

Hard Targets: Masculine Honor Beliefs and Motivations for Muscularity

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Individual differences in masculine honor beliefs are related to men’s aggressive responses to threats and insults. We predicted individual differences in masculine honor beliefs would be associated with greater drives to achieve muscularity as a way for men to become hard targets who repel threats. Across 3 studies we found higher levels of endorsement of masculine honor beliefs were associated with greater degrees of muscularity concerns (Studies 1 and 2) and greater beliefs that men lift weights to provide a means for defense against threats and to intimidate others (Study 2). Furthermore, we found levels of men’s endorsement of masculine honor beliefs are palpable, such that observers can reliably predict these levels after a brief social interaction (Study 3). Thus, the beliefs that men must protect themselves, their reputations, their families, and their property against threat and insult, with physical aggression if necessary, may compel men to make themselves hard targets who ward off those who would otherwise threaten, insult, or challenge them without having to fight.

Keywords: masculine honor, muscularity concerns, culture of honor, demonstrations of honor, drive for muscularity

“I can take that guy.” Boys and men size each other up all the time. Looking at each other, they evaluate physical size, physiques, clothing choices, body adornments, body comportments, and facial expressions to determine how they themselves would be likely to fare in a physical fight with the other guy. Fortunately, sizing each other up does not usually lead to physical confrontations. Perhaps part of the reason for this is that boys and men have already won or lost the fights in their imaginations based on the results of these evaluations of each other. And importantly, boys and men may decide that a potential opponent looks like a guy they should not mess with. This may suggest that a way for a man to avoid fighting is to portray himself to others as a hard target—someone who appears to be a formidable physical opponent.

Masculinity refers to a set of ideologies dictating the male gender role and behaviors that are appropriate for men (Cuthbert, 2015; Pleck, 1981; Thompson & Bennett, 2015). Previous research on masculinity has debated about whether masculinity should be categorized as a disposition versus as a cultural variant in which men gain their manhood according to norms set by the society in which they reside (e.g., Thompson & Bennett, 2015). Men learn at an early age that they may face social condemnation and punishment when they fail to conform to masculine norms, leading to strong adherence to these norms as a means of both preventing social condemnation as well as maintaining their own sense of masculinity (Berke & Zeichner, 2016; Pleck, 1981; Pleck, Sonenstein, & Ku, 1993; Rummell & Levant, 2014). Therefore, men may

become hypervigilant regarding displays of masculinity within their social environment, in which they are aware of not only their own adherence to masculine gender norms but also of other men’s adherence to these same norms. Indeed, what is considered appropriate for men may be regionally dependent, but a man’s endorsement of these ideologies is what categorizes his own level of masculinity beliefs (Berke & Zeichner, 2016; Cuthbert, 2015; Liu, Rochlen, & Mohr, 2005; Thompson & Bennett, 2015). In the American South (and other cultures of honor), these masculinity beliefs are not only rooted in traditional gender norms but also expectations regarding men’s use of aggression as a means of preemptive and retaliatory defense against threat from others.

Cultures of honor emphasize the responsibility that men have to achieve and maintain reputations that they are not to be disrespected or threatened. These cultures, and their consequent ideologies, are argued to originate from men in these cultures historically making their livelihoods by herding, a particularly vulnerable livelihood because of the potential for others to poach or otherwise threaten the men’s ability to provide for themselves and their families (e.g., Brown, 2016; Nisbett, 1993). In the regions that harbor such cultures (e.g., the American South, the Mediterranean), men are socialized to believe that they must defend themselves, their reputations, their families, and their property and that failing to protect these entities successfully may not only make these more vulnerable to future threat but may tarnish their honor resulting in their being perceived as lesser men (e.g., Cohen & Nisbett, 1994; Cohen & Nisbett, 1997; Cohen, Nisbett, Bowdle, & Schwarz, 1996; Cohen, Vandello, Puente, & Rantilla, 1999; Cohen, Vandello, & Rantilla, 1998; Figueredo, Tal, McNeil, & Guillen, 2004; Fischer, Manstead, & Rodriguez Mosquera, 1999; Hayes & Lee, 2005; Nisbett, 1993; Rodriguez Mosquera, Manstead, & Fischer, 2002a; Rodriguez Mosquera, Manstead, & Fischer, 2002b). Accordingly, men who have higher levels of masculine honor beliefs may seek to make themselves hard targets against such potential threat, thereby proactively lowering their

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vulnerability to insult, offense, and attack. The beliefs that underlie cultures of honor differ from traditional masculinity gender norms in that they emphasize not only that men should adhere to traditional gender norms but also that men should assert their masculinity through their proactive and reactive defenses against external threats (e.g., Cohen & Nisbett, 1994).

One way to advertise their lack of vulnerability and potential for retaliation to insult, offense, or attack may be to shape their bodies in ways that accentuate their potential for physical aggression, such as by becoming more muscular. Therefore, we offer three hypotheses. First, men's levels of masculine honor beliefs will be positively associated with their motivations about the pursuit of muscularity in general. Second, men's levels of masculine honor beliefs will be positively associated with their motivations about the pursuit of muscularity with the specific purpose to be seen as a hard target. Third, men will wear their masculine honor beliefs as a signal to others; accordingly, we predict that observers' ratings of men's masculine honor beliefs will be correlated with the men's own ratings of their masculine honor beliefs.

