

# Perceived sociocultural pressure as a risk factor for eating disorder symptomatology in homosexual males

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**4/3/2013**

Submitted in partial fulfilment of the requirements of the Bachelor of Arts degree (Psychology Specialization) at DBS School of Arts, Dublin.

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### Acknowledgements

Thank you to my supervisor, Dr. Sinead Eccles for all the advice and support, as well as Patricia Frazer and Margaret Walsh for their assistance in seminars, and to Ray and Michele for all the help.

## Abstract

It is hypothesised that there will be a significant relationship between perceived sociocultural pressures and engagement with exercise in homosexual men. It is also hypothesised that homosexual men will score higher in measures of exercise, body comparison subscales, self-esteem, as well as perceived sociocultural pressures to maintain a physically desirable appearance than heterosexual men. Furthermore, it is hypothesised that homosexual men will be more concerned about their weight than heterosexual men, through higher scores upon the BCS subscale for weight, particularly those of muscularity and weight.

The following introduction will examine research in the areas of eating disorders, perceived sociocultural pressures to maintain a desirable appearance, as well as exercise behaviour.

The subject of eating disorders has become increasingly popular in modern psychology in recent years as the problem becomes more and more prevalent, possibly as a result of modern society and the emphasis it places on physical attractiveness and the concept of being thin. Whilst most of the literature and research mainly focuses on women and eating disorders (Stice et al, 2013; Stice et al, 2012), focus is beginning to shift and evolve to look at how it affects men as well. Prior to this, men have been relatively ignored in research of eating disturbances (Andersen, 1995, as cited in Tilka & Subich, 2002; Kelly, Ricciardelli, & Clarke, 1999, as cited in Tilka & Subich, 2002) in spite of the fact evidence exists that males as well as females engage in dieting (Ferguson & Spitzer, 1995, as cited in Tilka & Subich, 2002); Heatherton et al., 1997, as cited in Tilka & Subich, 2002; Rand & Kuldau, 1991, as cited in Tilka & Subich, 2002) binge eating (American Psychiatric Association, 1994; Ferguson & Spitzer, 1995, as cited in Tilka & Subich, 2002), and using ineffective and harmful strategies for weight reduction (Andersen, 1999, as cited in Wiseman & Noradi, 2010; McNulty, 1997, as cited by Tilka & Subich, 2002; Rosen & Gross, 1987, as cited by Tilka & Subich, 2002). In particular, emphasis has been placed on gay men, with mounting evidence suggesting that homosexuality may in fact be a risk factor for eating disorder symptomatology in men (Boisver et al, 2009).

Indeed, results of much of the existing literature on the topic tends to indicate that homosexual men are more vulnerable to body dissatisfaction and eating disorder symptomatology than their heterosexual counterparts (Russel & Keel, 2002; Hospers & Jansen, 2005, as cited by Tiggeman et al., 2007). Eating disorder symptomatology can be described as a collection of behaviours and attitudes that are characteristic of disordered

eating, such as hating one's own body, wanting to change one's weight and attempting to do so by engaging in actions like starving, restricting, or purging (Morry & Staska, 2001). Men who identify as homosexual have been found to score much higher on scales measuring body uneasiness, drive for thinness, body image related anxiety, bulimia, as well as being found to more frequently utilise strategies to compensate weight increase (Cella et al, 2010; Carper et al, 2010) than their heterosexual counterparts. It is thought that this is potentially due to the fact that gay men are more dissatisfied with their bodies than straight men, as men place greater emphasis on physical attractiveness when seeking potential partners, whilst women are more concerned with other factors such as personality and income (Siever, 1994). Therefore, straight men are less concerned with their own physical appearance, as they are aware that females are attracted to more than just aesthetics, whilst gay men feel more pressure to maintain a physical desirable appearance so as to attract a potential partner.

Similarly, an equally popular topic in the field of eating disorders is the matter of sociocultural pressure and how it influences body dissatisfaction (Sliviec & Tiggeman, 2012; Levine & Murnen, 2009) – particularly, the impact of the media. Existing research indicates that the media has the potential to be a causal risk factor in the development of eating disorders (Levine & Murnen, 2009) and suggests that it significantly contributes to the prevalence of the thinness ideal as a method to achieve social approval (Peroutsia & Gonidakis, 2011; Lopez-Guimerà, Levine, Sánchez-Carracedo & Fauquet, 2010). The existing literature on eating disorders has predominately looked at females, rather than males (Stice et al 2012; Kelly et al, 2012), but what little research there is does seem to indicate strongly that it is not just females who perceive pressure from the media to maintain a desirable physical appearance. In fact, evidence exists that gay men, like females, report a great amount of pressure to maintain a desirable physical appearance; much greater

sociocultural appearance pressures than straight men (Hospers & Jansen, 2005, as cited by Tiggeman et al., 2007; Yelland & Tiggeman, 2003).

The importance of examining eating behaviours is clear when you take into account that approximately 10% of individuals who have anorexia and bulimia and 25% of those who display binge eating disorder (BED) are male (American Psychiatric Association, 1994; Fairburn & Beglin, 1990, as cited in Tylka & Fubich, 2002). Furthermore, research has found that college students who engage in risky eating behaviours such as dieting and the use of laxatives and self-induced vomiting also suffer from low self-esteem and depressive symptoms (Cain et al, 2010; Mintz & Betz, 1998, as cited in Tylka & Fubich, 2002). Indeed, Grossbard et al. (2012) discovered that there is that depressed mood was associated with symptomatology for men. Other studies have found that body shape concerns for both men and woman do not differ significantly in measures of disturbed eating (Tanofsky et al, 1997, as cited in Tylka & Fubich, 2002), with 25% of college students reporting dieting at any given time (Ferguson & Spitzer, 1995, as cited in Tylka & Fubich), further indicating that eating disturbance is not limited to a strictly female population.

In addition, research of media depictions demonstrate frequent eroticization of men (Rohlinger, 2002) and suggest that males of a sexual minority may be subtle targets of such sexually objectifying messages (Rohlinger, 2002; Sender, 1999) – sexual objectification being defined as “the experience of being treated as a body (or collection of body parts) valued predominantly for its use to (or consumption by) others” (Frederickson & Roberts, 1997, as cited in Grieves & Hemlick, 2008). Sexual objectification manifests itself through body surveillance, which leads to feelings of body shame through comparison of oneself to the cultural standard of attractiveness (Fredrickson & Roberts, 1997, as cited in Grieves & Hemlick, 2008) be it through body comparison or via perceived sociocultural pressure. It is thought that as a result, sexual objectification and body surveillance can promote eating

disorder symptoms. Indeed, research has found that experiences of sexual objectification are positively correlated with greater body shame and eating disorder symptomatology (Moradi et al., 2005; Noll & Fredrickson, 1998, cited by Grieves & Hemlick, 2008).

Nor is sexual objectification an exclusively female problem – whilst heterosexual males report lower levels of self-objectification, body surveillance and body shame as compared to females (Aubrey, 2006; Lindberg, Grabe, & Hyde, 2007; Wiseman & Moradi, 2010) findings indicate that gay men have higher self-objectification, body surveillance, body dissatisfaction, and drive for thinness scores than heterosexual men (Serpa, 2004, as cited in Wiseman & Moradi, 2010). Correlations also existed showing that self-objectification, body surveillance, and body shame were generally stronger and more consistent for men identifying as homosexual compared to those who identify as heterosexual. Martins et al (2007) (as cited in Wiseman & Moradi, 2010) even found that body shame mediated the positive connections of self-objectification and body shame for gay men, yet not for straight men.

