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The Effects of Sexuality and Gender Norm Conformation on the Male Drive for Thinness and Drive for Muscularity

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THE EFFECTS OF SEXUALITY AND GENDER NORM CONFORMATION
ON THE MALE DRIVE FOR THINNESS AND DRIVE FOR MUSCULARITY

A Capstone Project Presented in Partial Fulfillment
of the Requirements for the Degree Bachelor of Science
with Honors College Graduate Distinction at
Western Kentucky University

By
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May 2017

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This work is dedicated to my parents, Paul and Melissa Krueger, for instilling in me a sense of curiosity, love of learning, and desire to make a positive impact on the lives of those around me; and to Marshall Metcalf, whose strength, bravery, and perseverance inspires me daily.

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Abstract

Recent research has implied that male body dissatisfaction is more prevalent than previously thought and manifests as a drive for thinness and/or a drive for muscularity. Previous efforts to elucidate the factors behind these drives have explored the concepts of gender norm conformation (masculinity/femininity) and sexuality, but not the interplay of the two. This study explores the effects of sexuality on the drive for thinness and drive for muscularity with conformation to feminine and masculine gender norms as a mediator. Participants completed a written questionnaire including the Self Assessment of Sexual Orientation, the Conformation to Masculine Norms Inventory - 46, the Conformation to Feminine Norms Inventory - 45, the Drive for Thinness sub-scale of the Eating Disorder Inventory (modified), and the Drive for Muscularity Scale. It was hypothesized that masculinity and heterosexuality would confer a drive for muscularity; femininity and homosexuality would confer a drive for thinness; and gender norm conformation would mediate the effects of sexuality on these drives. The results showed a positive correlation between femininity and the drive for thinness; a positive correlation between masculinity and both the drive for muscularity and drive for thinness; and that masculinity mediates the effect of heterosexuality on the drive for muscularity.

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Introduction

Historically, research on body image dissatisfaction has focused on the female experience (Murray & Touyz, 2012). Recent studies, however, have found that male body dissatisfaction is nearly equal to that of females (Grieve, 2007; McCreary & Sasse, 2000). In fact, estimates suggest that up to 95% of college-age American men experience some level of body dissatisfaction (Mishkind, Rodin, Silberstein, & Striegel-Moore, 1986). Many men express a preference for a muscular physique, resulting in a drive for muscularity (Pope, Phillips, & Olivardia, 2000). The drive for muscularity is characterized by a desire to increase muscle mass, independent of body fat percentage. Additional research has also shown that some men express a preference for reduced body mass and a desire for weight loss, resulting in a drive for thinness (Olivardia, Pope, Borowieckie, & Cohane, 2004). The drive for thinness is characterized by the desire to lose weight and fear of weight gain. When these drives are experienced in extreme forms, they may present in various pathological expressions. The male drive for muscularity underlies the development of Muscle Dysmorphia (Grieve, 2007) and the male drive for thinness underlies the development of Anorexia Nervosa (Waller et al., 2007). These are thought to represent opposing pathological extremes on the spectrum of male body image psychopathology (Murray, Rieger, Touyz, & de la Garza Garcia, 2010).

Previous research efforts have investigated the influence of both sexuality and gender norm conformation on the male drive for muscularity and drive for thinness. In terms of sexuality, homosexual males are overrepresented in clinical settings for eating disorders (Anderson, 1990). These clinical settings typically focus on disorders such as Anorexia Nervosa and Bulimia Nervosa, suggesting an increased drive for thinness in homosexual males. Further research has supported the hypothesis that homosexual men are more likely to exhibit an

increased drive for thinness compared to their heterosexual counterparts (Carper, Negy, & Tantleff, 2010; Strong, Williamson, Netemeyer, & Greer, 2001; Williamson & Hartley, 1998; Yean et al., 2013). However, some studies have shown that homosexual men display a strong drive for both thinness and muscularity (Kaminski, Chapman, Haynes, & Own, 2005; Yean et al., 2013; Yelland & Tiggemann, 2003). Some have even suggested that homosexual men show a stronger drive for muscularity than heterosexual men (Tiggemann, Martins, & Kirkbride, 2007). These studies suggest two things: the drive for thinness and drive for muscularity are not mutually exclusive, and sexuality may be one of several factors influencing these drives.