Beyond examining masculine honor in the context of honor cultures, research has examined masculine honor beliefs as an individual difference variable (Barnes, Brown, & Osterman, 2012; Rodriguez Mosquera, Manstead, & Fischer, 2002b; Saucier et al., 2016; Vandello, Cohen, Grandon, & Franiuk, 2009). Individual differences in adherence to masculine honor beliefs ideology extend beyond the regional boundaries of honor cultures. Various measures have been created to assess these individual differences, which have been shown to predict a number of outcomes. For example, higher levels of masculine honor beliefs are associated with more aggressive responses to a number of threats and provocations, including insults (O'Dea, Castro Bueno, & Saucier, 2017; Saucier et al., 2016; Saucier, Till, Miller, O'Dea, & Andres, 2015), romantic rejection (Stratmoen, Greer, Martens, & Saucier, 2017), and terrorist threats (Barnes et al., 2012). Furthermore, higher levels of masculine honor have been shown to be associated with more support for war and aggressive security measures (Saucier, McManus, Strain, & Sonnentag, in press), more support for agentic male Presidential candidates (Martens, Stratmoen, & Saucier, 2017), more negative attitudes toward both rape and women who have been raped (Saucier, Strain, Hockett, & McManus, 2015), more engagement in risk taking (Barnes, Brown, & Tamborski, 2012), higher levels of depression (Osterman & Brown, 2011), and more negative attitudes toward the use of mental health services (Brown, Imura, & Mayeux, 2014). Noteworthy among this research, higher levels of masculine honor have been shown to be associated with more negative emotional responses to honor threats (Rodriguez Mosquera et al., 2002b; Saucier et al., 2016) and with more reported engagement in physical fights as a result (Saucier et al., 2015). Because masculine honor ideology emphasizes that a man must be willing and able to defend himself, his reputation, his family, and his property against threat, the capacity for physical aggression is a necessity. A man may need to fight to defend his honor and be socially rewarded for his aggressive response, especially when he wins the fight (e.g., O'Dea, Castro Bueno, Chalman, & Saucier, 2017). But it is likely more adaptive that he win the fight before he has to actually fight by deterring potential threats rather than risking being harmed or defeated in a physical encounter. His demonstrated or potential capacity for physical aggression carries social capital.

Men who adhere to masculine honor ideology live in a potentially dangerous world. They understand that the potential for threat and insult is ubiquitous and that they, and other men, may exact physically aggressive responses to these threats and insults (e.g., Brown, 2016; Nisbett, 1993). These threats and insults bear the possibility of not only injuring the men, their families, or their property but they may also injure the precarious reputations of the men (Bosson, Vandello, Burnaford, Weaver, & Arzu Wasti, 2009; Brown, 2016; Nisbett, 1993; Saucier & McManus, 2014; Vandello, Bosson, Cohen, Burnaford, & Weaver, 2008). This means that there is value in engaging in behaviors that reduce the possibility for threat, insult, and physical aggression. Accordingly, cultures of honor often endorse politeness norms to ensure that individuals do not offend others, therefore avoiding instigating aggressive responses (e.g., Brown, 2016; Cohen et al., 1999). However, being polite could convey weakness or submission, suggesting that a man is afraid of physical conflict and possibly marking him as an easy target for threat or insult. It may be then that, along with being polite, a man may engage in other behaviors that demonstrate to others in a palpable way that he is not an easy target for threat or insult. One behavior that may serve this purpose is in the way a man carries his body. A man who adheres to masculine honor ideology may express that ideology more stridently when he holds his head high, sticks his chin out, and holds his back straight, because "people carry culture in their beliefs, values, and attitudes, but they carry it also in their physical body" (Ijzerman & Cohen, 2011, p. 456). Carrying his body in this way may remind the man and those around him about the importance of his masculine honor.

Furthermore, some research has examined how a man's facial features influence perceptions of him as aggressive and, specifically, his ability to win a fight. Research has shown that individuals' ratings of mixed martial arts fighters as aggressive after looking at pictures of their faces were correlated with the fighting success of the fighters, and various specific aspects of the fighters' faces (e.g., the size, shapes, and ratios of the eyes, nose, chin) were associated with their ratings (Trebicky, Havlíček, Roberts, Little, & Kleisner, 2013; Little, Trebicky, Havlíček, Roberts, & Kleisner, 2015). Similar findings emerged in studies of facial width-to-height ratios, with larger ratios relating to longer careers and more wins among fighters in the Ultimate Fighting Championship (Zilioli et al., 2015), and these ratios being important in how individuals rated the physical aggressiveness (Tøebický et al., 2015) and formidability (Zilioli et al., 2015) of men. Interestingly, behaviors performed with the face, such as smiling or, more importantly, not smiling, may convey information about one's hostile and aggressive intentions and physical dominance. Research has shown that fighters who smiled more intensely during weigh-ins won less and performed worse than did opponents who smiled less intensely. The researchers argued that the smiles by the less successful fighters may have inspired greater confidence in their opponents, thus contributing to the outcomes of the fights (Kraus & Chen, 2013).

Whereas a man may not be able to change the shape of his face, he may be (or believe he is) able to change the shape of his body. Consequently, another behavior that men may engage in to reduce the possibility for threat, insult, and physical aggression is the pursuit of muscularity. It is well established in the literature that the norms for attractiveness in men include their being muscular

(e.g., Furnham, Badmin, & Sneade, 2002; Leit, Gray, & Pope, 2001; Pope, Olivardia, Gruber, & Borowiecki, 1999; Salusso-Deonier, Markee, & Pedersen, 1993). Although the research on body image concerns in women focuses on perceptions of their weight and consequent desires to be smaller (e.g., Fredrickson & Roberts, 1997; Groesz, Levine, & Murnen, 2002; Hargreaves & Tiggeman, 2002; Ogden & Munday, 1996; Smith, 2000), the research on body image concerns in men focuses more on perceptions of their muscularity and consequent desires to be larger (e.g., Agliata & Tantleff-Dunn, 2004; Barlett, Vowels, & Saucier, 2008; Blouin & Goldfield, 1995; McCabe & Ricciardelli, 2003; Muris, Meesters, van de Blom, & Mayer, 2005). In particular, men's endorsement of masculine norms is associated with their greater drives toward muscularity (Frederick et al., 2007; Griffiths, Murray, & Touyz, 2015; Mahalik, Locke, Scott, Goffried, & Freitas, 2003; Smolak & Murnen, 2008).

Research has demonstrated the relationship between men's masculine norm conformity and their drive toward muscularity but has done little to explain the need for muscularity aside from a body image/gender role perspective. Instead, the past research focuses on men's muscularity being pursued with the objective to be physically attractive. Interestingly, though, we believe that muscularity may be pursued with the objective to be physically repellent in that a man's increased muscularity may be used to repel or deter potential threats and insults. Muscularity may be visually appealing, but it also potentially conveys ability—the ability to respond with physical aggression if threatened, insulted, or challenged (e.g., Archer & Benson, 2008; Fessler, Holbrook, & Gervais, 2014). We believe that men with higher levels of masculine honor beliefs will be aware of the social function that their muscularity may serve, and will pursue muscularity at greater levels, report more concerns about being muscular and report motivations to increase their muscularity with the intention of sending the message to others that they are not to be messed with.

