



Manchester
Metropolitan
University

An internet questionnaire study into predictors of gay men's social physique anxiety

Neil Jones

Supervised by: Elaine Reeves

March 2012

An internet questionnaire study into predictors of gay men's social physique anxiety.

ABSTRACT

Previous research has shown that gay men are at particular risk from body image issues. This study aimed to investigate how media factors, gender role, and body dissatisfaction influenced gay men's social physique anxiety.

An internet snowball sample of 191 gay men completed an online questionnaire measuring internalisation of media messages, gay magazine and pornography exposure, male gender role identification, muscle and fat dissatisfaction, and social physique anxiety.

A hierarchical regression and ANOVAs were used to investigate the effects of the variables on social physique anxiety. General media internalisation, male gender role, and muscle and fat dissatisfaction were uniquely predictive of social physique anxiety. Those with high media internalisation had significantly higher social physique anxiety than those with low media internalisation. Those with higher male gender role identification had significantly lower social physique anxiety than those with low male gender role identification.

Male gender role, media influences and body dissatisfaction can all be used in the prediction of body image based anxiety. Recommendations for further study are made in terms of different age groups, feelings of belonging within the gay community, and different gay subcultures.

KEY WORDS:	BODY IMAGE	GENDER ROLE	MEDIA INTERNALISATION	GAY MEN	SOCIAL PHYSIQUE ANXIETY
-------------------	------------	-------------	-----------------------	---------	-------------------------

Introduction

The last few decades has seen a large body of research relating to media influences on women's body image; women internalise the thin cultural ideal that the media perpetuates. Fredrickson and Roberts (1997) developed Objectification Theory as an understanding of the notion that girls and women are acculturated to see themselves as objects for the observation and pleasure of others. This can contribute to psychological issues such as shame, anxiety, depression and sometimes eating disorders when the individual feels they are not living up to the media ideal of slim, youthful models, along with an increase in body dissatisfaction and negative mood (Monro & Huon, 2006; Tiggemann & McGill, 2004). Objectification Theory depicts men as protected from these effects due to the male gaze being directed towards women, and men not having to conform to a thin ideal. However, recent research shows that men are not as protected as once thought. Men have become increasingly objectified in the media, such as in soft drink advertisements, and more muscular as seen in the centrefold models of Playgirl magazine, who in the 25 years from the 1970s to the 1990s have lost an average 12 pounds and gained 27 pounds of muscle (Pope *et al.*, 2000, p.47).

This change appears to have altered men's perceptions regarding the ideal male body, with men desiring greater muscularity (Arbour & Martin-Ginis, 2006), possibly indicating a similar phenomenon as described in females under Objectification Theory. Men are also sensitive to the judgements of others (Adams *et al.*, 2005), describing how their bodies were able to communicate certain ideas about themselves, such as strength, financial success, or levels of masculinity. Feelings of social acceptance were also related to the believed perceptions of others, with being attractive relating to being liked by others. This self-objectification has been found to be significantly related to body surveillance, body shame, drive for thinness and drive for muscularity in both gay and heterosexual males (Martins *et al.*, 2007), further supporting the claim that males are not as immune to objectification as once thought, and that this can have behavioural and psychological implications.

Men's body image concerns appear to be driven by the media as much as women's. Labre (2005) found men described the ideal male body as "muscles, big, cut, ripped" and often used well known celebrities to exemplify this. Higher media internalisation has been found to have a higher impact on men's muscle dissatisfaction. Media internalisation has also been found to be a strong predictor of a drive for muscularity (Daniel & Bridges, 2010). However, men are not a homogenous group and as such, other factors need to be taken into consideration when looking at body image. While higher internalisation of cultural messages related, in general, to a higher level of muscle dissatisfaction in a diverse group of men (Grammas & Schwartz, 2009), Asian men in particular had significantly lower muscle satisfaction than other groups of men, consistent with other research which found that Asian males to be significantly smaller than Caucasian males, therefore conforming less to the muscular ideal.

Various other factors can also affect men's body image. Baredone-Cone *et al.* (2008) found that the higher the expectations of others that individuals feel, the lower their self-esteem in their own appearance will be, and the greater their weight and shape

concern will be. Higher neuroticism has been found to relate to lower body appreciation, whereas higher educational level and male stereotypic traits have been found to relate to higher body appreciation (Swami *et al.*, 2008). Men with distressed or 'type D' personalities have also been shown to have poorer body image (Borkoles *et al.*, 2010), with exercise moderating this relationship: those type D men who performed some sort of exercise tended to have better body image than those who did none. These studies did not look into sexuality or specific types of body dissatisfaction, but they do exemplify how there are numerous factors that can be taken into consideration when looking at men's body image. Race may also play a role, Harrison and Bond (2007) found that in preadolescent boys who read gaming magazines, those white boys who read more than black boys had a higher drive for muscularity than those who read less. It is also possible that different types of magazines and media affect certain groups in different ways.

Giles and Close (2005) found that dating status had a significant impact on how "lad mag" exposure affected men's body image. Non-dating participants were found to have a significantly higher drive for muscularity than those who were dating, which indicates to a possible desire to be attractive to potential partners. The study did not use any measure of sexual orientation and makes the assumption that there is no specific reason to expect differences between heterosexual and gay men. However the magazines included were aimed typically towards a heterosexual market. While gay males could then be assumed to be part of the low exposure portion of participants, this does not preclude them from using other magazines aimed at men which are more salient to them which could therefore influence their drive for muscularity. Saucier & Caron (2008) found in a content analysis of gay magazines in the USA that in articles and advertisements there was an importance placed on having the right body type and objectification of specific body parts. Duggan and McCreary (2004) for example found that gay men who watched more gay pornography had higher social physique anxiety than those who watched less.