Some research suggests that conformation to gender norms (masculinity/femininity) accounts for more variance in body image concerns than sexual orientation in men (Lakkis, Ricciardelli, & Williams 1999). Gender norms are described as a set of attitudes, behaviors, and thoughts that societal forces deem as representative of the male or female gender (Connell, 1995) and have been shown to mediate many health-related behaviors (Helgeson, 1994; Huselid & Cooper, 1994). Traditional masculine norms include dominance, power, sexual success and exercise of physical and emotional self-control (Connell, 1995), while traditional feminine norms include niceness, passivity, and interpersonal dependence (Lakkis et al., 1999). The “femininity hypothesis” posits that endorsement of feminine gender norms leads to approval-seeking behaviors and lower self-esteem, resulting in the pursuit of the perceived ideal body, which may include disordered eating habits (Lakkis et al., 1999). Research has shown that this may extend to men and present as an increased drive for thinness as opposed to muscularity (Meyer, Blissett, & Oldfield, 2001). Recently, studies have also shown an inverse relationship between masculinity and the drive for thinness (Meyer et al., 2001; Pritchard, 2008).

Endorsement of masculine norms has been associated with the drive for muscularity (Mishkind et al., 1986; Pope et al., 2000). In fact, a significant, direct relationship has been observed between the conformation of masculine norms and the drive for muscularity such that the greater the endorsement of masculine norms, the greater the drive for muscularity (McCreary, Saucier, & Courtenay, 2005; Smolak & Murnem, 2008). The “masculinity hypothesis” proposes that conformity to masculine gender roles is a risk factor for muscularity-oriented body image pathology (Blashill, 2011), but may protect against the development of thinness-oriented eating pathology in men (Murray & Touyz, 2012).

A commonly cited statistic asserts that men make up 5% to 10% of individuals suffering from Anorexia Nervosa and 10% to 15% of those suffering from Bulimia Nervosa (Boerner, Spillane, Andersen, & Smith, 2004); however, a more recent study found that males represent 25% of all eating disorder cases (Hudson, Hiripi, Pope, & Kessler, 2007). Approximately one third of men diagnosed with Muscle Dysmorphia have previously experienced Anorexia Nervosa (Pope et al., 2000) and a quarter of men with Anorexia Nervosa have reported previous behaviors characteristic of Muscle Dysmorphia (Jolanta & Tomasz, 2000). An understanding of psychopathological factors affecting body image has been shown to be significant in the identification of at-risk groups for body image related pathological behavior, the development of early-intervention/prevention programs, and the creation of effective treatment methods targeted towards these individuals (Vanderlinden, 2010; Streigel-Moore & Bulik, 2007). Thus, it is important to understand the factors affecting the drives (thinness and muscularity) at the heart of these conditions.

This study seeks to elucidate the relationship between gender norm conformation and sexuality and the effect they have on the male drive for thinness and drive for muscularity. This

study tests the hypothesis that gender norm conformation plays a mediational role on the effects of sexuality. Based on previous research, it is also predicted that homosexuality and conformation to feminine norms will confer a drive for thinness, while heterosexuality and conformation to masculine norms will confer a drive for muscularity.

Methods

Participants

A sample of 77 male participants were recruited through the Department of Psychology Study Board at Western Kentucky University. Upon completion of the research study, students received credit through the study board program. The ages of the participants ranged from 18 to 53 years old ($M = 19.94$, $SD = 4.22$). The height of the participants ranged from 60 to 83 inches ($M = 71.14$, $SD = 3.63$). The weight of the participants ranged from 125.0 to 320.0 lbs ($M = 175.88$, $SD = 39.75$). The Body Mass Index (BMI) of the participants ranged from 18.31 to 38.95 ($M = 24.30$, $SD = 4.41$).

The education levels of the participants included 39 (50.6%) college freshman, 15 (19.5%) college sophomores, 12 (15.6%) college juniors, 10 (13.0%) college seniors, and 1 (1.3%) graduate student. The participants' ethnicities included 60 (77.9%) Caucasian, 13 (16.9%) African American, 3 (3.9%) Asian, and 1 (1.3%) other.