Overview of Hypotheses and Current Studies

Across three studies, we examined the relationships between men's individual differences in masculine honor beliefs and their concerns about and presentation of their muscularity. We hypothesized that men's higher levels of masculine honor beliefs would be associated with their higher levels of reported concerns about their muscularity (Studies 1 and 2) and with their reports that the pursuit of muscularity is motivated by concerns about defending themselves and others (Study 2). Finally, we hypothesized that men's masculine honor beliefs would be palpable such that observers' ratings of the men's masculine honor beliefs based on a short observation of the men walking toward them would correlate with the men's own ratings of their masculine honor beliefs (Study 3). These studies extend the literature about how masculine honor is a palpable social phenomenon that men may intentionally cultivate and display.

Study 1

Participants

Participants ($N = 105$) consisted of male undergraduate students at a large Midwestern state university who participated in exchange for

partial fulfillment of the research participation requirement for their general psychology courses. The majority of the participants were White (78%) and in their first year of college (66%). The average age of the participants was 18.98 years ($SD = 1.32$).

Measures

Masculine honor beliefs. To assess their endorsement of masculine honor beliefs, participants completed the Masculine Honor Beliefs Scale (MHBS; Saucier et al., 2016). This measure consists of 35 statements (e.g., *It is very important for a man to act bravely*) to which participants report their agreement using scales from 1 (*not at all*) to 9 (*very much*). The MHBS assesses masculine honor beliefs comprehensively across seven components of masculine honor ideology (i.e., masculine courage, pride in manhood, socialization, virtue, protection, provocation/insult, and family/community bonds). Participants' scores on the items are averaged to produce an overall composite score that indicates their overall endorsement of masculine honor beliefs. Higher scores indicate greater levels of overall endorsement of masculine honor beliefs, $alpha = .95$.

Masculinity and femininity. To assess their adherence to masculine and feminine personality traits, participants completed the Masculinity and Femininity subscales of the Bem Sex Role Inventory (BSRI; Bem, 1974). Participants rated 20 characteristics from 1 (*never or almost never true of me*) to 9 (*always or almost always true of me*) on both the masculinity (e.g., *masculine, self-reliant*) and femininity (*feminine, compassionate*) subscales. Participants' scores on the items for each subscale are averaged to produce subscale scores that indicate their levels of adherence to masculine and feminine traits, respectively. Higher scores indicate greater levels of adherence to masculinity, $alpha = .85$, and femininity, $alpha = .85$, respectively.

Trait aggression. To assess their levels of trait aggression, participants completed the Aggression Questionnaire (Buss & Perry, 1992). This measure consists of 29 statements to which participants report how well each statement describes them using scales from 1 (*extremely uncharacteristic of me*) to 9 (*extremely characteristic of me*). Participants' scores on the items are averaged to produce an overall composite score that indicates their overall levels of trait aggression, and composite scores are also calculated for the subscales of physical aggression (e.g., *Given enough provocation, I may hit another person*), verbal aggression (e.g., *When people annoy me, I may tell them what I think of them*), anger (e.g., *I have trouble controlling my temper*), and hostility (e.g., *I sometimes feel that people are laughing at me behind my back*). Higher scores indicate greater levels of trait aggression; physical aggression, $alpha = .88$; verbal aggression, $alpha = .82$; anger, $alpha = .86$; hostility, $alpha = .89$; and overall aggression, $alpha = .94$.

Muscularity concerns. To assess their levels of muscularity concerns, participants completed the Swansea Muscularity Attitudes Questionnaire (SMAQ; Edwards & Launder, 2000). This measure is comprised of two subscales, each with 10 items, to assess participants' perceptions of positive attributes of muscularity (PAM; e.g., *I think that large muscles are a sign of masculinity*) and drive for muscularity (DFM; e.g., *I want to be more muscular than I am now*), respectively. Participants reported their agreement with each item using scales from 1 (*strongly disagree*) to 9

(*strongly agree*). Composite scores are calculated by averaging the responses for each subscale, respectively, PAM, $\alpha = .96$; and DFM, $\alpha = .96$.

Procedure

Participants signed up for a study examining social attitudes through the online research participation management system for their introductory psychology course. Participants provided informed consent and then completed the measures online in random orders. Their participation took less than 30 min, after which they read a debriefing statement and were awarded research participation credit.

Results and Discussion

We calculated the correlation coefficients for the relationships among the participants' scores on the MHBS; the masculinity and femininity subscales of the BSRI; the overall score as well the physical, verbal, anger, and hostility subscales of the Aggression Questionnaire; and the PAM and DFM subscales of the SMAQ. These are given in Table 1. Consistent with our hypotheses, participants' higher scores on the MHBS were associated with higher scores on the PAM and DFM subscales of the SMAQ, indicating that as their endorsement of masculine honor beliefs increased, so did their endorsement of muscularity concerns in the form of higher levels of endorsement for the positive attributes of muscularity as well as for their drive for muscularity.

Participants' scores on the masculinity subscale of the BSRI was also positively correlated with their endorsement of muscularity concerns. There also was some evidence of relationships between participants' levels of trait aggression (particularly their levels of hostility) with their endorsement of muscularity concerns. Furthermore, participants' scores on the MHBS were positively correlated with their scores on the masculinity subscale of the BSRI as well as with their scores on three of the four subscales of the Aggression Questionnaire. Accordingly, we conducted hierarchical regressions to predict scores on each of the subscales of the SMAQ. We entered the participants' scores on the masculinity and femininity subscales of the BSRI and their scores on the physical, verbal, anger, and hostility subscales of the Aggression Questionnaire into the first step of the regressions. We then entered their

scores on the MHBS into the second step of the regressions. These results are given in Table 2.

As we hypothesized, participants' scores on the MHBS were uniquely predictive of their muscularity concerns as assessed by each of the subscales of the SMAQ. That is, after controlling for their levels of masculinity, femininity, and trait aggression, participants' higher levels of endorsement of masculine honor beliefs were uniquely associated with their also having greater perceptions of the positive attributes of muscularity and more drive toward muscularity.

