender cluster. 7-point Likert scales were used for all variables except objectification.

Psychological Cluster

The psychological cluster focused on investigating perceptions of warmth and competence from the stereotype content model, self-esteem, gender roles, and body and life satisfaction of the video subject (Cuddy, et al. 2009).

A Likert scale ranging from 1 (Not at all) to 7 (Entirely) was used to assess people's perception of the athlete's warmth and competence. Four items were used to measure warmth (friendly, warm, sincere, good-natured) and four items were used to measure competence (capable, competent, confident, and skillful). Composite scales for warmth and competence were created due to their respective high internal consistency (respectively $\alpha = 0.89$ and $\alpha = 0.89$).

Self-esteem ("He has high self-esteem."), perceived body image satisfaction ("He is satisfied with the appearance, size, and shape of his body.") and life satisfaction ("In general, he is satisfied with his life.") were assessed using Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree). With $\alpha = 0.82$, the internal consistency of the three items was sufficient to combine them into the scale "wellbeing".

Gender Cluster

Masculinity, femininity, and objectification were measured in the gender cluster. Both dependent variables Masculinity and Femininity were measured using singular 7-point Likert scale questions directly asking participants to rate the subject on masculinity or femininity. Separate dependent variables masculine attributes and feminine attributes were created which assessed attitudes that relate to masculinity and femininity perceptions based on the BEM sex-role inventory (Reese et al., 2013). The survey included five questions for masculine attributes, measuring traits such as assertiveness and dominance, and four questions for feminine attributes, including measures of sympathy and understanding, all of which used a

Likert scale ranging from 1 (Not at all) to 7 (Entirely). Composite scales of “masculine attributes” and “feminine attributes” were created combining their respective questions, with internal reliability scores of $\alpha = 0.77$ for masculine attribute items and $\alpha = 0.86$ for feminine attribute items. Instead of assessing the main dependent variable perceived masculinity through one scale, two scales measuring a. *directly* perceived masculinity (Masculine) and b. *associated traits* (Mascatt) were created. This might highlight a potential difference in individual definitions of masculinity and could aid in providing a still generalizable assessment in terms of the dependent variable.

To assess objectification of the athlete, a self-objectification scale by Frederickson (1997) was used, where participants had to rank ten features, from most important (1) to least important (10), based on how much they thought the athlete would value them. These features included physical coordination, health, strength, weight, sex appeal, physical attractiveness, stamina, sculpted muscles, physical fitness level, and measurements.

Manipulation and Attention Checks

Manipulation checks were conducted to test whether the manipulation of each of the independent variables was perceived by the participants. Regarding the sexuality independent variable, at the start of the survey participants had to answer who had shot the video of the subject, which had been stated in the descriptive text the participants received prior to watching the video. If the given answer did not fit the assigned condition, their data got excluded from the statistical analysis ($N = 12$).

For the independent variable of grunting, an audio check was performed at the start of the video to ensure that participants had adequate sound quality. This was done by playing an audio recording of someone listing a four-digit number, which the participant then had to fill in. Only when the participant filled out the correct four-digit number they would be able to

proceed with the rest of the experiment. This eliminated the possibility of having data of people who were not able to distinguish the grunting taking place in the video.

As an attention check, participants were asked the name of the athlete in the video after having viewed the video, which had been stated in the descriptive text. This was done as an additional precaution to observe whether participants were retaining the information provided before the video and subsequent survey.

Other project members have additionally analyzed variables concerning the physical cluster as well as promiscuity. However, I will not examine those in my thesis for the sake of a different focus of topics.

Results

We ran a 2x2 between-subjects factorial ANOVA testing for the effect of grunting and sexual orientation on perceived masculinity. All assumptions necessary for the two-way ANOVA were met, as independence was guaranteed by independent random sampling, homoscedasticity was assured by a non-significant Levene's test for all dependent variables, and normal distribution of each variable except Feminine (10) was proven through their associated kurtosis and skewness values lying between -1 and 1. The dependent variable Feminine (10) was therefore removed from the analysis.