Gay men also have the added problem of childhood bullying for not being straight, as compared to female samples, with Beren (1997) (as cited in Wiseman & Moradi, 2010) finding that childhood harassment for their sexual preference was related to eating disorder symptomatology. Similarly, it was further discovered that internalised homophobia had a positive relationship with body shame, such as distress for failing to meet the typical masculine muscular ideal. Furthermore, Reilly and Rudd (2006) discovered that shame of one's own sexuality had a positive correlation to factors related to body shame, such as dissatisfaction with one's own body which as a result, links to eating disorder symptoms. Wiseman & Moradi (2010) further discovered that recalled sexuality related harassment was linked with body shame, body surveillance and eating disorder symptoms.



The societal ideal of the male figure has grown increasingly muscular in recent years (Pope et al, 1997, as cited in Parent, 2013), with men that consume muscle and fitness magazines reporting higher levels of body dissatisfaction than those who do not (Taylor et al, 2008). Worryingly, both high school boys and active duty military soldiers were found to engage in harmful weight control behaviours, such as chronic dieting, fasting, using appetite suppressants and laxatives whilst trying to lose weight (McNulty, 1997, as cited in Tylka & Subich, 2002; Rosen & Gross, 1987, as cited in Tylka & Subich, 2002). Petrie, et al (1996) looked at socio-cultural influence on men by examining advertising content in two men's fashion magazine from 1960 and 1992 and found that over the passing of the years, a relatively stable presentation of the ideal male appearance of physical fitness and attractiveness was found. Studies have also found that media exposure for men has a negative correlation with body perception (Harrison & Cantor, 1997, as cited in Hobza & Rochlen, 2012) and had a positive correlation with disordered eating (Harrison & Cantor, 1997, as cited by Hobza & Rochlen). As a result, media exposure of muscular men has been “repeatedly and reliably associated with increased internalization of a muscular ideal and drive for muscularity among boys and men” (Duggan & McCreary, 2004; Giles & Close, 2008, as cited in Parent, 2013). In addition, there exists a clinical disorder named muscle dysmorphia, which is characterised by “characterized by misperception of and dissatisfaction with one's body build and functional impairment” (Parent, 2013)

The problem, however, is that previous studies that have examined men and sociocultural pressures have not always taken sexuality into account (eg: Parent, 2013; Moradi & Wiseman, 2010) and whether or not it have an influence on the results. Given the fact that homosexual men feel more pressures from their peers to obtain a physically attractive physique, (Hospers & Jansen, 2005; Yelleand & Tieggman, 2003, as cited by

Tieggman et al, 2007), it is clear that the need for research examining sociocultural pressures and its impact on gay men is very much needed.

A particular concern is that men who engage in excessive exercise to appear muscular may not in fact lose weight – in fact, men have expressed a desire to change their physically appearance without mentioning a desire to lose weight (Andersen & DiDomenico, 1992, as cited in Morry & Staska, 2001). Ergo, without losing weight, they will not meet the criteria to be diagnosed as suffering from an eating disorder by the diagnostic and Statistical Manual of Mental Disorders (4th ed.; DSM–IV; American Psychiatric Association, 1994) (Tylka & Subich, 2002) and risk going undiagnosed (Crosscope-Happel et al., 2000, as cited in Wiseman & Moradi, 2010) so they cannot receive the treatment they need as a result. Muscle dysmorphia, in spite of being related to eating disturbances and general psychopathology in men (Olivardia, Pope, & Hudson, 2000, as cited in Grieve & Hemlick, 2008; Pope et al., 1997, as cited in Tylka & Subich, 2002), is not considered a characteristic of eating disorders in the DSM-IV.

Most of the research conducted looking into the matter of homosexual men and disordered eating, however, has very much ignored the importance of the drive for muscularity as opposed to the drive for thinness that men face (Carper et al, 2010; Boisver et al, 2009; Cella et al, 2010). Carper et al (2010) carried out one of the few studies that examined gay men and how sociocultural pressures such as the media impacted their risk of becoming vulnerable to disordered eating. Their findings indicated that gay men certainly perceived more pressure from the media than their straight counterparts, however, their study failed to take into account any measure of muscularity or exercise. It is clear that such a study would have benefitted more if a score inquiring about physical activity had been included, as recent research has shown that gay men score higher on the drive for muscularity than heterosexual men (Tiggeman et al., 2008). In fact, it is thought that many

reports on the subject of men and eating disorders could do with improvement, as existing scales that measure disordered eating are predominately aimed at females (Tiggeman et al, 2008) and as a result, do not take into account the fact that men may engage in compensatory exercise so as to battle their weight, or that their body dissatisfaction may actually stem from their lack of muscularity. Indeed, men may express dissatisfaction with their body even if they are underweight, rather than overweight (Grieve & Hemlick, 2008), further emphasising the need for measures of muscularity to be included in studies that examine men and eating disorders.

Research suggests that homosexual men actually experience body dissatisfaction in a different way than heterosexual men do. Pope, Phillips and Olivardia (2000) (as cited in as cited in Grieve & Hemlick, 2008), suggest that greater levels of body dissatisfaction in gay men as compared to straight men is due to “greater deviance hegemonic masculinity, in which heterosexuality is a key component (Connell, 1992, as cited in Jankowski, Diedrichs & Halliwell, 2013). Some researchers have posited that gay male subculture places more emphasis and a “greater focus on appearance and greater reverence of the mesomorphic ideal (...) than the dominant heterosexual male culture (Jankowski, Diedrichs & Halliwell, 2013) (eg, Silberstein et al, 1989, as cited in Jankowski, Diedrichs & Halliwell, 2013). According to Jankowski, Diedrichs & Halliwell (2013), gay men are also more likely to also engage in conversations about appearance than heterosexual males.

The need for muscularity measures is taken into account for this study, particularly given the findings of the aforementioned study by Tiggeman et al., (2008). It is very possible that a significant relationship could exist between perceived sociocultural pressures for homosexual media, as well as self-esteem and how comfortable they feel in their own bodies compared to those of other members of the same sex. The added social stigma of same-sex relationships possibly contributes to both self-esteem scores and comfort with

appearance – indeed, Sliever (1994) received feedback upon his own study examining sexual orientation and eating disorder symptomatology and sexual orientation that indicated they had experienced greater difficulty with body satisfaction and dysfunctional eating before they had come out.

Therefore, this study plans to elaborate on previous research by including a measure of muscularity, with the use of the Obligatory Exercise Questionnaire. (OEQ) The study will also utilise Body Comparison Scale, which includes a subscale of muscularity that examines how often subjects find themselves comparing their own body to those of the same sex. The aim of this study is to examine whether perceived sociocultural pressure as felt by homosexual men can be a significant variable in predicting eating disorder symptomatology, in the form of over-exercise. The study will examine whether or not there is more sociocultural pressure on homosexual males to maintain a desirable physical appearance than there is on heterosexual males. It is expected that gay men will perceive sociocultural pressure to be muscular much stronger than heterosexual men, and as a result, they will also score higher on measures of exercising.