Overall, these results show that, consistent with our hypotheses, men's higher levels of masculine honor beliefs are associated with their having higher levels of muscularity concerns, and these relationships are not explained by higher levels of masculinity or trait aggression. In Study 2, we sought to replicate and extend these findings by examining the relationships between individual differences in men's masculine honor beliefs and their muscularity concerns as assessed by other measures. We also examined how individual differences in men's masculine honor beliefs were associated with their perceptions of various motivations for gaining muscularity (i.e., weightlifting). We hypothesized that, given masculine honor ideology's emphasis on the necessity that men may be willing and able to use physical aggression to defend against threats and insults, higher levels of men's masculine honor beliefs would be associated particularly with their higher ratings that weightlifting is inspired by motivations that would serve to demonstrate men's capacity for physical aggression.

Study 2

Participants

Participants ($N = 134$) consisted of male undergraduate students at a large Midwestern state university who participated in exchange for partial fulfillment of the research participation requirement for their general psychology courses. The majority of the participants were White (78%) and in their first year of college (63%). The average age of the participants was 19.32 years ($SD = 1.79$).

Table 1

Relationships Among Masculine Honor Beliefs, Masculinity, Femininity, Aggression, and Muscularity Concerns

Measure	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. MHBS overall	6.17	1.20	—									
2. BSRI masculinity	6.35	0.93	.58***	—								
3. BSRI femininity	5.71	0.87	.04	.32**	—							
4. AQ physical aggression	4.30	1.52	.53***	.30**	-.19 ⁺	—						
5. AQ verbal aggression	4.68	1.18	.32**	.33**	-.09	.55***	—					
6. AQ anger	3.60	1.46	.32**	.16	-.16	.52***	.52***	—				
7. AQ hostility	4.18	1.55	.08	-.07	-.04	.38***	.31**	.44***	—			
8. AQ overall aggression	4.16	1.13	.41***	.21 ⁺	-.16	.83***	.69***	.79***	.74***	—		
9. SMAQ PAM	5.53	1.64	.38***	.26**	.05	.16	.07	.31**	.17	.24*	—	
10. SMAQ DFM	6.07	1.70	.47***	.36***	.11	.14	.14	.19 ⁺	.05	.16	.85***	—

Note. MHBS = Masculine Honor Beliefs Scale; BSRI = Bem Sex Roles Inventory; AQ = Aggression Questionnaire; SMAQ = Swansea Muscularity Attitudes Questionnaire; PAM = positive attributes of muscularity; DFM = drive for muscularity.

⁺ $p < .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2
Incremental Prediction of Muscularity Concerns by Masculine Honor Beliefs beyond Masculinity, Femininity, and Aggression

Dependent measure	Step	R ²	Adjusted R ²	ΔR ²	Predictor	β
SMAQ PAM	Step 1	.19**	.13	.19**	BSRI masculinity	.31*
					BSRI femininity	-.00
					AQ physical aggression	-.03
					AQ verbal aggression	-.23 ⁺
					AQ anger	.33*
					AQ hostility	.13
SMAQ PAM	Step 2	.24**	.18	.05*	MHBS Overall	.32*
SMAQ DFM	Step 1	.17*	.11	.17*	BSRI masculinity	.39**
					BSRI femininity	.01
					AQ physical aggression	-.03
					AQ verbal aggression	-.06
					AQ anger	.16
					AQ hostility	.04
SMAQ DFM	Step 2	.28***	.22	.11***	MHBS overall	.45***

Note. MHBS = Masculine Honor Beliefs Scale; BSRI = Bem Sex Roles Inventory; AQ = Aggression Questionnaire; SMAQ = Swansea Muscularity Attitudes Questionnaire; PAM = positive attributes of muscularity; DFM = drive for muscularity.
⁺ *p* < .08. * *p* < .05. ** *p* < .01. *** *p* < .001.

Measures

Masculine honor beliefs. To assess individual differences in their endorsement of masculine honor beliefs ideology, participants completed the MHBS (Saucier et al., 2016) as they did in Study 1, *alpha* = .94.

Masculinity and femininity. To assess individual differences in their reported levels of masculinity and femininity, participants completed the Masculinity and Femininity subscales of the BSRI (Bem, 1974) as they did in Study 1, *alphas* = .83 and .85, respectively.

Muscularity concerns. To assess individual differences in their muscularity concerns, participants completed the Positive Attributes of Muscularity and Drive for Muscularity subscales of the SMAQ (Edwards & Launder, 2000) as they did in Study 1, *alphas* = .92 and .93, respectively. In Study 2, we also employed three additional measures of muscularity concerns. For each of these measures participants reported their agreement with the items on scales from 1 (*strongly disagree*) to 9 (*strongly agree*).

Participants completed the Drive for Muscularity Scale (McCreary, 2007, 2013; McCreary & Sasse, 2000), which consists of 15 items to which participants report their agreement about how muscular they want to be and the behaviors they engage in to increase their muscularity (e.g., *I lift weights to build up muscle*). We calculated an overall composite score by averaging the responses across the items (McCreary, Sasse, Saucier, & Dorsch, 2004), Drive for Muscularity Scale *alpha* = .89.

Participants completed the Muscle Appearance Satisfaction Scale (MASS; Mayville, Williamson, White, Netemeyer, & Drab, 2002), which consists of 19 items. These items assess cognitive, affective, and behavioral aspects of dissatisfaction with one’s muscularity (i.e., muscle dysmorphia). The scale is comprised of five subscales to assess participants’ reported levels of psychological dependence on the activity of weightlifting (e.g., *I often feel like I am addicted to working out with weights*), checking the appearance of one’s muscles (e.g., *I often find it difficult to resist checking the size of my muscles*), willingness to use substances to

increase muscle mass (e.g., *It is okay to use steroids to add muscle mass*), willingness to ignore injury and pain to increase muscle mass (e.g., *I often endure a lot of physical pain while I am lifting to get bigger*), and satisfaction with one’s muscularity (e.g., *I am satisfied with the size of my muscles*). We calculated composite scores by averaging the participants’ responses for the overall scale as well as for each of the subscales; MASS overall *alpha* = .90, dependence *alpha* = .86, checking *alpha* = .86, substance use *alpha* = .72, injury *alpha* = .76, and satisfaction *alpha* = .87.

Participants also completed the Muscle Dysmorphic Disorder Inventory (Hildebrandt, Langenbucher, & Schlundt, 2004). This scale is comprised of 13 items that assess cognitive, emotional, behavioral, and perceptual aspects of body image disturbance in the form of muscle dysmorphia (e.g., *I wish I could get bigger*). We calculated composite scores by averaging the participants’ responses across the 13 items, such that higher scores indicated more dissatisfaction with one’s physique, Muscle Dysmorphic Disorder Inventory *alpha* = .82.