Perceived Masculinity

In my analysis, I used two different measures of masculinity to test my hypothesis: directly perceived masculinity and masculinity attributes. Accordingly, we found a significant main effect of grunting on perceived masculinity; $F(3,329) = 6.18, p = .013, \eta p^2 = .018$. Contrary to our expectations, participants in the No Grunting condition scored higher on directly perceived masculinity ($M = 5.15, SD = 1.24$) as compared to those in the Grunting condition ($M = 4.79, SD = 1.34$) (See Table 1). Thus, in opposition to our hypothesis, the athlete that engaged in grunting was perceived as less masculine than the one who did not

(Prediction 1). There was no significant main effect of grunting on the perception of masculine attributes $F(3,329) = 0.52, p = .472, \eta p^2 = .002$. Sexual orientation neither had a significant main effect on directly perceived masculinity $F(3,329) = 0.97, p = .328, \eta p^2 = .003$ nor on the perception of masculine attributes $F(3,329) = 0.28, p = .598, \eta p^2 = .001$. These results are contradicting the influence of sexual orientation on the external evaluation of an athlete's masculinity (Prediction 2). In the study, there was no significant interaction between grunting and sexual orientation on directly perceived masculinity $F(3,329) = 0.42, p = .517, \eta p^2 = .001$ nor on the perception of masculine attributes $F(3,329) = 0.25, p = .615, \eta p^2 = .001$. In contrast to our hypothesis, the presence of grunting did not increase the homosexual athlete's perceived masculinity (Prediction 3).

Psychological and Gender-Related Constructs

Perceived Femininity

When it comes to perceived femininity, sexual orientation appeared to significantly affect the presumed possession of feminine traits in the athlete $F(3,329) = 11.17, p = .001, \eta p^2 = .033$. The athlete presented as gay was seen to retain more feminine qualities ($M = 3.63, SD = 1.03$) than the athlete presented as heterosexual ($M = 3.25, SD = 1.06$) (See table 2). The perception of feminine attributes was also significantly impacted by the presence of grunting $F(3,329) = 15.00, p < .001, \eta p^2 = .044$, as the grunting gymnast was assumed to hold less female characteristics ($M = 3.21, SD = 1.08$) than the non-grunting gymnast ($M = 3.65, SD = 1.01$) (See table 1).

Stereotype-Content Model

The impression of being warm was significantly influenced by sexual orientation $F(3,329) = 9.825, p = .002, \eta p^2 = .029$, since the allegedly homosexual athlete scored higher on warmth ($M = 4.07, SD = 1.04$) compared to the allegedly heterosexual one ($M = 3.73, SD = 1.06$). Participants reported the grunting target to appear as significantly less warm $F(3,329)$

= 13.380, $p < .001$, $\eta p^2 = .039$ ($M = 3.68$; $SD = 1.11$)) in contrast to the target who did not grunt ($M = 4.09$, $SD = .98$). Estimated competence was significantly affected by grunting $F(3,329) = 9.09$, $p = .003$, $\eta p^2 = .027$, as the athlete in the Grunting condition scored lower on competence ($M = 4.80$, $SD = 1.07$) than the athlete in the No Grunting condition ($M = 5.14$, $SD = 0.98$). Sexual orientation did not influence perceived competence. For further reference, please see Table 1 & 2.

Wellbeing & Self-Objectification

Estimated wellbeing in terms of satisfaction with life and self was neither significantly affected by grunting nor by sexual orientation. The presence of grunting significantly affected perceived self-objectification, $F(3,324) = 9.251$, $p = .003$, $\eta p^2 = .028$, meaning that grunting athletes were perceived to objectify themselves significantly less ($M = 2.49$, $SD = 13.63$) than non-grunting athletes ($M = 6.93$, $SD = 12.85$). We found a significant interaction effect between grunting and sexual orientation on perceived self-objectification $F(3,324) = 4.497$, $p = .035$, $\eta p^2 = .014$ leading to the perception that homosexual athletes who grunted were perceived to objectify themselves significantly less ($M = 4.62$, $SD = 13.76$) than homosexual athletes that did not grunt ($M = 5.98$, $SD = 13.91$) (See table 3).