Gay men have consistently been found to experience more body dissatisfaction than heterosexual men. Compared to heterosexual men, gay men have been also been found to score higher for disordered eating, place more importance on their appearance to others (Yelland & Tiggemann, 2003), be more fearful of becoming fat, diet more, and experience more dissatisfaction specifically with their level of muscularity (Kaminski *et al.*, 2005). This dichotomous attitude to muscle and dieting may lead to further frustration with their bodies, as the fear of fat leads gay men to diet more, but to become more muscular they must increase their intake of particular foods. A potential reason for the difference in body dissatisfaction may be related to internalisation of cultural ideals and expectations of attractiveness. Legenbauer *et al.* (2009) found gay men to internalise cultural messages significantly more than heterosexual men, and men in general had higher expectations of attractiveness in a partner. A combination of these two factors could contribute to poorer body image in gay men due to concepts related to Objectification Theory. Gay men internalise the cultural ideal of muscularity while feeling the pressure of the 'male gaze' coupled with the standards they set on attractiveness they expect in a partner and themselves.

Younger gay men also describe feeling more pressure from the gay community to look a certain way, whereas older gay men appear to come to accept that their bodies change and may not look the way they used to (Drummond, 2005, 2006).

Furthermore, subcultures within the gay community have different views on the ideal body. For example the 'bear' subculture is one that celebrates physically larger, hairy men. Those who identify as bears do not aspire to the lean, muscular masculine ideal (Gough & Flanders, 2009). Also, while Wrench and Knapp (2008) found that while gay men had greater body image fixation, those with a greater sense of belonging within the gay community held higher levels of self esteem. There may be more pressure to look a particular way in the gay community, so those who feel outside of it may try to look that way to gain a sense of belonging, whereas those already involved feel this pressure less as they already feel that they are accepted.

The differences between heterosexual and gay men in relation to Objectification Theory have been explored (Martins *et al.*, 2007). Gay men were found to have significantly higher self-objectification and more dissatisfaction on measures of drive for thinness, body shame, and upper and lower body dissatisfaction, but no difference in drive for muscularity, conflicting with other research that found a difference. Of particular interest is the difference in the drive for thinness, as the lack of thin cultural ideal in is what Objectification Theory stated protected men. As mentioned previously, men appear to feel some cultural pressure to conform to a particular body type, generally a muscular one more than a thin one. Rather than gender or sexual orientation, gender-trait identification may be a more important influencing factor for body image issues.

Firstly, McCreary *et al.* (2005) found that masculine gender trait identification correlated positively with drive for muscularity, regardless of gender. Secondly, in a meta-analysis of studies including heterosexual and gay men (Blashill, 2011) higher feminine trait identification related negatively to muscle dissatisfaction for heterosexual men only, while interestingly masculinity was negatively related to body dissatisfaction, similar to results found in Swami *et al.* (2008). This is counter-intuitive: it could be assumed that as higher masculinity relates to a higher drive for masculinity, this would indicate greater body dissatisfaction. One possibility is that men with higher masculinity are less willing to report body dissatisfaction in line with studies that show men are less likely to report health problems, and that they use masculine activities to hide health and body concerns (Courtenay, 2000; Darko, 2009).

These behaviours surrounding body image, fat and muscle dissatisfaction, and eating habits all relate to body dysmorphic disorder (BDD) of which muscle dysmorphia (MD) is a subtype (Pope *et al.*, 2000, p.87). Individuals with BDD have unrealistic judgements about their body, and can suffer a variety of psychological problems. Men with BDD are more invested in appearance related norms than those without (Didie *et al.*, 2010), and those with MD are more likely to attempt suicide and have poorer quality of life (Pope *et al.*, 2005). Gay men have also been shown to display higher physical appearance anxiety than their heterosexual counterparts (Marino-Carper *et al.*, 2010). It is evident however that sexual orientation is but one factor that can affect body image. Grieve (2007) proposed a conceptual model of factors contributing to the development of muscle dysmorphia, such as media pressure and ideal body internalisation. However, there was no consideration for gender role identification or sexual orientation, which evidently play a part in men's body image, ultimately affecting occurrence of BDD and its subtypes.

The aim of this study was to investigate how gender role, media influences and male body attitudes affect the physique related anxiety of a sample of gay men. Four hypotheses were tested:

H1: There will be a significant correlation between male gender role identification and both social physique anxiety and body dissatisfaction.

H2: Social physique anxiety will be able to be regression modelled from the other variables measured.

H3: There will be a significant interaction effect between media internalisation and male gender role identification on social physique anxiety.

H4: There will be a significant interaction effect between media internalisation and magazine exposure on social physique anxiety.

Method

Design

This correlational study used an internet based self-report questionnaire to collect data. Self-report questionnaires allowed for several scales to be used and relationships between variables to be investigated, the internet allowed for quick dissemination and collection. While self-report questionnaires are open to a response bias from participants, it was hoped that use of the internet would avoid this, negating possible observer effects.

Materials

A £25 one month subscription to the survey website Survey Monkey was used to host the questionnaire. The website allowed for the downloading of responses in numerical format to Excel, which could then be easily copied to SPSS.

Participants

A total of 205 gay men were recruited using snowball sampling via Twitter and Facebook through contacts of the researcher and also Manchester' LGF charity, who posted the link on Twitter. This was done free of charge by the charity, in return for a summary of the research results. A number of non-gay males, and females completed the survey: these results were not downloaded. Participants were asked to share the link with their contacts. The internet has been cited as a useful tool in the investigation of gay men's body image (Filiault & Drummond, 2009).

Measures

A battery of questionnaires was used to assess participants in each of the areas the study is to investigate.

Participants were asked to provide their age and where they had heard about the questionnaire. Gender and sexual orientation were requested to exclude females and non-gay males who completed the questionnaire. Participants were given the

opportunity to provide their initials and a password should they wish to request information about their results (see appendix 1).