Motivations for weightlifting. Participants rated how much they agreed that men lift weights for each of 33 different reasons using a scale from 1 (*strongly disagree*) to 9 (*strongly agree*). This list of 33 reasons was created from brainstorming sessions with male members of our undergraduate research laboratory and informal surveys of men resting between sets while lifting weights at the campus fitness facility. These motivations are listed in the Table 3. This list was not intended to be absolutely comprehensive in covering all possible motivations for why men lift weights but was intended to cover many of the diverse motivations for why men lift weights.

Procedure

Similar to the procedure we used in Study 1, participants signed up for a study examining social attitudes through the online research participation management system for their introductory psychology course. Participants provided informed consent and then completed the measures online in random orders. Their par-

Table 3
Men's Motivations for Weightlifting

Component	Motivations
1. Stress relief	Manage stress, release tension, reduce tension, prevent health problems
2. Prepare to defend	Defend their family, defend their significant other, defend themselves, be able to fight to defend themselves if need be, prevent others from picking on them, show others that they are not an easy target
3. Improve appearance	Look more attractive, improve appearance, develop muscles, compete with other men, feel good
4. Get stronger	Build up strength, have a healthy body, get stronger, maintain good health, increase endurance
5. Social recreation	Have fun being active with other people, spend time with friends, work toward goals, enjoy physical competition, face challenges
6. Control weight	Lose weight, stay slim, burn calories
7. Look younger	Look younger
8. Intimidation	Show others what real men look like, prevent others from cheating them, show women that they can protect them, look like a man

Note. All motivations were preceded by the stem, *Men Lift Weights to. . .*

icipation took less than 45 min, after which they read a debriefing statement and were awarded research participation credit.

Results and Discussion

Relationships Between Masculine Honor Beliefs and Muscularity Concerns

We calculated the correlation coefficients for the relationships among the participants' scores on the MHBS, the masculinity and femininity subscales of the BSRI, and the various measures of muscularity concerns. These are given in Table 4. Consistent with our hypotheses and with the results of Study 1, participants' higher scores on the MHBS were associated with higher scores on each of the measures of muscularity concerns, with the sole exception of the MASS satisfaction subscale. This overwhelming pattern of correlations indicates that as the male participants' endorsement of masculine honor beliefs increased, so did their endorsement of muscularity concerns.

As we found in Study 1, the participants' scores on the MHBS were correlated with the masculinity subscale scores on the BSRI, and their masculinity subscale scores on the BSRI were generally

positively correlated with their scores on the various measures of muscularity concerns. Accordingly, to test whether participants' MHBS scores predicted their muscularity concerns above and beyond their scores on the masculinity subscale of the BSRI, we conducted hierarchical regressions in which we entered participants' scores on the masculinity subscale of the BSRI in the first step of the regression and their scores on the MHBS in the second step of the regression. We conducted a separate regression for each of the measures of muscularity concerns with which MHBS was significantly correlated at the zero order. These results are presented in Table 5. Again, consistent with our hypotheses and the results of Study 1, participants' endorsement of masculine honor beliefs were uniquely predictive of their muscularity concerns above and beyond their adherence to masculinity; higher levels of masculine honor beliefs were associated with higher scores on the various measures of muscularity concerns.

Relationships Between Masculine Honor Beliefs and Motivations for Weightlifting

We entered participants' ratings of how much they agreed that men lift weights for the 33 different reasons we provided into a

Table 4
Relationships Among Masculine Honor Beliefs, Masculinity, Femininity, and Muscularity Concerns

Measure	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. MHBS overall	6.45	1.18	—												
2. BSRI masculinity	6.42	0.98	.39***	—											
3. BSRI femininity	5.88	0.97	.04	.17*	—										
4. SMAQ PAM	5.64	1.85	.44***	.14	.09	—									
5. SMAQ DFM	6.13	1.80	.37***	.22*	.03	.83***	—								
6. DMS	4.63	1.64	.36***	.12	.09	.75***	.81***	—							
7. MASS overall	3.52	1.44	.35***	.34***	.05	.52***	.57***	.63***	—						
8. MASS dependence	3.36	2.02	.30***	.33***	-.00	.53***	.59***	.61***	.92***	—					
9. MASS checking	2.78	1.86	.28**	.24**	.08	.49***	.51***	.62***	.81***	.68***	—				
10. MASS substance use	2.63	1.74	.27**	.06	-.03	.50***	.50***	.59***	.73***	.63***	.57***	—			
11. MASS injury	4.50	2.17	.33***	.31***	-.01	.42***	.52***	.55***	.77***	.66***	.52***	.43***	—		
12. MASS satisfaction	4.96	1.97	.06	.30***	.17 ⁺	-.18*	-.16 ⁺	-.18*	.35***	.24**	.08	-.04	.16 ⁺	—	
13. MDDI	3.49	1.38	.21*	-.04	.11	.57***	.58***	.64***	.36***	.40***	.41***	.42***	.34***	-.38***	—

Note. MHBS = Masculine Honor Beliefs Scale; BSRI = Bem Sex Roles Inventory; SMAQ = Swansea Muscularity Attitudes Questionnaire; PAM = positive attributes of muscularity; DFM = drive for muscularity; DMS = Drive for Muscularity Scale; MASS = Muscle Appearance Satisfaction Scale; MDDI = Muscle Dysmorphic Disorder Inventory.
⁺ $p < .08$. * $p < .05$. ** $p < .01$. *** $p < .001$.