This study will contribute to better shape understanding of how gay men feel the impact of media pressures, and as a result, will help adjust how body image is depicted in the media so as to help challenge the media influence, and encouraging it to adjust its depiction of the thin body ideal, as well as to play a larger role in prevention. It will also provide insight into self-esteem levels of homosexual men as compared to those of heterosexual men. Additionally, it will add to the field of research of eating disorder symptomatology in gay men by examining relationships and engagement with exercise behaviour. Finally, it will provide an insight into the parts of the body that homosexual men are more concerned with being physically desirable, by looking at the various body comparison subscales.

It is hypothesised that there will be a significant relationship between perceived sociocultural pressures and engagement with exercise in homosexual men. It is also hypothesised that homosexual men will score higher in measures of exercise, body comparison subscales, self-esteem, as well as perceived sociocultural pressures to maintain a physically desirable appearance than heterosexual men. Furthermore, it is hypothesised that homosexual men will be more concerned about their weight than heterosexual men, through higher scores upon the BCS subscale for weight, particularly those of muscularity and weight.

## Method

### *Participants*

Participants were made up of men over the age of eighteen. Given that the study aimed to look at the difference between sexualities (primarily the difference between men who identify as heterosexual and those who identify as homosexual), participants were asked to self-identify their sexuality at the very beginning of the study. A total of 107 participants completed the study; however, only 93 of these were used for testing, as 14 participants under the age of eighteen completed the study online, in spite of the introductory letter requesting that only those over eighteen take part. Thus, these fourteen underage participants were excluded from the testing. The final sample included 40 men identifying as heterosexual (43%), 27 identifying as homosexual (29%), 16 identifying as bisexual (17.2%) and 10 identifying as pansexual or asexual (10.8%) – grouped together in this study as ‘other’.

Participants were contacted through the internet, via random sampling through various social networking sites such as Facebook, Tumblr, and the LGBT forum on boards.ie after receiving permission to publish it there from the moderators. So as to ensure an overwhelming percentage of heterosexual responses were not received, the message accompanying the link to the survey specifically requested that participants who did not identify as straight were of particular interest. Several LGBT blogs on Tumblr promoted the link after being requested to do so. Ages of participants varied, from the ages of eighteen to the oldest participant at 53, with the average age being 22.68 (SD=5.49).

### *Design*

The study used a between-subjects mixed design, using a One Way Anova and Linear Regression to look at comparisons between groups, whilst using a Pearson's Correlation to look at relationships. Participants were assigned to one of four groups, depending on their sexuality: heterosexual, homosexual, bisexual or other. For the One Way Anova, the dependent variable (DV) was sexuality, whilst the independent variables (IV) were body comparison muscular total, body comparison weight total and total exercise scores. For the Linear Regression, once again the DV was sexuality, whilst the IVs were body comparison muscular total, and exercise total. Finally, for the Pearson's Correlation, sexuality was split into groups with sexuality as the criterion variable (CV) and exercise total, body comparison muscular total, body comparison weight total, body comparison general appearance total, self-esteem total, and sociocultural attitudes towards appearance total as the predictor variables (PV).

## Materials

### *Demographic Information*

Participants in the study were asked only for their age, and their sexual orientation.

### *Rosenberg Self-Esteem Scale (Rosenberg & Morris, 1989).*

The Rosenberg Self-Esteem Scale (RSES) was used to assess the participant's overall self-esteem. The RSES is made up of ten items, where subjects are asked to rate on a 4-point Likert scale from strongly agree to strong disagree. Items assess the subjects' satisfaction with themselves, the qualities they possess, and their overall sense of worth, with answers such as 'I take a positive attitude towards myself'. Five of the questions on the scale were reverse scored. Upon completion, the overall score is added together, with the higher the overall score, the greater the self-esteem. Scores between 15 and 25 are within normal range; scores below 15 suggest low self-esteem. The scale generally has high reliability: test-retest correlations are typically in the range of .82 to .88, and Cronbach's alpha for various samples are in the range of .77 to .88

### *The Obligatory Exercise Questionnaire (Pasman & Thompson, 1988).*

The Obligatory Exercise Questionnaire (OEQ) was used to measure participants' relationship and general involvement in obligatory exercise. The OEQ is comprised of twenty items, requiring subjects to select the rating on a 4-point Likert scale that best describes themselves from 'always' to 'never, through statements such as 'I frequently push myself to the limits' and 'I may miss a day of exercise for no good reason'. Two items within the questionnaire are reversed scored. The overall scores for each participant are added together, with higher scores indicating higher endorsement and engagement in obligatory exercise. The OEQ has been psychometrically validated on ninety subjects, with an internal consistency ratio of 0.96 and a test-retest reliability (two weeks) also of 0.96.



*Body Comparison Scale (Fisher, Dunn, & Thompson, 2002).*

The Body Comparison Scale (BCS) assesses how participants compare their bodies to those of other individuals of the same sex. It lists twenty-five features of the body, such as 'nose', 'ears', 'muscle tone of upper body' and 'overall body' and asks participants to select from a 5-point Likert scale, from 'never' to 'always', how often they find themselves comparing that particular feature to that same feature on another member of the same sex's. The scores of the BCS are broken down into three separate groups: questions 1-9 when added together total their general appearance score, the sum of questions 10-15 reveal their muscular score, whilst the sum of questions 16-20 make up the weight scale. Questions 20-25 are composed of more general ratings of somatic features (such as 'overall shape of body').

*Sociocultural Attitudes Towards Appearance Questionnaire 3 (Heinberg & Thompson, 2004).*

The Sociocultural Attitude Towards Appearance Questionnaire 3 (SATAQ-3) is used to determine the level of pressure participants perceive from sociocultural aspects such as movies, magazines, and sports athletes in order to maintain a desirable appearance. It consists of thirty statements, and subjects are requested to indicate from a number of items on a 5-point Likert scale, from 'definitely agree' to 'definitely disagree', the item that best reflects their agreement with the statement. Eight questions are reverse coded, and when the score is totalled together, it reveals the extent to which societal influence impacts the participant's body image. Scores can be further broken down into Internalisation-General, Internalisation-Athlete, Pressure, and Information; internalisation referring is the incorporation of specific values to the point that they become guiding principles. Pressures, meanwhile refers to perceived pressure from the media, and information to how much

alleged information subjects receive from media outlets about 'being attractive'. Thompson et al. (2004) tested the SATAQ-3 on 195 female undergraduates (aged between 18-22) along with a comparison sample of 15 inpatients with eating disorders (aged between 17-37) and found the Cronbach's Alpha for the following values: Information (.94), Pressures (.94), Internalization-Athlete (.89), Internalization-General (.92), and Total scale score (.94)

### *Procedure*

Participants were provided a link to the survey via a Googledocs link through the form of a public Facebook post, a Tumblr blog post, or a post on the LGBT forum of boards.ie. Along with the link itself, subjects were informed about the purpose of the study, being told that the survey was interested at looking at the difference in sexualities and exercise habits, body comparison, and perceived sociocultural influence. Before taking the survey, participants would read a brief introductory statement, thanking them for taking the time to fill out the survey, and informing them that it would take roughly ten minutes to complete. It also briefed participants on the kind of questions they would be asked, such as measures of their own self-worth, body confidence, exercise habits and media influence. It went on to reassure participants that results were anonymous, but once submitted, could not be retracted, and requested that only subjects who were male and over the age of eighteen took part in the survey. There was also reassurance that relevant website and helpline information should they find themselves affected by any of the issues raised within, as well as personal contact details should they want further information, would be provided at the end of the questionnaire. Subjects were asked to provide both their age and the sexuality they identified as.