Materials

Demographics. Participants' age, ethnicity, education level, height, and weight were collected under the demographics survey. The height and weight were used to calculate the Body Mass Index of the participants and were measured in inches and pounds respectively. See Appendix A.

The Sell Assessment of Sexual Orientation. The Sexual Attractions and Sexual Orientation Identity Subsets of the Sell Assessment of Sexual Orientation (Sell, 1996) were used to measure participants' degree of homosexuality and heterosexuality. The assessment consists of two sets of four matching questions that generate independent scores of homosexuality and

heterosexuality. Three of the questions assess sexual attractions and one question assesses sexual orientation identity. The responses are summed to produce separate scores for homosexuality and heterosexuality. In the preliminary testing, the assessment showed a test-retest correlation of $r = .93$, indicating a high degree of reliability. There were also high correlations with Kinsey-type measures, suggesting strong construct validity. An example item is included below:

During the past year, the most I was sexually attracted to a man was... (Choose one response)

- a) Not at all sexually attracted
- b) Slightly sexually attracted
- c) Mildly sexually attracted
- d) Moderately sexually attracted
- e) Significantly sexually attracted
- f) Very sexually attracted
- g) Extremely sexually attracted

Conformation to Masculine Norms Inventory – 46. The Conformation to Masculine Norms Inventory – 46 (CMNI-46; Parent & Moradi, 2009) is self-report survey with 46 items measuring nine factors: winning, emotional control, primacy of work, risk-taking, violence, heterosexual self-presentation, playboy, self-reliance, and power over women. Participants respond using a four point Likert-type scale from 0 (*strongly disagree*) to 3 (*strongly agree*). The responses are summed to yield a total score. A high score represents a greater conformity to masculine norms. When used with a population of predominantly white college-aged males, the CMNI-46 showed good to excellent reliability and overall support for discriminant and convergent validity (Parent & Moradi, 2011). A sample item is, “In general, I will do anything to win.”

Conformity to Feminine Norms. The Conformation to Feminine Norms Inventory – 45 (CFNI-45; Parent & Moradi, 2010) is a self-report survey with 45 items measuring nine factors: thinness, domestic, invest in appearance, modesty, relational, involvement with children, sexual fidelity, romantic relationship, and sweet and nice. Participants respond using a four point Likert-type scale from 0 (*strongly disagree*) to 3 (*strongly agree*). A sum of the responses is used to create a total score. A high score reflects a greater conformity to feminine norms. This should be used with caution, however, as testing did not support the use of a total score to measure a single construct (Parent & Moradi, 2011b). When used with a population of college-aged females, the CFNI-45 showed fair to excellent reliability and support for convergent and discriminant validity, although “sweet and nice” and “sexual fidelity” may be affected by social desirability (Parent & Moradi, 2011b). The CFNI – 45 has not been tested for psychometric properties on male populations. A sample item is, “Having a romantic relationship is essential in life.”

Drive for Thinness. The Drive for Thinness subscale of the Eating Disorder Inventory-3 (EDI-3; Garner, 2004) is a self-report survey with seven items that express an intense desire for weight loss and a strong fear of weight gain. Participants respond using a six point Likert-type scale from 0 (*never*) to 5 (*always*). A high score indicates a strong drive for thinness. The original subscale has shown to be both a valid and reliable measure of the drive for thinness in females (Garner, 2004); however, men have routinely tested lower on the subscale (Stanford & Lemberg, 2012). In an attempt to create a measure that is more applicable to males, several of the items were altered, as suggested by Stanford and Lemberg (2012), to reflect a stronger emphasis on the presence of body fat than overall weight. A small test group of college-aged men were presented with the modified measures and asked to rate the items based on the degree of relevancy to their body image. The responses suggested that the modified items are relevant to

body image in males. A sample item is, “I eat high calorie, high fat foods without feeling guilty.” See Appendix B.