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Table 5
Incremental Prediction of Muscularity Concerns by Masculine Honor Beliefs Beyond Masculinity

Dependent measure	Step	R ²	Adjusted R ²	ΔR ²	Predictor	β
SMAQ PAM	Step 1	.02	.01	.02	BSRI masculinity	.14
	Step 2	.20**	.18	.18***	MHBS overall	.46***
SMAQ DFM	Step 1	.05*	.04	.05*	BSRI masculinity	.22*
	Step 2	.15***	.13	.10***	MHBS overall	.34***
DMS	Step 1	.02	.01	.02	BSRI masculinity	.13
	Step 2	.13***	.11	.11***	MHBS overall	.36***
MASS overall	Step 1	.12*	.11	.12*	BSRI masculinity	.35*
	Step 2	.17***	.16	.05**	MHBS overall	.25**
MASS dependence	Step 1	.11***	.11	.11***	BSRI masculinity	.34***
	Step 2	.15***	.13	.03*	MHBS overall	.20*
MASS checking	Step 1	.06**	.05	.06**	BSRI masculinity	.24**
	Step 2	.10**	.09	.04*	MHBS overall	.22*
MASS substance use	Step 1	.00	-.00	.00	BSRI masculinity	.06
	Step 2	.08**	.06	.07**	MHBS overall	.29**
MASS injury	Step 1	.10***	.09	.10***	BSRI masculinity	.32***
	Step 2	.15***	.14	.05**	MHBS overall	.24**
MDDI	Step 1	.00	-.01	.00	BSRI masculinity	-.04
	Step 2	.06*	.04	.06**	MHBS overall	.26**

Note. MHBS = Masculine Honor Beliefs Scale; BSRI = Bem Sex Roles Inventory; SMAQ = Swansea Muscularity Attitudes Questionnaire; PAM = positive attributes of muscularity; DFM = drive for muscularity; DMS = Drive for Muscularity Scale; MASS = Muscle Appearance Satisfaction Scale; MDDI = Muscle Dysmorphic Disorder Inventory.

* $p < .05$. ** $p < .01$. *** $p < .001$.

principal components analysis. Because we expected the components that emerged to be correlated, we used an oblimin rotation. Eight components emerged with eigenvalues >1 that accounted for 73.51% of the variance. We inspected the loadings provided in the pattern matrix to identify the components. The first component consisted of four motivations and we labeled it *Stress Relief*. The second component consisted of six motivations and we labeled it *Prepare to Defend*. The third component consisted of five motivations and we labeled it *Improve Appearance*. The fourth component consisted of five motivations and we labeled it *Get Stronger*. The fifth component consisted of five motivations and we labeled it *Social Recreation*. The sixth component consisted of three motivations and we labeled it *Control Weight*. The seventh component consisted of one motivation and we labeled it *Look Younger*. The eighth component consisted of four motivations and we labeled it *Intimidation*. Each of the motivations comprising the eight components is listed in Table 3.

We averaged the participants' ratings for the various motivations to create composite scores for each of the components, with higher scores indicating higher ratings that men lift weights to achieve each of the eight motivations; Stress Relief $\alpha = .86$, Prepare to Defend $\alpha = .93$, Improve Appearance $\alpha = .74$, Get Stronger $\alpha = .83$, Social Recreation $\alpha = .80$, Control Weight $\alpha = .74$, Intimidation $\alpha = .80$. We then calculated correlation coefficients among participants' MHBS scores, their scores on the masculinity and femininity subscales of the BSRI, and their composite scores for each of the eight motivations for weightlifting. These correlations are presented in Table 6. Consistent with our hypotheses, male partici-

pants' higher levels of masculine honor beliefs were associated with higher ratings that men lift weights to (in decreasing order of the magnitude of the relationships): prepare to defend, intimidate, engage in social recreation, relieve stress, improve appearance, and get stronger. Most of these motivations are related to social expressions of, and/or functional application of, their strength. Note that the two highest correlations were with the motivations to lift weights to defend themselves or others against threats and to allow them to intimidate others. This supports our hypothesis that men's higher levels of masculine honor beliefs are linked to their building muscularity to deter potential insults and threats against their honor. Participants' masculine honor beliefs were not significantly correlated with their rating that men lift weights to look younger or control their weight. This is not surprising, given that these motivations are not social and focus on the aesthetics of the male body rather than its potential for physical prowess.

Participants' scores on the masculinity and femininity subscale scores on the BSRI were correlated with some of their ratings of the motivations for why men lift weights. Accordingly, to test whether participants' MHBS scores predicted their muscularity concerns above and beyond their scores on the masculinity and femininity subscales of the BSRI, we conducted hierarchical regressions in which we entered participants' scores on the masculinity and femininity subscales of the BSRI in the first step of the regression and their scores on the MHBS in the second step of the regression. We conducted a separate regression for each of the motivations for weightlifting with which MHBS was significantly correlated at the zero order. These results are presented in Table 7. These results

Table 6
Relationships Among Masculine Honor Beliefs, Masculinity, Femininity, and Men's Motivations for Weightlifting

Measure	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11
1. MHBS overall	6.46	1.18	—										
2. BSRI masculinity	6.42	0.98	.39***	—									
3. BSRI femininity	5.88	0.97	.04	.17*	—								
4. Stress relief	7.03	1.49	.24**	.21*	.24**	—							
5. Prepare to defend	6.93	1.60	.44***	.03	.02	.23**	—						
6. Improve appearance	8.03	0.80	.25**	.18*	.10	.38***	.45***	—					
7. Get stronger	7.77	0.94	.24**	.04	.21*	.52***	.30***	.54***	—				
8. Social recreation	6.70	1.38	.31***	.20*	.30***	.54***	.34***	.48***	.58***	—			
9. Control weight	6.64	1.69	.07	-.02	.22*	.55***	.21*	.31***	.48***	.44***	—		
10. Look younger	6.76	1.96	.14	.02	.07	.20*	.24**	.32***	.29***	.32***	.28**	—	
11. Intimidation	6.76	1.55	.39**	.16	.14	.18*	.67***	.47***	.15 ⁺	.27**	.15	.25**	—

Note. MHBS = Masculine Honor Beliefs Scale; BSRI = Bem Sex Roles Inventory.
⁺ *p* < .08. * *p* < .05. ** *p* < .01. *** *p* < .001.

showed that participants' endorsement of masculine honor beliefs were uniquely predictive of their ratings of motivations for why men lift weights above and beyond their adherence to masculinity and femininity, with higher levels of masculine honor beliefs being associated with higher ratings of these motivations.