The nine-item social physique anxiety scale (SPAS) (see appendix 2) was used to assess the respondents' anxiety experienced regarding their physique being evaluated by others (Martin *et al.*, 1997) using items such as 'I wish I wasn't so uptight about my physique/figure.' Respondents indicated the degree to which the statement was characteristic or true of them along a five-point scale from not at all to extremely characteristic. Higher scores indicated greater social physique anxiety. Duggan and McCreary (2004) have used this with a sample of gay men in relation to their media consumption. These studies found the Cronbach's alpha value to be .89 and .91 respectively. This scale appeared first so that its responses were not influenced by participants' reflections on their attitudes towards their own body. Items five and eight are reverse scored.

Gay media exposure was measured using questions regarding consumption of gay market oriented magazines and pornography (see appendix 3). Participants had to rate how often they buy monthly gay magazines along a 6-point scale from never to always, in line with Giles and Close (2008). Pornography exposure was measured by participants indicating how often they had viewed or purchased pornography in the last month using a five-point scale ranging from none to more than ten times as in Duggan and McCreary (2004). The pornography measure was included as Duggan and McCreary found that gay participants consumed higher amounts of this than their heterosexual counterparts. Higher values indicated greater exposure to gay media.

The internalisation-general and internalisation-athletic subscales of the Sociocultural Attitudes Toward Appearance Scale-3 (SATAQ-3) were used to assess the extent to which participants internalised societal norms displayed in the media (see appendix 4). These consist of general media internalisation items such as 'I wish I looked like the models in music videos', and athletic media internalisation items such as 'I wish I looked as athletic as sports stars.' Responses were along a five point scale from definitely disagree to definitely agree for how each statement represented the respondent's feelings. Higher scores indicated a greater degree of internalisation. They have been shown to have high internal consistency (Thompson *et al.*, 2003) with the Cronbach's alpha for the Internalisation-Athlete being .95 and the Internalisation-General being .96. They have also shown excellent concurrent and discriminant validity with males (Karazsia & Crowther, 2008) and have been successfully implemented with samples of gay men (Marino-Carper *et al.*, 2010) with Cronbach's alpha values for the Internalisation-Athlete and Internalisation-General for the sample being .78 and .85 respectively. Items one, six, nine and 10 are reverse scored.

To measure gender role the masculine and feminine subscales of the Bem Sex-Role Inventory (BSRI) short form were used (see appendix 5). Participants responded to how well each item described them on a seven point scale from never or almost never true to always or almost always true. As the research was only concerned with how male gender role related to other scores the femininity items were reverse scored and combined with the masculine items to provide a masculinity score: higher scores indicated a greater male gender role identification. Each subscale consists of 10 adjectives that are typically feminine descriptors (for example, compassionate) or

masculine descriptors (for example, aggressive) (Colley *et al.*, 2009). The short form has been shown to produce more reliable scores than the long form (Campbell *et al.*, 1997), with the male and female short-form alphas showing as .82 and .89 respectively. The short-form has also displayed better construct validity for use with male participants owing to problematic femininity items in the long-form (Chung, 1995).

Body dissatisfaction was measured using the muscle and fat subscales of the Male Body Attitudes Scale (MBAS) developed by Tylka *et al.* (2005), with responses along a six point scale from never to always (see appendix 6). Higher scores indicated greater body dissatisfaction. The muscle subscale has items such as 'I think my chest should be broader' and the fat subscale has items such as 'I think my body should be leaner.' These have shown concurrent validity with other body attitude scales, generalised to other samples of men and display temporal stability over two weeks. The MBAS consists of three subscales measuring muscle, fat and height dissatisfaction. However Blashill & Vander Wal (2009) found that the height scale could be removed for samples of gay men without affecting dissatisfaction scores. The remaining subscales have shown excellent internal consistency, the studies described found the alpha value for the fat subscale to be .94 and the muscularity subscale to range from .89 to .90. Items four, 16 and 17 are reverse scored.

Procedure

Each scale was set up on a separate page on Survey Monkey. The link for the questionnaire was suffixed with 'GayMensBodyImage', to help avoid non-gay men and females completing the study. The link was posted on both Twitter and Facebook to contacts of the researcher, who were asked to complete the study and then pass the link on. Manchester's Lesbian and Gay Foundation charity retweeted the link also. The survey link was made unavailable after two weeks, at which point 205 gay men had completed the study.

Ethical Considerations

No personally identifiable data was collected regarding participants. It was not possible to assign a participant number due to limitations of the survey website. Accordingly, participants were invited to leave their initials and a password of their choice should they wish to request their results or to withdraw from the study at a later date. The study involved no deception of the participants, however to help avoid demand characteristics the questionnaire names were omitted. While the participants were not from a group classed as vulnerable it was possible the questions would cause participants to recognise body image issues that they have. Due to this the final page of the questionnaire included a debriefing statement along with contact information for the mental health charity Mind, the anxiety charity Anxiety UK and the BDD Support organisation. Contact information for the researcher was also included should participants wish to withdraw or request more information (see appendix 7).

Results

The data was downloaded from Survey Monkey and transferred to SPSS version 19.0 for analysis. The relevant items were reverse scored (see method). Each scale was tested for normality and 14 participants were removed due to skewed results (see appendix 8), leaving a total of 191 for analytical purposes. The age range of these participants was from 18 to 57 years ($M = 29.38$, $SD = 7.96$), with 146 participants recruited through Twitter and 45 being recruited through Facebook, 180 participants were from the UK, five were from Australia, four from the USA and two from Spain. Reliability analysis was carried out on each scale to check the internal consistency, which were all found to have a Cronbach's alpha value over .7, the values are displayed in **Table 1** below.