Each measure was presented as a separate question, with instructions on each specified to each measure. For the RSE and SATAQ-3, participants were to check the

answer that most reflected their own agreement with each individual statement. In the case of the BCS, they were asked to check the statement that was most in keeping with how often they compared that aspect of their body to members of the same sex. Meanwhile, for the OEQ, participants were asked to select the option that reflects how often they could make the statement in question.

Debriefing was provided upon completion of the questionnaire. Participants were provided with the website and lo-call helpline number for Bodywhys, Ireland's eating disorder association, as well as the Ireland's LGBT support helpline number, alongside its website. Since the study was shared on international sites such as Facebook and Tumblr, also included was the phone number for B-EAT, the UK's support line for people with eating disorders, along with the website, and also, the helpline number and website for the National Eating Disorders Association for any American participants. Finally, a personal email was provided for any participants who had any further queries, or needed assistance obtaining helpline numbers in their own country.

## Results

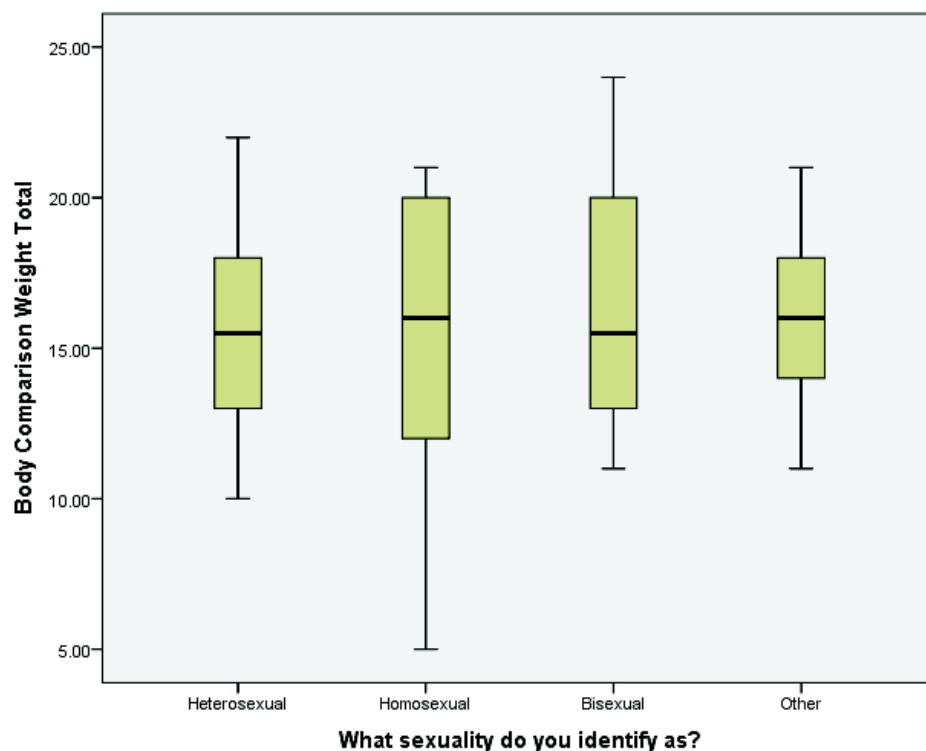
*Descriptive Statistics*

Table 1

*Comparing descriptive statistic differences in total scores between heterosexual group and homosexual group*

		Mean	Std. Deviation	Min.	Max
Self-Esteem Total	Heterosexual	19.08	4.87	12	35
	Homosexual	19.41	5.47	10	33
Body Comparison Muscular Total	Heterosexual	21.53	4.96	10	29
	Homosexual	17.7	6.34	6	30
Body Comparison Weight Total	Heterosexual	15.83	3.24	10	22
	Homosexual	15.52	4.54	5	21
Body Comparison General Appearance Total	Heterosexual	28.75	5.7	17	42
	Homosexual	27.11	5.58	16	35
Obligatory Exercise Total	Heterosexual	53.7	6.27	40	66
	Homosexual	19.41	5.47	10	67
Sociocultural Attitudes Towards Appearance Total	Heterosexual	97.68	18.12	68	143
	Homosexual	90.93	18.16	47	125

Results indicated that heterosexual men appeared to be more concerned with their appearance and compare their bodies to members of the same sex (BC-GA  $M=28.75$ ; BC-W  $M=15.83$ ; BC-M  $M=21.53$ ) than their homosexual counterparts (BC-GA  $M=27.11$ ; BC-W  $M=15.52$ ; BC-M  $M=17.7$ ), although the difference was relatively small for both General Appearance scores and Weight. However, homosexual men had higher standard deviation than heterosexual men for both Weight ( $SD=4.54$ ) and Muscular ( $SD=6.34$ ), suggesting more variety in the scores and more extreme behaviour on each end (see Figure 1).



*Figure. 1.* Boxplot illustrating distribution of scores between sexualities for Body Comparison Weight Total

Heterosexual men also appear to have more of an interest and engagement with exercise, scoring much higher in the Obligatory Exercise scale ( $M=53.7$ ) than homosexual men ( $M=19.41$ ). Heterosexual men were also found to exercise more than homosexual men by a 3 point mean difference ( $MD=4.18$ ). However, the lowest and highest score for

homosexual men was much more extreme, with a lowest score of 10, and a highest score of 67, compared to heterosexual men whose lowest score was 40, whilst their highest score was 66. Thus, while heterosexual men expressed more of an interest in exercise, there was much more variance in homosexual males' scores.

Homosexual men had higher self-esteem ( $M=19.41$ ) than heterosexual men (19.08), although once again the standard deviation was higher for homosexual scores ( $SD=5.47$ ) than heterosexual scores ( $SD=4.87$ ). Once again, the lowest score belonged to a homosexual participant with a score of 10, whilst the highest score belonged to a heterosexual subject, scoring a total of 35. Thus, on average, homosexual males seemed to have the highest self-esteem, but there was much more variation and unusually low scores, along with unusually high scores (see Figure 2.).