Drive for Muscularity Scale. The Drive for Muscularity Scale (DMS; McCreary, 2013) is a self-report survey with 14 items that assess two lower-order factors – muscularity-oriented body image attitude and muscularity-oriented behaviors. Participants respond using a six point Likert-type scale from 1 (*always*) to 6 (*never*). A low score on the DMS signifies a high drive for muscularity. Although the original version of the DMS had 15 items, item 10 regarding anabolic steroid use has been removed due to lack of variability (McCreary et al., 2005). The scale has been shown to be reliable with alpha reliability estimates ranging from .85 to .91 (Wojtowicz & von Ranson, 2006). There is also support for construct validity, concurrent validity, convergent validity and discriminant validity (Wojtowicz & von Ranson, 2006). A sample item is, “I lift weights to build up muscle.”

Procedures

Participants registered for the study online through WKU Study Board. When participants arrived at the lab during their chosen timeslot, the researcher asked them to sign in and reviewed expectations of confidentiality. The researcher then asked the participants to read through the informed consent form and retain the form for their records to express consent. The participants were then asked to complete the survey to the best of their abilities. The survey was distributed as a packet with the measures in the order as listed above. Once the survey was completed, the researcher thanked the participant for their time, collected the completed forms, and awarded credit to the participant.

Results

Scores were summed from the Sell Assessment of Sexual Orientation, CMNI-46, CFNI-45, Drive for Thinness, and DMS to yield a total score for heterosexuality, homosexuality, masculinity, femininity, drive for thinness, and drive for muscularity. Cronbach's alpha was used to determine internal consistency. As shown in Table 1, all measures were found to have a high degree of internal consistency.

Table 1	
<i>Internal Consistency (Cronbach's alpha)</i>	
Measure	Alpha
Sell Assessment of Sexual Orientation (homosexuality)	$\alpha = .99$
Sell Assessment of Sexual Orientation (heterosexuality)	$\alpha = .82$
CMNI-46	$\alpha = .86$
CFNI-45	$\alpha = .82$
Drive for Thinness (Modified)	$\alpha = .85$
DMS	$\alpha = .90$

Initial hypothesis testing began with a One-Way Analysis of Variance (ANOVA) with drive for thinness as the dependent variable and heterosexuality, homosexuality, BMI, masculinity, and femininity as independent variables, $F(5,66) = 5.61, p < 0.001$. Results accounted for 29.8% of variance. BMI, masculinity, and femininity were significant and positively correlated with the drive for thinness. Sexuality (homosexuality, heterosexuality) showed no significant correlation – see Table 2.

Table 2			
<i>Drive for thinness ANOVA</i>			
Independent Variable	Beta	T	Sig.
Heterosexuality	-.25	-1.35	.18
Homosexuality	-.06	-0.34	.74
Masculinity	.30	2.44	.02
Femininity	.44	4.00	.000
BMI	.23	2.02	.05

The same procedure was repeated with a One-Way Analysis of Variance (ANOVA) regression with drive for muscularity as the dependent variable and heterosexuality, homosexuality, BMI, masculinity, and femininity as independent variables, $F(5,67) = 4.58$, $p < .001$. Results accounted for 25.5% of variance. Of the independent variables, only masculinity was shown to be significant and was positively correlated with the drive for muscularity (low scores on DMS indicate a high drive for muscularity). Sexuality (homosexuality, heterosexuality), femininity, and BMI showed no significant correlation - see Table 3.

Table 3			
<i>Drive for muscularity ANOVA</i>			
Independent Variable	Beta	T	Sig.
Heterosexuality	-.03	-0.15	.88
Homosexuality	-.004	-0.02	.98
Masculinity	-.52	-4.19	.000
Femininity	-.78	-0.68	.50
BMI	.07	0.57	.57

A series of two-step regression analyses was used to test for any mediational effects by masculinity and femininity on the relationship between heterosexuality and the drive for muscularity. The first regression analysis (Model 1) tested the correlation between heterosexuality and the drive for muscularity. Heterosexuality, measured independently from additional factors, was found to be significantly, positively correlated with the male drive for muscularity. The second regression analysis (Model 2) tested the correlation between the drive for muscularity and heterosexuality, masculinity, and femininity. When gender norm conformity was considered, sexual orientation no longer showed a significant correlation. Masculinity, however, was significantly positively correlated to the drive for muscularity – see Table 4.

The same procedure was repeated for homosexuality. There was no initial significant correlation between homosexuality and drive for masculinity. When gender norm conformity was considered, homosexuality became even more insignificant and masculinity was again found to have a significant, positive correlation – see Table 5.