Table 1
Reliability analysis for all measures showing Cronbach's alphas

Measure ¹	Number of items in variable score	Cronbach's alpha	95% Confidence Interval for alpha	
			Lower	Upper
SPAS	9	.91***	.90	.93
SATAQ-IG	9	.90***	.88	.92
SATAQ-IA	5	.84***	.80	.87
MBAS-M	10	.92***	.90	.94
MBAS-F	8	.93***	.91	.94
BSRI	20	.77***	.72	.81

Note: F test with true value = 0.7, * $p < .05$, $p < .01$, $p < .001$

Following reliability checks, further analysis could be carried out. **Table 2** below shows the mean and standard deviations for each scale.

Table 2
Means and standard deviations for all measures

Measure	M	SD
SPAS	30.56	8.09
SATAQ-IG	31.52	11.26
SATAQ-IA	17.88	4.44
MBAS-M	36.64	11.90
MBAS-F	31.53	10.94
BSRI	72.40	10.52
Magazine	9.07	3.36
Pornography	4.01	1.34

¹ SPAS – Social Physique Anxiety Scale. SATAQ-IG – Sociocultural Attitudes Towards Appearance Questionnaire Internalisation General subscale. SATAQ-IA - Sociocultural Attitudes Towards Appearance Questionnaire Internalisation Athlete subscale. MBAS-M – Male Body Attitude Scale Muscularity subscale. MBAS-F – Male Body Attitude Scale Fat subscale. BSRI – Bem Sex Role Inventory.

Pearson's correlations were carried out between all variables to look for significant relationships. These are displayed in **Table 3**.

Table 3
Correlations between all variables

	1	2	3	4	5	6	7	8	9
1. SPAS	-	-.26***	.43***	.20**	-.09	.16*	.39***	.58***	-.28***
2. Age		-	-.16*	-.11	.13*	-.11	-.09	.02	-.004
3. SATAQ-IG			-	.65***	.11	.20**	.39***	.42***	-.03
4. SATAQ-IA				-	.05	.16*	.41***	.24***	.11
5. Magazine					-	.03	.05	.03	-.09
6. Pornography						-	.22**	-.03	-.02
7. MBASM							-	.16*	-.13*
8. MBASF								-	-.10
9. BSRI									-

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

All variables showed significant correlations with SPAS except for magazine exposure, which only correlated with age. Both SATAQ subscales correlated positively and significantly with both MBAS subscales ($p < .001$), indicating some relationship between media internalisation and body dissatisfaction: the more the participants internalised media messages, the more dissatisfied with their bodies they were. Pornography exposure correlated significantly with MBAS-M scores, muscle dissatisfaction was higher in those who watched more pornography. There were also slight but significant negative correlations between participants' BSRI scores and both their MBAS-M and SPAS scores. The higher the participants' self-reported masculine gender role identification, the more satisfied they were with their body muscle and the lower their social physique anxiety.

Hierarchical multiple regression analysis was carried out to investigate the ability of the MBAS, BSRI, and SATAQ scores to uniquely predict SPAS scores. Magazine exposure was excluded from analysis due to the lack of correlation with SPAS score. Pornography exposure was excluded from analysis due to an error that occurred in SPSS when it was entered. Age was also excluded from the model as this was not the focus of the research. At step one SATAQG was entered as it was theorised that sociocultural media influences would have the most influence over SPAS. At step two the BSRI score was entered due to the close relationship that gender role has with sociocultural messages. At step 3, MBAS-F was entered. It was theorised that while body dissatisfaction was important in determining SPAS, these would not be as important as cultural factors. MBAS-M was entered during the fourth and final step due to the lower correlation coefficient out of the two body image scales. A summary of the analysis can be seen in **table 4**.

Table 4
Summary of Hierarchical Regression Analysis for Variables Predicting Social Physique Anxiety (N = 191)

Variable	Model 1			Model 2			Model 3			Model 4		
	B	SE B	β	B	SE B	β	B	SE B	β	B	SE B	β
Constant	16.33	2.19		31.22	4.13		24.57	3.72		20.16	3.75	
SATAQ-IG	.45	.07	.44	.44	.07	.43	.25	.06	.24	.16	.06	.15*
BSRI				.05	.05	-.26	-.17	.04	-.23	-.15	.04	-.20
MBAS-F							.34	.05	.46	.34	.04	.46
MBAS-M										.16	.04	.23
R^2		.19			.26			.44			.48	
F for change in R^2		44.87			17.59			57.55			15.92	

Standardised Beta (β) significance assessed using t test value. All Beta values and F for change in R^2 values significant to $p < .001$ except for *, significant to $p < .05$.

Above, **Table 4** shows the regression model for the prediction of social physique anxiety. The model shows four stages, with each providing a significant increase in the prediction of the variance in SPAS. At stage one SATAQ-IG significantly predicted SPAS score, $R^2 = .19$, $F = 44.87$, $p < .001$. When BSRI was entered at step two, a significant change in R^2 was noted, $R^2 = .26$, $F = 17.59$, $p < .001$. At step three MBAS-F was entered and another significant change in R^2 was noted, $R^2 = .44$, $F = 57.55$, $p < .001$. At the fourth and final step, MBAS-M was entered into the model, all four variables were significant predictors of social physique anxiety and there was significant change in R^2 , $R^2 = .48$, $F = 15.92$, $p < .001$. The four predictor model explained 48% of the variance in social physique anxiety, and this overall model was statistically significant, $F(4,186) = 42.83$, $p < .001$. Scatterplots for each predictor's correlation with SPAS can be seen in appendix 13.

To investigate the effect on SPAS of any interaction between SATAQ-IG score and BSRI score a 3x3 between subjects ANOVA was performed. The independent variables were SATAQ-IG and BSRI which each had three levels, with SPAS as the dependent variable. The SATAQ-IG and BSRI scores were split into three groups using SPSS. Firstly they were split into four equal percentile groups (25%). The middle two groups were then combined. This yielded a lower and a higher 25% group, which the analysis was mainly concerned with, and a middle 50% group for comparison. A significance level of .05 was set for the ANOVA. **Table 5** below displays the means and standard deviations of the groups used for the ANOVA comparing SATAQ-IG and BSRI.