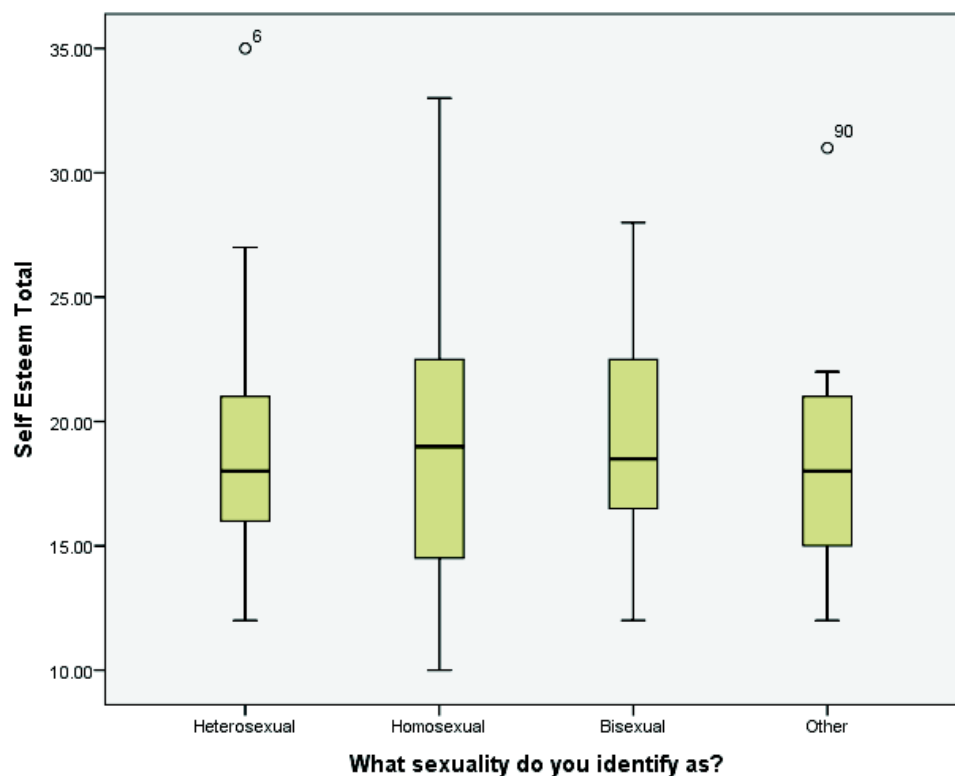


Figure 2. Boxplot illustrating distribution of Self-Esteem scores between sexualities

For Sociocultural Attitudes Towards Appearance, heterosexual men were again found to score higher ( $M=97.68$ ) than homosexual men ( $M=90.93$ ), although interestingly, the standard deviation for both heterosexuals and homosexuals were virtually identical (Heterosexual  $SD=18.12$ ; Homosexual  $SD= 18.16$ ). Yet again, the lowest score was given by a homosexual man, scoring 47, whilst the highest score was by a heterosexual, scoring 143 – much higher than the highest homosexual score, which was 125. Homosexual scores also featured several outliers, whilst heterosexuals had none (see Figure. 3).

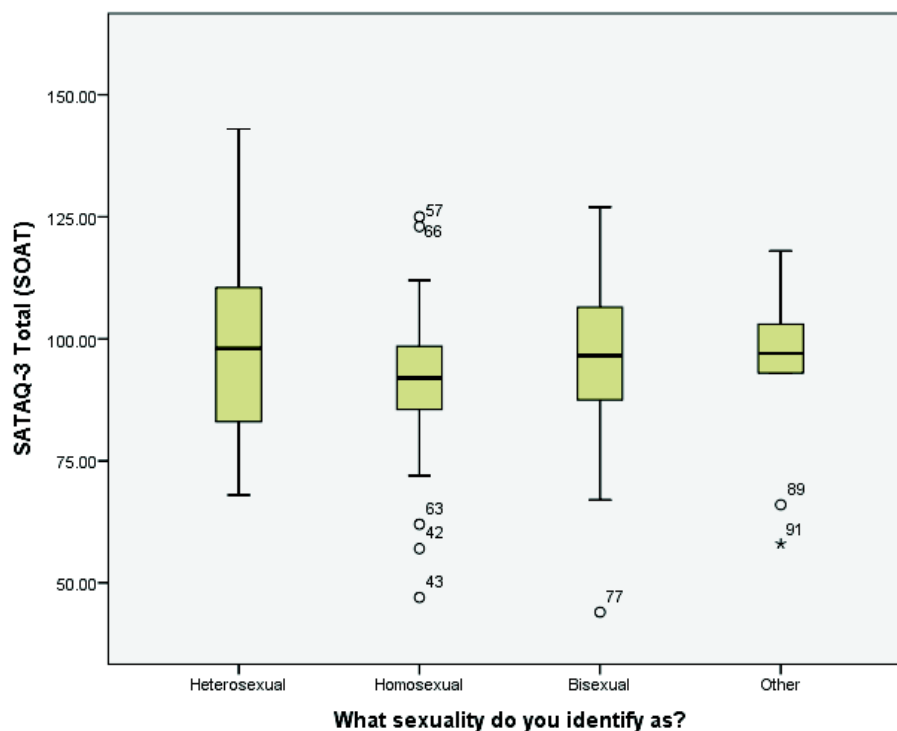


Figure 3. Boxplot demonstrating distribution of scores between sexualities for Sociocultural Attitudes Towards Appearance Scores (SATAQ-3).

### *Inferential Statistics*

#### *ANOVA.*

Firstly, a one-way between-groups analysis of variance was conducted to explore the relationship between how often subjects compare their muscular tone to other people, how often they compare their general appearance, how often they compare their weight, their

interest and engagement in exercise, self-esteem, and perceived influence from the media. Participants were divided into groups depending on the sexuality they identified as (Group 1: heterosexual; Group 2: homosexual; Group 3: bisexual; Group 4: other). There was a statistically significant difference at the  $p < .05$  level in Body Comparison Muscular scores between the heterosexual group, and the homosexual group:  $F(3, 89) = 2.835, p = .04$  (see Table 2). Post-hoc analysis confirmed that differences were significant in nature between the heterosexual group ( $M=21.5, SD=4.96$ ) with the homosexual group ( $M=17.7, SD=6.34, p=.03$ ), however, despite reaching statistical significance, the actual difference in mean scores between the groups was quite small (see Figure 4). The effect size, calculated using eta squared, was 0.09. No other statistically significant results were found between the groups using a one-way between-groups analysis of variance.

Table 2

*One-way ANOVA results for Body Comparison Muscular scale*

<b>Variables</b>	<b>Groups</b>	<b>Mean</b>	<b>SD</b>	<b>F</b>	<b>df</b>	<b>p</b>
Body Comparison Muscular Total	Heterosexual	21.5	4.96	2.835	3	.04*
	Homosexual	17.7	6.34			

\* p significant at .05 level.