Table 4				
<i>Drive for muscularity (Heterosexuality mediated by masculinity/femininity)</i>				
Model	Independent Variable	Beta	t	Sig.
1	Heterosexuality	-.24	-2.03	.05
2	Heterosexuality	-.003	-0.03	.98
	Masculinity	-.51	-4.21	.000
	Femininity	-0.06	-0.55	.58

Table 5				
<i>Drive for muscularity (Homosexuality mediated by masculinity/femininity)</i>				
Model	Independent Variable	Beta	t	Sig.
1	Homosexuality	.17	1.42	.16
2	Homosexuality	.002	0.02	.98
	Masculinity	-.51	-4.48	.000
	Femininity	-.06	-0.55	.58

We used the same procedure to test for mediational effects of masculinity and femininity on the relationship between heterosexuality and the drive for thinness. Heterosexuality showed no initial significant correlation to the drive for thinness. After gender norm conformity was added, heterosexuality approached significance and masculinity and femininity showed a significant, positive correlation to the male drive for thinness – see table 6. The procedure was repeated to determine the mediational effects of masculinity and femininity on the relationship between homosexuality and the drive for thinness. Homosexuality showed no initial significant correlation with the drive for thinness. Once gender norm conformity was added, homosexuality

approached significance and masculinity and femininity showed a significant, positive correlation with the male drive for thinness – see Table 7.

Table 6				
<i>Drive for thinness (Heterosexuality mediated by masculinity/femininity)</i>				
Model	Independent Variable	Beta	t	Sig.
1	Heterosexuality	-.04	-0.33	.74
2	Heterosexuality	-.13	-1.09	.27
	Masculinity	.32	2.61	.01
	Femininity	.50	4.56	.000

Table 7				
<i>Drive for thinness (Homosexuality mediated by masculinity/femininity)</i>				
Model	Independent Variable	Beta	t	Sig.
1	Homosexuality	0.02	0.17	.86
2	Homosexuality	.08	0.67	.51
	Masculinity	.28	2.45	.02
	Femininity	.50	4.53	.000

DISCUSSION

The purpose of this study was to explore the underlying drives associated with male body image – the drive for thinness and drive for muscularity. This study sought to elucidate the relationship between gender norm conformation and sexuality, as well as the effects these factors have on the drive for thinness and drive for muscularity in men. It was predicted that homosexuality and conformation to feminine norms would confer a drive for thinness and that heterosexuality and conformation to masculine norms would confer a drive for muscularity. Additionally, it was hypothesized that gender norm conformation would play a mediational role on the effects of sexuality.

In regard to the drive for thinness, a regression analysis demonstrated a significant positive correlation between conformation to feminine norms and the drive for thinness in men. This supported the hypothesis and corroborated previous research (Meyer et al., 2001). A significant correlation between homosexuality and the drive for thinness was not found; however, a significant positive correlation between conformation to masculine norms and the drive for thinness in men was observed. These results do not support the hypothesis nor are they supported by previous research. (Carper et al., 2010; Strong et al., 2001; Williamson & Hartley, 1998; Yean et al., 2013). In fact, prior studies have shown an inverse relationship between masculinity and the drive for thinness (Meyer et al., 2001; Pritchard, 2008).

The positive correlation between masculinity and the drive for thinness could be the product of the ideal of lean muscularity. Several studies have observed an overall increase in muscle mass and decrease in body fat over time in men featured in popular media such as *Playgirl*, *GQ*, *Rolling Stone*, and *Sports Illustrated* (Law & Labre, 2002; Leit, Pope, & Gray, 2001). Previous studies have also shown that men may prefer a lower body fat composition to

increase muscle definition and rather than to be thinner (Andersen, 1984; Andersen, Cohn, & Holbrook, 2000). This desire to lose body fat and increase muscle size and definition has been termed the Adonis Complex (Pope et al., 2000). Because the modified Drive for Thinness scale emphasized body fat percentage, this score may have been more representative of a desire for leanness.