Table 5
Mean SPAS scores and standard deviations of the groups used for ANOVA
comparing effects of SATAQG and BSRI scores

		SATAQG Group					
		Lower		Middle		Higher	
		M	SD	M	SD	M	SD
	Lower	29.38	6.64	32.00	6.19	37.73	7.03
BSRI Group	Middle	24.50	8.21	32.36	7.09	34.77	7.61
	Higher	25.35	6.11	26.41	7.94	31.44	7.30

There was a significant main effect of SATAQ-IG score, $F(2,182) = 13.60$, $p < .05$, and also of BSRI score, $F(2,182) = 5.73$, $p < .05$. However there was no significant interaction effect between SATAQ-IG and BSRI on SPAS, $F(4,182) = 1.51$, $p > .05$.

A series of independent t -tests were carried out on SATAQ-IG scores to investigate where the difference lay. Using Bonferroni correction a significance level of .0167 was set for the t -tests. This was derived by dividing the original significance level of .05 by the number of pair wise comparisons, which was three.

The SPAS score for the lower SATAQ-IG group ($M = 26.06$) was lower than that of the middle SATAQG group ($M = 30.87$) with a mean difference of 4.81. The independent t -test found this difference to be significant with a medium effect size, $t = 3.68$, $df = 143$, $p < .0167$, $d = 0.64$. The SPAS score for the lower SATAQ-IG group ($M = 26.06$) was lower than that of the higher SATAQ-IG group ($M = 34.83$) with a mean difference of 8.77. The independent t -test found this difference to be significant with a large effect size, $t = 5.78$, $df = 94$, $p < .0167$, $d = 1.182$. The SPAS score for the middle SATAQ-IG group ($M = 30.87$) was lower than that of the higher SATAQ-IG group ($M = 34.83$) with a mean difference of 3.95. The independent t -test found this difference to be significant with a medium effect size, $t = -2.91$, $df = 139$, $p < .0167$, $d = 0.522$. These differences can be seen in **Figure 1**.

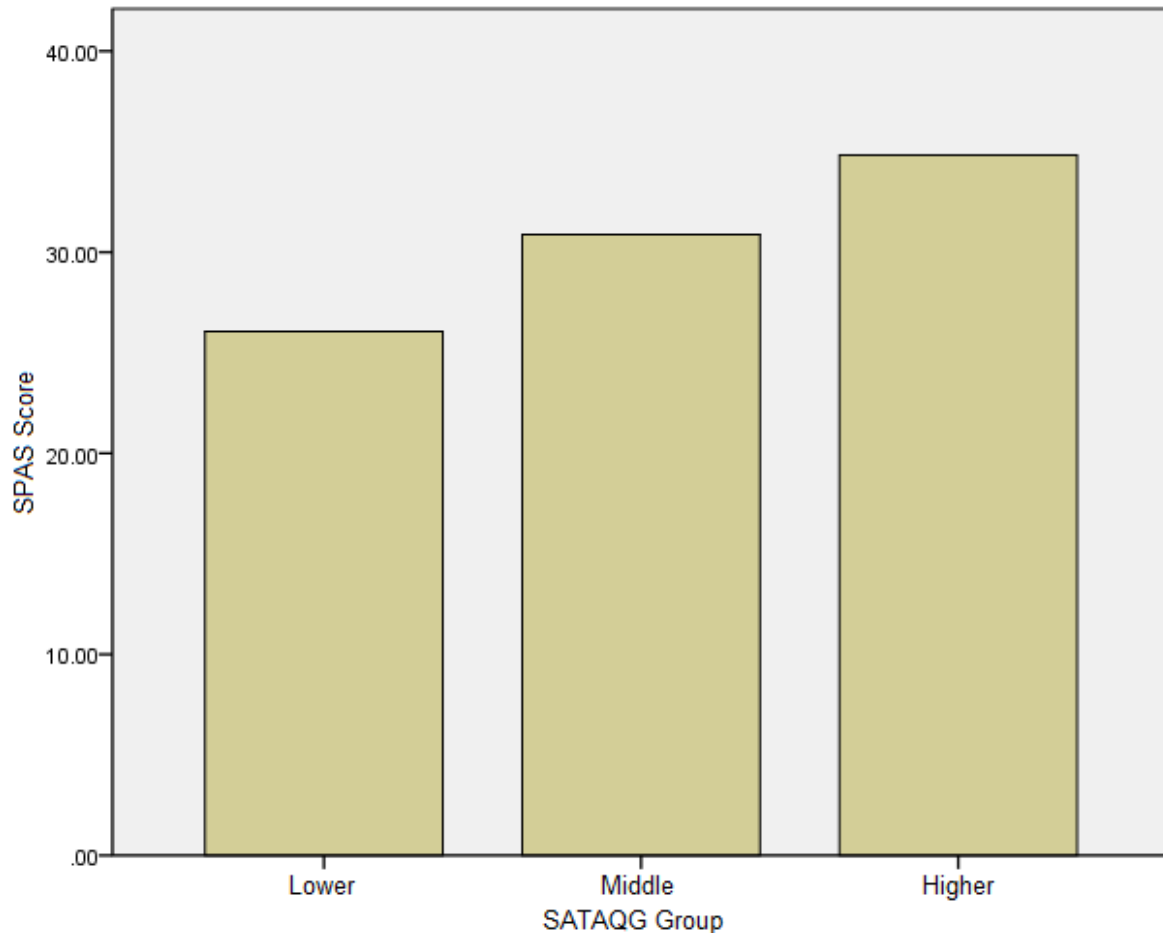


Figure 1
Bar chart showing the mean SPAS scores for each SATAQG Group

It can be seen from the bar chart that there is a clear difference between each group: those with higher media internalisation have significantly higher social physique anxiety than those with lower social physique anxiety.