In Studies 1 and 2, we established that individual differences in men's endorsement of masculine honor beliefs are associated with their muscularity concerns. Higher levels of masculine honor beliefs are associated with greater motivations that men be muscular and, in particular, that men be muscular to be able to defend themselves against threats and insults and to be able to intimidate others. This suggests that the capacity for physical aggression emphasized by masculine honor ideology may be driving men to build their muscles to convey to other men that they are not to be messed with, in essence winning fights without having to fight. In Study 3, we assessed

whether men's masculine honor beliefs are palpable to social observers. We had pairs of observers rate their perceptions of men's levels of endorsement of masculine honor beliefs after watching them walk a short distance. We hypothesized that the observers' ratings would be correlated with the men's own ratings of their masculine honor beliefs, demonstrating that masculine honor beliefs are indeed palpable to social observers.

Study 3

Participants

Participants (*N* = 129) consisted of male undergraduate students at a large Midwestern state university who participated in exchange for partial fulfillment of the research participation require-

Table 7
Incremental Prediction of Men's Motivations for Weightlifting by Masculine Honor Beliefs Beyond Masculinity

Dependent measure	Step	<i>R</i> ²	Adjusted <i>R</i> ²	Δ <i>R</i> ²	Predictor	β
Stress relief	Step 1	.09**	.07	.09**	BSRI masculinity	.18*
	Step 2	.12**	.10	.03*	BSRI femininity MHBS overall	.21* .20
Prepare to defend	Step 1	.00	-.01	.00	BSRI masculinity	.03
	Step 2	.22***	.20	.22***	BSRI femininity MHBS overall	.02 .51***
Improve appearance	Step 1	.04	.02	.04	BSRI masculinity	.17 ⁺
	Step 2	.08*	.05	.04*	BSRI femininity MHBS overall	.07 .22*
Get stronger	Step 1	.04 ⁺	.02	.04 ⁺	BSRI masculinity	.01
	Step 2	.10**	.08	.06**	BSRI femininity MHBS overall	.20* .27**
Social recreation	Step 1	.12***	.10	.12***	BSRI masculinity	.16 ⁺
	Step 2	.19***	.17	.07**	BSRI femininity MHBS overall	.28** .29**
Intimidation	Step 1	.04 ⁺	.03	.04 ⁺	BSRI masculinity	.14
	Step 2	.17***	.15	.13***	BSRI femininity MHBS overall	.12 .39***

Note. MHBS = Masculine Honor Beliefs Scale; BSRI = Bem Sex Roles Inventory.
⁺ *p* < .08. * *p* < .05. ** *p* < .01. *** *p* < .001.

ment for their general psychology courses. The majority of the participants were White (77%) and in their first year of college (61%). The average age of the participants was 20.15 years ($SD = 2.58$).

Measures

Masculine honor beliefs. To assess individual differences in their endorsement of masculine honor beliefs ideology, participants completed the MHBS (Saucier et al., 2016) as they did in Studies 1 and 2, $\alpha = .83$.

Procedure

Similar to the procedures we used in Studies 1 and 2, participants signed up for a study examining social attitudes through the online research participation management system for their introductory psychology course. However, in Study 3, participants reported to scheduled research sessions in which they provided informed consent and then completed questionnaire packets that included the MHBS. While the participants completed the questionnaires, the researchers quietly assigned each participant a number to identify him for their own reference. Completion of the questionnaires took less than 45 min, after which each participant brought his questionnaire to a pair of researchers (either two men or two women) seated at the front of the room. When the participant stood up, the researchers unobtrusively watched him walk approximately 10–20 feet (depending on where he was sitting) from his seat in the research room to their table. The researchers collected his questionnaire and provided the participant with a debriefing statement. Other than thanking him for his participation, they did not engage the participant in conversation. Immediately after the participant left the research room, the researchers (who were unaware of the participant's score on the MHBS) independently rated how they believed the participant would score on the MHBS from 1 (*extremely low*) to 9 (*extremely high*) and noted any physical attributes or behaviors that they observed the participant display that influenced their ratings. Each of the researchers conducting the ratings had previously read the Saucier et al. (2016) article in which the MHBS was published and had discussed the central themes of masculine honor (e.g., that masculine honor is related to the belief that it is sometimes necessary for a man to aggressively defend himself, his reputation, his family, and his property) in research group meetings. After the sessions concluded, the researchers turned their ratings, with the identification numbers, in to a third researcher who paired the ratings using the identification numbers the researchers had created during the sessions. All participants were awarded research participation credit after the conclusion of their research sessions.

Results and Discussion

The researchers were reliable in making their independent ratings of their perceptions of how they thought the male participants' would score on the MHBS, $r = .60$, $p < .001$, *Spearman-Brown effective reliability* $R = .75$. Pairs of male researchers rated 57 of the male participants and pairs of female researchers rated 72 of the male participants. Pairs of female researchers were slightly more reliable, $r = .66$, $p < .001$, *Spearman-Brown effective reliability* $R = .80$, than were pairs of male researchers, $r = .50$, $p < .001$, *Spearman-Brown effective reliability* $R = .66$, in making

these ratings, but the difference between their correlations was not significant, $z = 1.34$, $p = .180$. Because of the reliability of these ratings, we averaged the ratings for each pair to produce one predicted value for the MHBS score for each male participant.

The correlation between the ratings made by the pairs of researchers regarding their predicted scores for the male participants on the MHBS and the male participants' actual scores on the MHBS was highly significant and moderate in magnitude, $r = .36$, $p < .001$. The correlation between the predicted scores and the actual scores for the male participants on the MHBS was slightly higher for pairs of male researchers, $r = .38$, $p = .004$, than for pairs of female researchers, $r = .34$, $p = .003$, but the difference between these correlations was not significant, $z = 0.24$, $p = .810$. Overall, these results indicate that both male and female independent raters were able to perceive some degree of the male participants' endorsement of masculine honor beliefs in a very short observation, suggesting that masculine honor beliefs are socially palpable in even brief interactions.