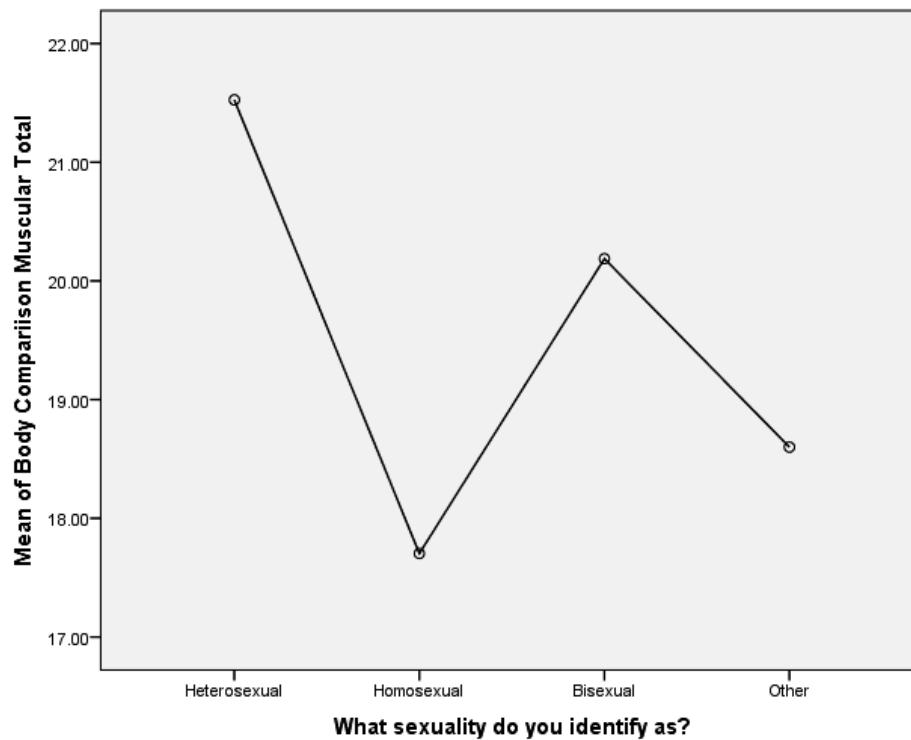


Figure 4. Means plot comparing mean scores between groups

#### *Correlation.*

A Pearson's R correlation was conducted, so as to interpret potential relationships between variables. Following the findings in the descriptive statistics, the relationship between sociocultural attitudes towards appearance (as measured by the SATAQ-3) and engagement with exercise (as measured by OEQ) for the heterosexual group was investigated using Pearson product-movement correlation coefficient. There was a medium positive correlation between the two variables ( $r=4.39$ ,  $p < 0.01$ ), with high levels of exercise positively associated with perceived sociocultural pressure for heterosexual men.

Table 3

*Illustrating correlations between sexualities for SATAQ-3 totals and OEQ totals*

<b>Sexuality</b>		<b>OEQ Total</b>		
Heterosexual	SATAQ-3 Scores	Pearson		4.39
		Correlation		
		Sig. (2-tailed)		.005
Homosexual	SATAQ-3 Scores	N		40
		Pearson		.000
		Correlation		
		Sig. (2-tailed)		1
		N		27

The results indicate that those with a high Body Comparison General Appearance Score had a positive correlation with those who had high Body Comparison Muscular scores ( $r=.5$ ,  $p < 0.01$ ) and Body Comparison Weight scores ( $r=.34$ ,  $p < 0.01$ ). Ergo, high scores on General Appearance indicate that there is a positive relationship between high scores on the Muscular scale as well as the Weight scale.

*Linear regression.*

Following the previous results indicating that heterosexual men appeared to be more concerned with appearance than homosexual men, a Linear Regression was conducted to determine the effect of sociocultural attitudes towards appearance (using the SATAQ-3) upon interest and engagement with exercise (using the OEQ) as well as on how often men compared their bodies to members of the same sex (using the BCS). Using simple regression, it was found that sociocultural attitudes towards appearance did not appear to predict engagement with exercise for heterosexual males ( $F(4,35)=2.56$ ,  $p > 0.05$ ) (obligatory exercise,  $Beta=.403$ ) (see Table 4). Confidence limits were narrow, showing that we are 95% confident that the population slope is between .22 and 2.11.

Table 4:

*Model Summary \**

What sexuality do you identify as?	Model	R Square	Adjusted R Square	Std. Error of Estimate
Heterosexual	.476 **	.226	.138	16.83

\* Dependent variable SATAQ-3

\*\* Predictor value: OEQ

## Discussion

This study set out with the aim of examining the impact perceived sociocultural pressures had on both heterosexual and homosexual men, and how this would impact on both their exercise levels and the amount they found themselves comparing their bodies to other members of the same sex. It hoped to improve on previous studies that examined similar relationships by including measures of muscularity within the BCS and also by looking at the amount of exercise subjects engaged in, having found that males are more concerned with appearing muscular, rather than appearing thin (Duggan & McCreary, 2004; Giles & Close, 2008, as cited in Parent, 2013). It was hypothesised that homosexual men would score higher on the SATAQ-3, ergo they would also score higher in the various BCS measures of Muscularity, General Appearance and Weight, given the evidence from previous studies that suggested homosexual men are more concerned with their body image than heterosexual males (Williamson & Hartley, 1998; Siever, 1994; Cella et al., 2010). The study was also concerned with whether or not sociocultural attitudes towards appearance would have a connection with eating disorder symptomology in homosexual men, in the form of over-exercising as seen by high OEQ scores.

However, the study's findings did not confirm the predicted hypotheses. Rather, it was found that heterosexual men were the subjects who perceived more sociocultural pressure from the media to maintain a desirable appearance, and were also appeared to engage significantly more in exercise than homosexual men, by a 3 point mean difference. Not only that, but heterosexual men were found to score higher in the various subscales of the BCS, indicating they are more likely to compare their appearance, muscular tone, and

weight to members of the same sex than homosexual men. Thus the null hypothesis was confirmed.

The one exception however of the BCS subscales was that of weight, on which homosexual men scored higher than heterosexual men.

An interesting result from the study rose in the form of the amount of variance that was apparent in homosexual scores. For both self-esteem and obligatory exercise, homosexual participants had the highest standard deviation – higher standard deviation suggesting that more variety existed in the results, with more extreme behaviour on each end. For instance, both the man with the lowest score and the highest score on the OEQ was homosexual, suggesting that homosexual men were the most varied group.

In spite of the fact that homosexual men appear to score higher in self-esteem than heterosexuals, a homosexual man was in fact found to possess the lowest self-esteem score, whilst a heterosexual man held the highest. Thus, there was more variation in homosexual scores than heterosexual, and homosexual subjects held unusually low scores.

Unsurprisingly, those who scored high in the BCS general appearance subscale correlated with similarly high BCS weight and BCS muscular scores. Again, however, heterosexual men dominated the highest scores, albeit homosexual men once again demonstrated the most variance within scores for all three BCS subscales. Potentially the most significant of all results, however, was that findings discovered that a significant correlation existed between SATAQ-3 scores and OEQ scores. Ergo, it appears there was a positive relationship between the amount of exercise heterosexual men engaged in and the perceived sociocultural influence amongst heterosexual men, contrary to the hypothesis of the study.

Given the findings of the ANOVA and Pearson's Correlation, it was thought that a Linear Regression may perhaps shed more light upon the relationship between sociocultural pressure and exercise scores, as well as body comparison. Thus, Linear Regression was run on heterosexual men, with SATAQ-3 as the descriptive variable, with OEQ scores as the individual variable. In spite of previous findings, post-hoc analysis Linear Regression was conducted on the basis of the studies' previous followings, and thus found no significant result between SATAQ-3 scores and OEQ scores, indicating that SATAQ-3 scores did not have as prominent impact on OEQ scores as previously assumed. However, the findings of the previous tests still seem to suggest a positive relationship exists, and sociocultural pressures do lead to a stronger desire to exercise more. Again, the null hypothesis was confirmed.

The implications of this study appear to suggest that homosexual men are not alone in feeling the pressures from peers to maintain a desirable appearance, as suggested in some previous studies (Hospers & Jansen, 2005 as cited by Tiggeman et al.; Carper et al, 2010), but heterosexual men are heavily influenced by sociocultural attitudes as well. Judging the results from the BCS and the OEQ the desire to be muscular certainly appears to be a significant concern of heterosexual men, more so than men who identify with homosexual, which also went against findings from previous studies (Tiggeman et al, 2010). However, the variance in homosexual scores does appear to suggest that homosexual men engage in more extreme behaviour than heterosexual men, potentially meaning that homosexuality could be a factor in excessive exercising.