A series of independent *t*-tests were also carried out on BSRI scores to investigate where the source of its significance lay. Using Bonferroni correction a significance level of .0167 was set for the *t*-tests. This was derived by dividing the original significance level of .05 by the number of pairwise comparisons, which was three.

The SPAS score for the lower BEM group ($M = 32.56$) was higher than that of the middle BSRI group ($M = 31.32$) with a mean difference of 1.24. The independent *t*-test found this difference to not be significant, $t = .89$, $df = 141$, $p > .0167$. The SPAS score for the lower BSRI group ($M = 32.56$) was higher than that of the higher BSRI group ($M = 26.98$) with a mean difference of 5.58. The independent *t*-test found this difference to significant with a medium effect size, $t = 3.78$, $df = 98$, $p < .0167$, $d = 0.757$. The SPAS score for the middle BSRI group ($M = 31.32$) was higher than that of the higher BSRI group ($M = 26.98$) with a mean difference of 4.34. The independent *t*-test found this difference to be significant with a medium effect size, $t = 3.03$, $df = 137$, $p < .0167$, $d = 0.541$. These differences can be seen in **Figure 2**.

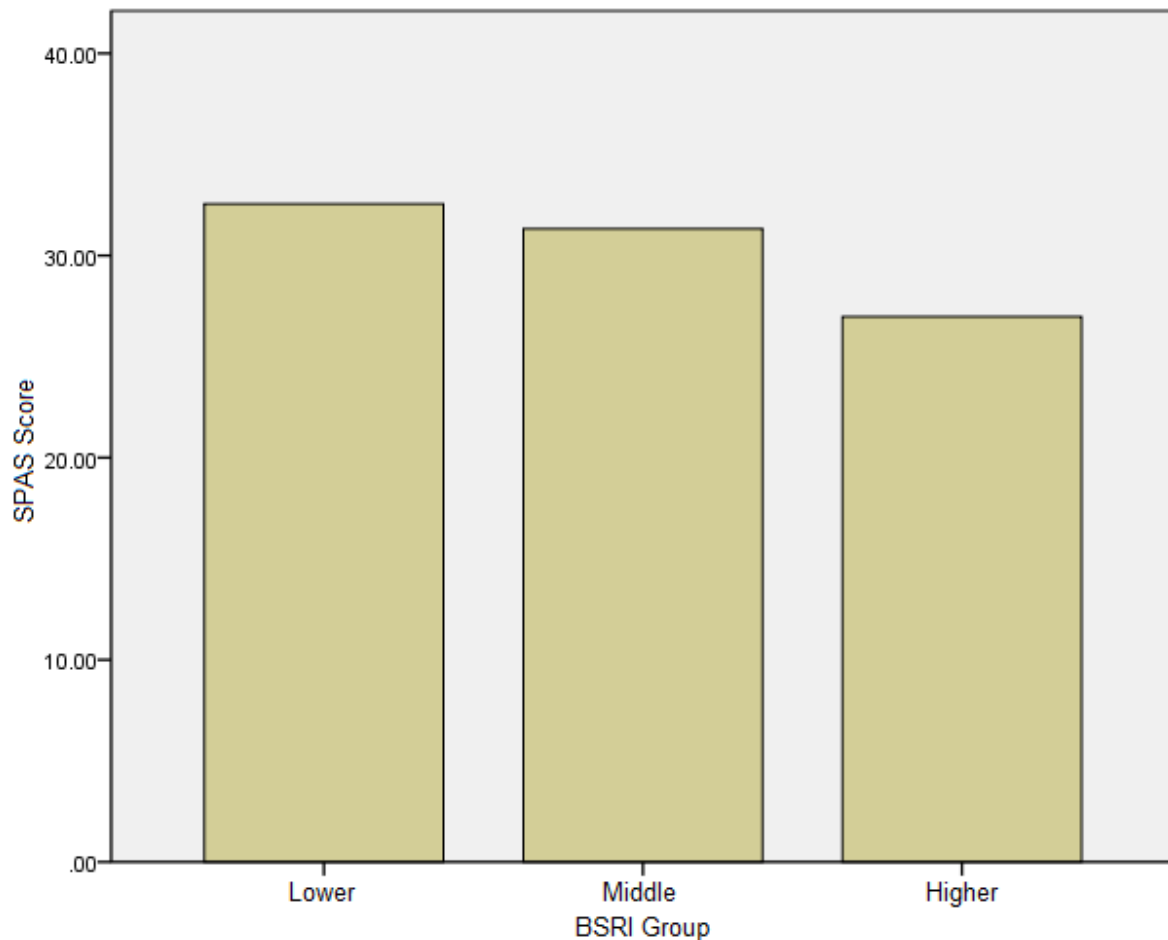


Figure 2
Bar chart showing the mean SPAS scores for each BSRI group

It can be seen from the bar chart that the difference between the low and mid groups is only very slight, with a more pronounced difference between them and the top group. Those with higher male gender role identification reported significantly lower social physique anxiety than those with lower male gender role identification.

To investigate the effect on SPAS of any interaction between SATAQ-IG and magazine exposure a 3x3 between subjects ANOVA was performed. The independent variables were SATAQ-IG and magazine exposure which each had three levels, with SPAS as the dependent variable. The SATAQ-IG and magazine exposure scores were split into three groups using SPSS. Firstly they were split into for equal percentile groups (25%). The middle two groups were then combined. This yielded a lower and a higher 25% group, which the analysis was mainly concerned with, and a middle 50% group for comparison. A significance level of .05 was set for the ANOVA. **Table 6** below displays the means and standard deviations of the groups used for the ANOVA comparing SATAQ-IG and magazine exposure.