With respect to the drive for muscularity, regression analysis found a significant positive correlation with the conformation to masculine norms in men. This finding supports the hypothesis and corroborates previous research (McCreary et al., 2005; Mishkind et al, 1986; Smolak & Murnem, 2008; Pope et al., 2000). No significant correlations were found between heterosexuality and the drive for muscularity, offering no support to suggest that heterosexuality would confer a drive for muscularity as was hypothesized.

Testing the mediational role of gender norms on the effects of sexuality yielded partial support for the hypothesis. The results suggest that masculinity plays a significant mediational role to the effects of heterosexuality on the drive for muscularity in men. When analyzed independently, heterosexuality had a significant positive correlation with muscularity; however, when the effects of masculinity were included in the analysis, sexuality was no longer significant. This supports previous research that suggests that gender norms account for more variance in male body image concerns than sexual orientation (Lakkis et al., 1999).

Findings from this study are only applicable to college-aged men. While college-aged males are a high-risk demographic, with an estimated 95% exhibiting body image concerns (Mishkind et al., 1986), future research should address other age groups. Additionally, results from the modified Drive for Thinness survey should be used with caution as the modified version was not tested for accuracy. Results from the CFNI-45 should also be used with caution

as this has only been tested for psychometric properties when used with female subjects (Parent & Moradi, 2011b). In addition to this, previous testing did not support the scoring method (use of a total sum to measure a single construct) used in this study (Parent & Moradi, 2011b).

The results suggest several areas for future research including further exploration of the role of masculinity in the male drive for thinness and the role of the drive for thinness in the pursuit of the lean male body ideal. The development of an accurate and reliable measure for the drive for thinness in males will be important in furthering our understanding of this drive and the role it plays in male body image. Further research should also be conducted on the implications for men simultaneously experiencing a strong drive for thinness and drive for muscularity. Additionally, the results showed no significant correlation between homosexuality and the male drive for thinness, despite the fact that this population is overrepresented in clinical settings for eating disorders (Anderson, 1990). Future studies should seek to elucidate the factors behind this phenomenon to better serve the homosexual male population.

Male body image concerns are a significant and important area of body image psychology, particularly considering the rise in clinical presentations of eating disorders in young males (Madden et al., 2009). This study sought to elucidate the factors behind the male drive for thinness and drive for muscularity by examining the effects of and relationship between sexuality and gender norm conformation. The results showed a positive correlation between femininity and the drive for thinness; a positive correlation between masculinity and the drive for muscularity and drive for thinness; and that masculinity mediates the effect of heterosexuality on the drive for muscularity. The findings of this research suggest an overall trend toward thinness in males as conferred by both femininity and masculinity. Additionally, masculine males may be at an increased risk for disordered eating and body image due to a simultaneous drive for

thinness and drive for muscularity. There is still much work to be done in this historically neglected field. By understanding the factors influencing the drives affecting male body image, we can better predict populations at risk for pathological behaviors and develop more effective prevention and treatment strategies.

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APPENDIX A

Demographics

Please complete the following information.

Age in years: _____

Education Level:

Freshman Sophomore Junior Senior Graduate Student Other: _____

Race/Ethnicity:

Caucasian African American Hispanic/Latino Asian Other: _____

Height (inches): _____

Weight (pounds): _____

APPENDIX B

Drive for Thinness Subscale (adapted)

Read each item carefully then, for each, circle the number that best applies to you.

Never	Rarely	Sometimes	Often	Usually	Always
0	1	2	3	4	5

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. I eat high calorie, high fat foods without feeling guilty. | 0 | 1 | 2 | 3 | 4 | 5 |
| 2. I think about dieting. | 0 | 1 | 2 | 3 | 4 | 5 |
| 3. I feel extremely guilty after overeating. | 0 | 1 | 2 | 3 | 4 | 5 |
| 4. I am terrified of gaining body fat. | 0 | 1 | 2 | 3 | 4 | 5 |
| 5. I exaggerate or magnify the importance of weight. | 0 | 1 | 2 | 3 | 4 | 5 |
| 6. I am preoccupied with the desire to be thinner. | 0 | 1 | 2 | 3 | 4 | 5 |
| 7. If I believe that I am gaining body fat, I worry that I will continue gaining. | 0 | 1 | 2 | 3 | 4 | 5 |