Discussion

In this thesis, we explored the effects of grunting and homosexuality on perceived masculinity and other psychological variables using an experimental design.

Grunting and Perceived Masculinity

First, we hypothesized that the presence of grunting at the gym would have a positive effect on perceived masculinity regardless of the athlete's sexual orientation. Contrary to this hypothesis, the athlete in the grunting condition was evaluated as less masculine than the athlete that did not grunt while exercising. This discovery is in line with the finding of our

study, that the grunting athlete was simultaneously judged to be less competent, an attribute that was previously tied to masculinity (Cuddy et al., 2009).

The negative effect of grunting on directly perceived masculinity and competence was unpredicted and leaves room for speculation. A potential explanation for this finding is that the act of grunting might have appeared as a function of overcompensation to the participants. According to previous research (Willer et al., 2013), males engage in exaggerated masculine behaviors (overcompensation) when they experience insecurity in their gender role and try to display traits that they consider to lack. Perhaps, this apprehension was suspected by the evaluators and led to decreased perceived masculinity and the assumption that the target lacked the associated trait competence.

Simultaneously, the grunting athlete appeared less warm and less feminine. While these findings are conforming to our first hypothesis, they also support the presumption that grunting was perceived as a form of masculine overcompensation, as previous research showed that excessive masculine behaviors are mostly enacted by men high in trait masculinity (Fowler & Geers, 2017), hence, those who appear less feminine and warm. At the same time, the lack of warmth represents the aspect of anti-sociality commonly connected with overcompensation (Babl, 1979).

While grunting decreased directly perceived masculinity, it did not influence the variable masculine attributes that was also constructed to measure masculinity. This finding indicates that individual definitions of masculinity might indeed vary from traditionally associated characteristics. More research should be done to understand why such differences were found across these two scales.

Finally, grunting significantly decreased the extent to which the athlete was presumed to objectify himself. As indicated in previous research, grunting serves as an adjustment to societal demands (Lev & Hertzog, 2021), which also build the base for self-objectification.

Our finding of grunting reducing perceived self-objectification of the athlete supports that discovery, as it possibly served to conform to societal demands in our study as well.

Homosexuality and Perceived Masculinity

While sexual orientation did not affect the direct perception of masculinity (Prediction 2), the athlete presented as gay was indeed regarded as more feminine and warm, two attributes previously declared to be rather oppositional to traditional norms of manliness (see e.g. Cuddy et al., 2009; Spence et al., 1975). This discovery of our study confirms that, as mentioned earlier, identifying as a homosexual comes along with the label of exhibiting femininity and related traits indeed (Ferrante, 1985) and this finding replicates the previously well-established findings. At the same time, it is in line with the results of previous research that demonstrated homosexual men slightly deviating from gender norms to be automatically viewed as "less of a man" (Eslen-Ziya & Koc, 2016).

However, when the homosexual athlete engaged in grunting, he appeared to objectify himself significantly less than when not grunting. As previously stated, adherence to heteronormativity could serve as a guideline in males' self-evaluation and therefore, the perception of the athlete's self-objectification might have been significantly reduced due to grunting potentially serving as a form of expressing norm-conformity.

The Interaction of Grunting and Homosexuality

Eventually, the presence of grunting did not lead to the homosexual athlete appearing as more masculine (Prediction 3). As the opposite effect of grunting on perceived masculinity made an occurrence of a significant positive interaction effect impossible, while there additionally was no effect of sexual orientation on perceived masculinity, this finding is not surprising. Since homosexual orientation itself is often automatically viewed as inconsistent with traditional masculine gender norms (Ferrante, 1985), gay men's expression of exaggerated manly behaviors (such as grunting) might not as drastically influence the

perception of masculinity. Hence, when it comes down to overcompensation, this might explain why the negative effect of grunting did not apply to homosexual athletes in the same way.

Wellbeing and Self-Objectification

Concerning assumed wellbeing in terms of self-esteem and body image satisfaction, neither the presence of grunting nor sexual orientation had a significant influence on the image that the athlete conveyed. Additionally, it seems that self-esteem and body image satisfaction might not be as universally tied to self-objectification as formerly assumed, as they have not been comparably influenced by grunting and sexual orientation.