Table 6
Mean social physique anxiety scores and standard deviations of the groups used for ANOVA comparing effects of SATAQ-IG and Magazine Exposure scores

		SATAQ-IG Group					
		Lower		Middle		Higher	
		M	SD	M	SD	M	SD
Magazine Exposure Group	Lower	27.15	6.91	32.36	7.48	39.55	6.98
	Middle	24.32	7.06	30.82	7.26	33.88	7.73
	Higher	27.09	8.43	29.57	8.39	34.22	7.73

There was a significant main effect of SATAQ-IG, $F(2,182) = 15.15$, $p < .05$. However there was no significant main effect of magazine exposure, $F(2,182) = 1.96$, $p > .05$, and no significant interaction between SATAQ-IG and magazine exposure, $F(4,182) = .43$, $p > .05$. Post-hoc tests for SATAQ-IG scores can be seen above.

The effect sizes were calculated using the website Effect Size Calculator (Cepeda, 2008).

Discussion

The present study looked at how various factors influenced social physique anxiety in an internet sample of gay men. The results support previous findings that body image is a complex and multifaceted concept. There were significant correlations between many of the variables. The slight correlation between pornography consumption and social physique anxiety mirrors that found by Duggan and McCreary (2004) in gay men, but not in heterosexual men. Gay men may experience more comparison with the images in gay pornography than heterosexual men do with heterosexual pornography. The correlation between age and social physique anxiety, but not between age and body dissatisfaction, suggests that age does not affect gay men's dissatisfaction with their bodies, but it does affect the anxiety they feel, with younger gay men feeling more anxiety. This could be linked to the relationship between age and general media internalisation, which suggested that younger gay men internalised these messages more. This supports the findings of Drummond (2005, 2006), who found that younger gay men felt that the aesthetic driven culture of the gay scene forced them into looking a particular way, whereas older gay men felt the inevitability of ageing, accepting the changes happening in their body.

The results showed support for the first hypothesis, male gender role identification correlated significantly with body social physique anxiety and muscle dissatisfaction, but not with body fat dissatisfaction. The correlations were negative, as male gender role identification increased, both social physique anxiety and muscle dissatisfaction

dropped. Previous studies have shown mixed results when it comes to gender's influence on body related behaviours and attitudes. While the increased self-reported masculinity seemed to relate to an increased drive for muscularity (McCreary *et al.*, 2005) which could be assumed to lead to an increase in body dissatisfaction, increased masculinity did not lead to an increase in body dissatisfaction, rather than opposite was true, greater masculinity related to lower body dissatisfaction (Blashill, 2011; Swami *et al.*, 2008). Masculinity could therefore be considered to be a protective factor in male body image. However qualitative work has shown that men are less likely to report health problems (Courtenay, 2000) or body concerns (Darko, 2009) as a man has to be strong and not show any weakness. It is unclear with the current results therefore whether masculine identification is a protective factor against social physique anxiety in men, or whether it affects men's tendency to report their anxiety.

There was support for the second hypothesis, that the other variables would be able to successfully model social physique anxiety, which was significant at each step of the model: general media internalisation, male gender role identification, body fat dissatisfaction, and muscle dissatisfaction accounted for 48% of the variance in social physique anxiety. Although these variables also showed correlations with each other, all remained significant at each stage of the model, indicating that all variables made unique contributions to the variance in social physique anxiety. The MBAS scales were used by Blashill (2011) in regression analysis to predict social sensitivity, eating pathology, and depression in gay men. Blashill found muscle dissatisfaction to lose significance in predicting eating pathology and depression when other variables were entered into analysis. Social sensitivity describes an individual's concerns around evaluation and criticism from others, a more general form of social physique anxiety. Given that Blashill found significant correlations between social sensitivity, eating pathology, and depression, the current study could be repeated but investigating these three concepts in place of social physique anxiety. This would help to investigate the importance of muscle dissatisfaction in predicting men's body image issues and surrounding behaviours.

While there was no support for the third and fourth hypotheses, that there would be an interaction effect between media internalisation and male gender role identification, and an interaction between media internalisation and magazine exposure, on social physique anxiety scores, there were main effects for both general media internalisation and male gender role identification. The significant difference in social physique anxiety between the lower and higher media internalisation groups when interpreted with the significant correlation between the two variables provides support that not only is there some relationship between them, but also that higher media internalisation is related to significantly higher social physique anxiety. While correlations cannot be taken to mean causation, qualitative work shows that the media directly affects how men see their bodies and how they feel they should look (Labre, 2005) and has also been found to correlate with various other aspects of body image, such as drive for muscularity (Daniel & Bridges, 2010) and muscle dissatisfaction (Grammas & Schwartz, 2009). Media internalisation does appear to be consistently implicated in men's body image.

Those who had higher male gender role identification had significantly lower social physique anxiety. As mentioned previously there have been mixed results from other studies in relation to male gender role identification: some have shown higher male

gender role relating to poorer body image, while others have shown the opposite. Further research is needed to investigate how gender role affect men's body image. Qualitative research has explored in more depth the meaning that men place on their bodies in terms of their masculinity (Adams *et al.*, 2005; Darko, 2009), so future study could interview participants alongside using quantitative measures to see how what participants say is reflected in their scores.

Magazine exposure had only one slight negative correlation, which too was with age. Simple exposure to media images does not appear to have an effect on its own as shown by the lack of significant effects or correlations between magazine exposure and any of the body image measures. Past research has found that magazine exposure's effect on body image concerns is often moderated by other factors. Arbour *et al.* (2006) found young men's body dissatisfaction varied in terms of the realism of the media image and their baseline muscularity dissatisfaction. Exposure to media images does not relate to lower muscle satisfaction on its own, men must first have concerns and be viewing realistic and attainable images. Harrison and Bond (2007) found that race had a moderating effect on the drive for muscularity scores of preadolescent boys and their exposure to gaming magazines.