The results did, however, appear to be in conjunction with the findings of Silberstein et al. (1989) (as cited in Jankowski, Diedrichs & Halliwell, 2013), who found that gay men did not score significantly higher than heterosexual men on the Eating Attitudes Test (EAT) – a clinical screening scale that looks at that looks at attitudes behaviours that are commonly

found in those who suffer from anorexia or bulimia - and that the very same number of homosexual men as heterosexual men scored in the clinical range on the EAT. It is difficult to assess however, how relevant Silberstein's findings may be, as the study is fourteen years old, and factors such as the media have come long a way since then. Tools such as the internet are more relevant these days, and may provide a larger sociocultural influence upon people than simply television and magazines, along with the added pressures of social networking, with websites such as Facebook and Twitter.

Interestingly, the present study's results found that homosexual men have higher self-esteem than straight men, something previous reviews of extant empirical research have severely questioned (Savin, 1990). Thus, it appears that in spite of the stigma they may experience, overall gay men appear to be comfortable with their sexuality and have a positive view of themselves. However, there was greater variance in the homosexual sample, with unusually low scores.

The results of the study also appeared to be in contrast with previous studies that indicated homosexual men are more prone to body dissatisfaction than heterosexual men (Russel & Keel, 2002; Hospers & Jansen, 2005, as cited by Tiggeman et al.) judging from the results of the BCS and RSE. Potentially part of the reason why so many of the results did not actually correlate with previous research may lie in the very reason this particular study was undertaken in the first place – previous studies examining body dissatisfaction amongst homosexual men, and sociocultural influence did not contain measures that looked at muscularity or exercise behaviour (Carper et al, 2010; Cella et al, 2010; Russel & Keel, 2002; Hospers & Jansen, 2005, as cited by Tiggeman et al.). Thus, it is very possible that the presence of the OEQ and BCS' muscularity subscale had a direct influence on the results, and heterosexual men feel an equal amount of pressure to remain physically attractive, but are more concerned with the notion of being muscular rather than skinny.

Which leads us to potential problems that existed within the study. Many of the scales that exist to look at eating disorder symptomology as well as perceived sociocultural influence are actually designed for women to answer, and thus, are worded in such a way that reveals a gender bias (for example, the Eating Disorder Diagnostic Scale (Stice et al, 2004) and the Perceived Sociocultural Pressure Scale (Stice, 2001). Both the BCS and the SATAQ-3 were designed for a female population, and several participants actually went to the trouble to contact me via email about how they were more concerned about appearing muscular rather than appearing thin. As touched upon earlier in this study, it has been proven that men may express dissatisfaction with their bodies if they are underweight, not just if they are overweight (Richards et al, 1990). It is a dilemma other researchers have themselves faced when looking at the field of males and eating disorders (Tiggeman et al, 2002) and it is apparent that there is an overwhelming need for scales that examine disordered eating to be made that are tailored to suit a male sample, rather than an exclusively female one.

Other potential weaknesses that existed could lie in the fact that men who identified as heterosexual made up almost half of the sample. In fact, as a total, homosexual men only made up 29% of the sample, with the remaining participants made up of those who identified as 'other' (made up of bisexual and asexual identification). It's possible that the results could have been skewed by this imbalance, and obtaining a larger sample of homosexual men could have improved the study's accuracy and confidence with the results.

It is also a possibility that given the social stigma that surrounds same-sex attraction, participants were not entirely honest about their sexuality. It is possible that even given the anonymity of an online survey, participants who claimed to be heterosexual did not feel comfortable enough with their sexuality to admit the true nature of it. Furthermore, it is entirely possible that results could have been further affected by the problem of self-report



measures – heterosexual men are less likely to admit to dysfunctional attitudes and tend to downplay them (Siever, 1994). This could potentially account for the more extreme scores that existed in homosexual men. Additionally, levels of exercise could have been exaggerated for both sexualities and may not be entirely accurate as a result.

Furthermore, Siever (1994) found from feedback received from his own study on sexual orientation and eating disorder symptomology that those who identify as homosexual experienced more body dissatisfaction before they actually came out in public about their sexuality.

The study may have also benefitted by looking at eating behaviours of both sexes, given the amount of evidence that gay men engage in more compensation for weight increase than heterosexual men, as well as drive for thinness and bulimia (Cella et al, 2010; Carper et al, 2010). It is notable that homosexual men scored higher on the weight subscale of the BCS in this study than heterosexual men, further suggesting the need for utilisation of a scale that looks more at eating behaviours rather than simply exercise and body comparison as a factor for eating disorder symptomatology. It is possible that gay men may engage in more disordered eating behaviours to keep themselves physically desirable, whilst heterosexual men use exercise to obtain a similar result, which would go somewhat explain their higher OEQ scores, compared to the high homosexual scores on the BCS weight subscale.

However, it should be noted that this study did have its strengths. Most importantly, it went to an effort to examine the difference of the importance of muscularity between the sexualities, as well as participants' relationship with exercise – something previous studies have failed to take into account (Carper et al., 2010). The study has showed that muscularity and the importance of exercise is indeed a factor future studies should take into account,

given the evidence within the study that heterosexual men seem to have a significantly increased interest in exercise behaviour as compared to homosexual men. It should be noted that similar studies examining eating disorder symptomology may have had significantly different results if they had looked at scores such as drive for muscularity and exercise behaviours.

This study also went to an effort to examine scores of BCS subscales, a factor that some other studies did not acknowledge (Carper et al., 2010). Had such studies included a scale that looked at exercise and muscularity drive, it is possible that results could have been very different, given that this study's results that indicate heterosexual men had more concern for muscularity than homosexual men. As mentioned before, this study's findings saw that heterosexual men may have scored higher in BCS general appearance as well as muscularity, but it was homosexual men who obtained the highest score in the weight scale. Thus, it's possible that heterosexual men may feel more pressure to maintain a muscular desirable appearance, whilst homosexual are more concerned with appearing thin – contrary to the initial motives to conduct this study.

As with what has already been mentioned when discussing limitations within this study, it is very much clear that a scale dealing with disordered eating needs to be created that is suitable for male subjects, paying particular attention to both the drive for thinness as well as muscularity. As mentioned earlier, several participants made contact to express their concern that they felt the questions were difficult for them to answer because they felt they were better suited to a female sample. Thus, re-designing both the SATAQ-3 and BCS to suit a male sample would be advised for future research.

Future studies may also benefit by looking at the relationship between eating behaviour and exercise, and how it differs between sexualities. As mentioned before, gay

men are more likely to engage in compensatory behaviour for weight increase, thus examining how different sexualities differ in exercise behaviour and eating behaviour may provide significant results.

In conclusion, the study did not confirm the hypotheses that homosexual men would score higher in all three BCS subscales, would exercise more, would have lower self-esteem and would perceive more sociocultural pressure to appear desirable. It also did not confirm the hypothesis that there would be a relationship between exercise behaviour and perceived pressure from the media. It did, however, confirm that gay men are more concerned about their weight than straight men.

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<b>8.</b>	I wish I could have more respect for myself.	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
<b>9.</b>	All in all, I am inclined to feel that I am a failure.	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>
<b>10.</b>	I take a positive attitude toward myself.	<b>SA</b>	<b>A</b>	<b>D</b>	<b>SD</b>

**Scoring.**

Items 1,3,4,7 & 10 are scored : SA=3, A=2, D=1, SD=0.