Self-Perception vs. Perception by Others

Subsequently, our study aimed at measuring the perception of others rather than a subject's self-perception. In the previous research, we mostly based our study on predominantly concerned self-evaluation, hence, our partially contrasting results indicate that there might be a meaningful difference between the impression of self and the perception by others.

Limitations & Future Directions

Missing the authentic gym environment might decrease the study's generalizability for various reasons. First, conducting the study in an online setting indicates that despite the implementation of an attention check, there is no guarantee that every participant has been equally attentive during watching the video nor during the subsequent evaluation of the athlete. To solve this issue in future research, it would be useful to conduct similar studies in an offline setting such as laboratories where participant behaviors can be directly observed during examination.

Second, the artificial staging might have displayed grunting in an unauthentic manner, while at the same time not fully providing the context and its societal demands at the gym in

which grunting naturally occurs. The displayed video only features one athlete, therefore, the focus on one target rather than multiple subjects might decrease the results' generalizability as well (lack of stimulus sampling). Exposure to only one examinee minimalizes the variety in the to-be-evaluated hypotheses-related performance (e.g., grunting) and increases the risk for bias towards external factors such as the target's appearance in terms of, for example, physique and looks. For future research, it is recommended to stage a more lifelike environment by including several actors. This might help establish a more authentic social context. Alternatively, if multiple targets will be examined rather than just being present, it could create more variety in performance and looks. Hence, when there is more variety in individual differences, the evaluation of similarities such as the display of grunting or sexual orientation might become more generalizable to a broader population.

Third, the sample of participants consisted solely of American individuals, thus it does not represent alternate cultures with possibly varying attitudes. To extend the findings to further populations, examinees should be sampled across various backgrounds.

Another limitation of our research is the relatively small effect sizes that were discovered. Despite the significance of these effects, they remain relatively minor. Future studies could improve this issue by either implementing stronger manipulations or possibly increasing the sample to an even bigger size.

Eventually, the present study is limited by the novelty of the exploration of the topic grunting. So far, only little data have been gathered on this subject which makes it more difficult to predict, measure, and interpret its effects. The findings of our study could contribute to the basis that further research regarding grunting could be built upon.

Future research could be directed at expanding the topic to female athletes as well. So far, grunting was mainly examined based on male exercisers as it appears to be prominently exhibited by those. It would be interesting to acquire new knowledge with regards to female

grunters. At the same time, it would make sense to establish a balanced ratio between male and female participants to gain insight through more various perspectives.

Conclusion

To answer the guiding research question: the perception of the athlete's masculinity was indeed influenced by the presence of grunting but not by homosexuality. Unexpectedly, engaging in grunting resulted in the athlete being evaluated as less manly. Future research should try to replicate these effects using stronger manipulations and overcoming the limitations. To conclude, if one gives personal weight to not being perceived as incompetent or less likable at the gym, they should avoid grunting while lifting their weights.

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Appendix**Table 1***Compared Means IV1 Grunting*

	Grunting		No Grunting	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Masculine	4.79	1.343	5.15	1.24
Warmth	3.68	1.11	4.09	0.98
Competence	4.80	1.07	5.14	0.98
Fematt	3.21	1.08	3.65	1.00
Selfobject	2.49	13.62	6.93	12.85

Note. $N = 333$ ($n_1 = 156$ for Grunting (46%) and $n_2 = 177$ for Non-Grunting (54%)).

Table 2*Compared Means IV2 Sexual Orientation*

	Homosexual		Heterosexual	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Warmth	4.07	1.04	3.72	1.06
Fematt	3.63	1.03	3.25	1.06

Note. $N = 333$ ($n_1 = 167$ for Males (50%) and $n_2 = 166$ for Females (50%)).

Table 3*Compared Means IV3 Grunting x Sexual Orientation on Self-Objectification*

	Grunting		No Grunting	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Homosexual	4.63	13.79	5.98	13.91
Heterosexual	0.35	13.21	7.86	11.72

Note. $N = 333$ ($n_1 = 78$ for Grunting Homosexuals (23%) and $n_2 = 89$ for Non-Grunting