We conducted a 2 (male vs. female researcher pairs) \times 2 (predicted vs. actual MHBS scores) mixed factorial analysis of variance to assess differences in the MHBS scores and found no main effect for male versus female researcher pairs, $F(1, 125) = 2.21$, $p = .140$, *partial eta squared* = .017, and no interaction between male versus female researcher pairs and predicted versus actual MHBS scores, $F(1, 125) = 0.14$, $p = .907$, *partial eta squared* < .001. We did find a significant main effect for predicted versus actual MHBS scores, $F(1, 125) = 68.99$, $p < .001$, *partial eta squared* = .356, that resulted from our researcher pairs predicting scores on the MHBS for the male participants, $M = 4.90$, $SD = 1.49$, that were significantly lower than the actual scores the male participants reported for themselves on the MHBS, $M = 6.12$, $SD = 1.41$. There are several possible explanations for why our researchers rated the men's endorsement of masculine honor beliefs lower than the men rated their own endorsement of masculine honor beliefs. It may have been that our researchers set stricter thresholds for their ratings and that assigning higher ratings required more demonstrative physical presentations of masculine honor than our restrictive research setting allowed. It may have been that this actor-observer asymmetry (e.g., Malle, Knobe, & Nelson, 2007) was due to the male participants' privileged access (e.g., Gertler, 2003) to their broader knowledge of past behaviors and beliefs allowed them to make a more accurate report of their masculine honor beliefs, or it may have been that our male participants perceived masculine honor beliefs as desirable aspects that they wanted to apply to themselves and did so either as a result of self-serving biases (e.g., Forsyth, 2008; Miller & Ross, 1975; Rotter, 1966; Weiner, 1985) or self-presentational concerns (e.g., Baumeister, 1982; Crowne & Marlowe, 1964; Paulhus, 1984). However, although we do not know why the men's ratings for themselves were higher than the ratings predicted for them by our observers, our results do demonstrate that observers can reliably detect male participants' levels of masculine honor beliefs. These results provide compelling evidence for our hypotheses that masculine honor is something that men can effectively portray to others physically in even brief social interactions.

General Discussion

Masculine honor ideology dictates that men defend themselves, their reputations, their families, and their property against threats and insults (e.g., Brown, 2016; Nisbett, 1993; Saucier & McManus, 2014). They are expected to be willing and able to engage in physical aggression to do so when necessary (e.g., O'Dea et al., 2017; Saucier et al., 2016; Saucier et al., 2015). Being perceived as weak or submissive could make men, and those they protect, vulnerable. Consequently, men may be motivated to showcase themselves as hard targets, as men who appear able to successfully defeat those who would choose to threaten, insult, or challenge them. We conducted three studies that supported our hypotheses that higher levels of masculine honor beliefs would be associated with men's higher levels of muscularity concerns (Studies 1 and 2), higher ratings that men lift weights for the purposes of defending against threats and intimidating other men (Study 2), and higher ratings of their masculine honor beliefs as predicted by observers after brief social interactions (Study 3). Our findings provide compelling evidence that masculine honor beliefs are associated with strategic motivations to achieve muscularity at least partially for the purpose of deterring threats and intimidating potential challengers.

Our research extends the literature on masculine honor beliefs in several important ways. First, this is the first research to our knowledge that has investigated how muscularity concerns, long a topic of research linked to male pursuits of attractive ideals (e.g., Furnham et al., 2002; Leit, Gray, & Pope, 2001; Pope et al., 1999; Salusso-Deonier et al., 1993), relate to individual differences in masculine honor beliefs. Second, our research shows the relationships between individual differences in masculine honor beliefs and the perceptions that muscularity may be pursued with the expressed purpose of increasing men's capacity for physical aggression, defense, and intimidation—in essence to gain social capital that holds tremendous value among those adhering to masculine honor ideology. Finally, our research shows that men wear their masculine honor beliefs on their bodies such that these beliefs are palpable to observers. This suggests that their bodies become physically repellent signals to those who may otherwise threaten, insult, or challenge them.

This research is not without limitations. Our participants were male undergraduate students at a large Midwestern state university. Whereas samples like these have been used in much of the research examining individual differences in masculine honor beliefs (e.g., Barnes et al., 2012; Rodriguez Mosquera et al., 2002b; Saucier et al., 2016; Vandello et al., 2009), the generalizability of our results may be consequently limited. However, we believe that male undergraduate students are an interesting population from which to sample. As emerging adults, these may be the individuals most concerned with establishing their reputations. They may comprise a group that is most concerned with, and has the most opportunity (in terms of time and facilities), to attempt to increase their muscularity. Furthermore, given the propensity for violence and aggression by young male adults (e.g., Shulman, Steinberg, & Piquero, 2013; Wilson & Daly, 1985), we believe this population provides for interesting tests of our hypotheses. Beyond the limitations associated with our sample, our focus on attitudinal, rather than strictly behavioral, measures may be viewed as a limitation. But our focus here was intentional. We were interested in how men's masculine honor beliefs were associated with their percep-

tions and motivations to be muscular. Furthermore, our examination of how observers rated men's masculine honor beliefs began to investigate how these beliefs relate to their social behavior and particularly to their presentations of themselves to others.

Future research should examine the implications of both the drive for muscularity and the achievement of muscularity for men with greater levels of endorsement of masculine honor ideology. It may be that the achievement of muscularity is associated with greater tendencies toward polite and civil behavior because the muscularity provides more overt demonstrations of men's masculine honor endorsement, requiring less effort to demonstrate their masculine honor endorsement in other, more abrasive ways, or it may be that the achievement of muscularity is associated with greater tendencies toward aggressive behavior because the muscularity provides more physical capacity for aggressive behavior. It would also be interesting to examine how dissatisfaction with men's own muscularity is related to their individual differences in masculine honor beliefs, particularly as the men age and their opportunity and ability to achieve muscularity wanes. Perhaps the bodily demonstrations of masculine honor endorsement via the muscularity of their youth carry over into later adulthood, or perhaps the reliance of bodily demonstrations of masculine honor endorsement makes masculine honor an even more precarious quest. It would also be interesting to examine how these relationships manifest in men particularly reliant on their muscularity as social capital, such as bodybuilders and professional fighters.

In conclusion, our research has demonstrated compelling evidence that individual differences in endorsement of masculine honor beliefs are associated with men's muscularity concerns. Across three studies we have shown that higher levels of endorsement of masculine honor beliefs are associated with greater degrees of muscularity concerns (Studies 1 and 2) and greater beliefs that men lift weights for many reasons but particularly to provide a means for defense against threats and insults and to intimidate others (Study 2). Furthermore, we showed that levels of men's endorsement of masculine honor beliefs are palpable, such that observers can reliably predict these levels after even a brief social interaction (Study 3). Thus, the beliefs that men must protect themselves, their reputations, their families, and their property against threat and insult, with physical aggression if necessary, appear to compel men to make themselves hard targets. By doing so, men may ward off those who would otherwise threaten, insult, or challenge them, in essence winning fights without having to fight.

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