Items 2, 5, 6, 8 & 9 are reverse scored : SA=0, A=1, D=2, SD=3.

Sum the scores for the 10 items. The higher the overall total, the greater the self esteem.

*Body Comparison Scale*

For the items below, use the following scale to rate how often you compare these aspects of your body to those of other individuals of the same sex. NOTE: Please be sure that you read and respond to all of the questions according to how you would compare yourself to your same sex peers.

Never	Rarely	Sometimes	Often	Always
1	2	3	4	5

1. Ears 1 2 3 4 5

2. Nose 1 2 3 4 5

3.	Lips	1	2	3	4	5
4.	Hair	1	2	3	4	5
5.	Teeth	1	2	3	4	5
6.	Chin	1	2	3	4	5
7.	Shape of face	1	2	3	4	5
8.	Cheeks	1	2	3	4	5
9.	Forehead	1	2	3	4	5
10.	Upper arm	1	2	3	4	5
11.	Forearm	1	2	3	4	5
12.	Shoulders	1	2	3	4	5
13.	Chest	1	2	3	4	5

14.	Back	1	2	3	4	5
15.	Waist	1	2	3	4	5
16.	Stomach	1	2	3	4	5
17.	Buttocks	1	2	3	4	5
18.	Thighs	1	2	3	4	5
19.	Hips	1	2	3	4	5
20.	Calves	1	2	3	4	5
21.	Muscle tone of upper body	1	2	3	4	5
22.	Overall shape of upper body	1	2	3	4	5
23.	Muscle tone of lower body	1	2	3	4	5
24.	Overall shape of lower body	1	2	3	4	5
25.	Overall body	1	2	3	4	5

Note: general appearance, non weight, non muscular scale: items 1-9; muscular scale: items 10-15; weight scale items 16-20

*Obligatory Exercise Questionnaire*

Listed below are a series of statements about people's exercise habits. Please circle the number that reflects how often you could make the following statements:

1 - NEVER      2 - SOMETIMES      3 - USUALLY      4 - ALWAYS

1. I engage in physical exercise on a daily basis. 1 2 3 4
2. I engage in one/more of the following forms of exercise: walking, jogging/running or weightlifting. 1 2 3 4
3. I exercise more than three days per week. 1 2 3 4
4. When I don't exercise I don't feel guilty. 1 2 3 4
5. I sometimes feel like I don't want to exercise, but I go ahead and push myself anyway. 1 2 3 4
6. My best friend likes to exercise. 1 2 3 4
7. When I miss an exercise session, I feel concerned about my body possibly getting out of shape. 1 2 3 4

8. If I have planned to exercise at a particular time and something unexpected comes up (like an old friend comes to visit or I have some work to do that needs immediate attention) I will usually skip my exercise for that day. 1 2 3 4
9. If I miss a planned workout, I attempt to make up for it the next day. 1 2 3 4
10. I may miss a day of exercise for no good reason. 1 2 3 4
11. Sometimes, I feel a need to exercise twice in one day, even though I may feel a little tired. 1 2 3 4
12. If I feel I have overeaten, I will try to make up for it by increasing the amount I exercise. 1 2 3 4
13. When I miss a scheduled exercise session I may feel tense, irritable or depressed. 1 2 3 4
14. Sometimes, I find that my mind wanders to thoughts about exercising. 1 2 3 4
15. I have had daydreams about exercising. 1 2 3 4
16. I keep a record of my exercise performance, such as how long I work out, how far or fast I run. 1 2 3 4
17. I have experienced a feeling of euphoria or a high during or after an exercise session. 1 2 3 4
18. I frequently push myself to the limits. 1 2 3 4

19. I have exercised when advised against such activity (i.e. by a doctor

, friend, etc.)

1 2 3 4

20. I will engage in other forms of exercise if I am unable to engage in my usual form of exercise.

1 2 3 4

*Sociocultural Attitudes Towards Appearance Scale*

Please read each of the following items carefully and indicate the number that best reflects your agreement with the statement.

**Definitely Disagree = 1**

**Mostly Disagree = 2**

**Neither Agree Nor Disagree = 3**

**Mostly Agree = 4**

**Definitely Agree = 5**

1. TV programs are an important source of information about fashion and "being attractive." \_\_\_\_\_
2. I've felt pressure from TV or magazines to lose weight. \_\_\_\_\_
3. I do not care if my body looks like the body of people who are on TV. \_\_\_\_\_
4. I compare my body to the bodies of people who are on TV. \_\_\_\_\_
5. TV commercials are an important source of information about fashion and "being attractive." \_\_\_\_\_
6. I do not feel pressure from TV or magazines to look attractive. \_\_\_\_\_
7. I would like my body to look like the models who appear in magazines. \_\_\_\_\_
8. I compare my appearance to the appearance of TV and movie stars \_\_\_\_\_
9. Music videos on TV are not an important source of information about fashion and "being attractive." \_\_\_\_\_



10. I've felt pressure from TV and magazines to be thin. \_\_\_\_\_
11. I would like my body to look like the people who are in movies. \_\_\_\_\_
12. I do not compare my body to the bodies of people who appear in magazine \_\_\_\_\_
13. Magazine articles are not an important source of information about fashion and "being attractive." \_\_\_\_\_
14. I've felt pressure from TV or magazines to have a perfect body. \_\_\_\_\_
15. I wish I looked like the models in music videos. \_\_\_\_\_
16. I compare my appearance to the appearance of people in magazines. \_\_\_\_\_
17. Magazine advertisements are an important source of information about fashion and "being attractive." \_\_\_\_\_
18. I've felt pressure from TV or magazines to diet. \_\_\_\_\_
19. I do not wish to look as athletic as the people in magazines. \_\_\_\_\_
20. I compare my body to that of people in "good shape." \_\_\_\_\_
21. Pictures in magazines are an important source of information about fashion and "being attractive." \_\_\_\_\_
22. I've felt pressure from TV or magazines to exercise. \_\_\_\_\_
23. I wish I looked as athletic as sports stars. \_\_\_\_\_
24. I compare my body to that of people who are athletic. \_\_\_\_\_
25. Movies are an important source of information about fashion and "being attractive." \_\_\_\_\_
26. I've felt pressure from TV or magazines to change my appearance. \_\_\_\_\_
27. I do not try to look like the people on TV. \_\_\_\_\_
28. Movie stars are not an important source of information about fashion and "being attractive." \_\_\_\_\_

29. Famous people are an important source of information about fashion and "being attractive." \_\_\_\_\_

30. I try to look like sports athletes. \_\_\_\_\_

Internalization-General: Items: 3(r), 4, 7, 8, 11, 12(r), 15, 16, 27(r)

Internalization-Athlete: Items: 19(r), 20, 23, 24, 30

Pressures: Items: 2, 6(r), 10, 14, 18, 22, 26

Information: Items: 1, 5, 9(r), 13(r), 17, 21, 25, 28(r), 29

Reverse-keyed items: 3, 6, 9, 12, 13, 19, 27, 28

To reverse a score deduct the original answer from 6 eg an answer of '1' "definitely disagree" would be reversed to '5' ( $6 - 1 = 5$ ). Similarly an answer of '5' "definitely agree" would be reversed to '1'

( $6 - 5 = 1$ ).