It may be that different types of media affect different groups to greater or lesser degrees. This also raises the issue of different types of media. This was part of the focus of the current research, to investigate gay magazines' effect on gay men's body image, in comparison with Giles and Close (2008), who looked at 'lad magazines' in relation to dating status and drive for muscularity. Giles and Close found that lad magazine exposure's effect on drive for muscularity was moderated by dating status and media internalisation. Further study could use a wider variety of magazine types such as fitness magazines (Duggan & McCreary, 2004), potential moderators such as race or dating status, with various self-identified sexual orientations. Content analysis of such magazines could be carried out as in Saucier and Caron (2008) to investigate the prevalence of particular body types, and also to see if these body types could be considered to be 'realistic' or hypermuscular.

One limitation of the study is the way that masculinity score was derived; the reversal of the femininity items of the BSRI to give an overall masculinity score was an arbitrary choice. The opposite could have been carried out, reversing the masculinity scores to give an overall femininity score, which would have meant results were interpreted differently. The short-form of the BSRI was used rather than the long-form to avoid an overly long questionnaire in order to retain participants. Future study could include a more robust measure of gender identification, such as using the full BSRI. While this means that there is risk of a higher dropout rate, by carrying out the study for longer the same amount of participants could still be obtained. This would allow for the investigation of the relationship between both masculinity and femininity, and the other variables that were in the study.

The method of data collection did not allow for tight control over who were completing the questionnaire: as it was in the public domain, anyone could complete it, as shown in a number of participants being from outside the UK, and the women and non-homosexual men who completed the questionnaire that had to be excluded. Also, there was no control over the age of the participants, which was predominantly younger, as shown in the mean age of those who completed the study. There was also no consideration for the subcultures that exist within the gay community,

specifically that of the 'bear', which values physically larger and hairy men (Gough & Flanders, 2009). This group do not idealise the mainstream cultural ideal of muscularity, actively acting against it. This particular group may have different body image concerns. When using the internet to recruit participants, the link could be placed strategically on websites that cater towards particular age groups or subgroups within the gay community so as to gain a broader understanding of body image concerns. This could also be used to gather information from various countries with relative ease, allowing inter-country comparisons.

The research also forced a sexuality a choice of gay, heterosexual, bisexual, or other, as the research was only looking at gay men. However it would be useful to investigate levels of homosexuality using the Kinsey sexuality scale, rather than discreet categories. Also, in line with Knapp and Wrench (2008) involvement within the gay community could be investigated to see if this moderates any variable effects on social physique anxiety.

The present research clearly presents the unique predictive ability of media internalisation measures and also body fat and muscle dissatisfaction measures for gay men's social physique anxiety. Researchers and clinicians working in this area would be wise to use these measures in the assessment of patients presenting with issues of body image, and it would be advisable to consider including gender role into Grieve's (2007) conceptual model of factors contributing to muscle dysmorphia.

References

- Adams, G., Turner, H. & Bucks, R. (2005). The experience of body dissatisfaction in men. *Body Image*, 2, 271-283.
- Arbour, K.P. & Martin-Ginis, K.A. (2006). Effects of exposure to muscular and hypermuscular media Images on young men's muscularity dissatisfaction and body dissatisfaction. *Body Image*, 3, 153-161.
- Bardone-Cone, A.M., Cass, K.M. & Ford, J.A. (2008). Examining body dissatisfaction in young men within a biopsychosocial framework. *Body Image*, 5, 183-194.
- Blashill, A.J. (2011). Gender roles, eating pathology, and body dissatisfaction in men: A meta-analysis. *Body Image*, 8, 1-11.
- Blashill, A.J. & Vander Wal, J.S. (2009). The Male Body Attitudes Scale: A confirmatory factor analysis.
- Borkoles, E., Polman, R. & Levy, A. (2010). Type-D personality and body image in men: The role of exercise status. *Body Image*, 7, 39-45.
- Campbell, T., Gillaspay JR, J.A. & Thompson, B. (1997). The factor structure of the Bem Sex-Role Inventory (BSRI): confirmatory analysis of long and short forms. *Educational and Psychological Measurement*, 57, 118-124.
- Cepeda, N.J. (2008). Effect Size Calculator. <http://www.cognitiveflexibility.org/efficientsize/> Retrieved 4th March 2012.

Colley, A., Mulhern, G., Maltby, J. & Wood, A.M. (2009). The short form BSRI: instrumentality, expressiveness and gender associations among a United Kingdom sample. *Personality and Individual Differences*, 46, 384-387.

Chung, Y.B. (1995). The construct validity of the Bem Sex-Role Inventory for heterosexual and gay Men. *Journal of Homosexuality*, 30(2), 87-97.

Courtenay, W.H. (2000). Behavioral factors associated with disease, injury, and death among men: evidence and implications for prevention. *The Journal of Men's Studies*, 9(1), 81-142.

Daniel, S. & Bridges, S.K. (2010). The drive for muscularity in men: media influences and objectification theory. *Body Image*, 7, 32-38.

Darko, N. (2009). "Get up, shut up and stop being a fanny": Rugby Union men and their suppression of body anxiety. *Journal of Men's Health*, 6, 331-337.

Didie, E.R., Kuniega-Pietrzak, T. & Phillips, K.A. (2010). Body image in patients with body dysmorphic disorder: evaluations of and investment in appearance, health/illness, and fitness. *Body Image*, 7, 66-69.

Drummond, M.J.N. (2005). Men's bodies: Listening to the voices of young Gay men. *Men and Masculinities*, 7, 270-290.

Drummond, M.J.N. (2006) Ageing gay men's bodies. *Gay and Lesbian Issues and Psychology Review*, 2, 60-67.

Duggan, S.J. & McCreary, D.R. (2004). Body image, eating disorders, and the drive for muscularity in gay and heterosexual Men. *Journal of Homosexuality*, 47, 45-58.

Filiault, S.M. & Drummond, M.J.N. (2009) Methods and methodologies: investigating gay men's body image in Westernised cultures. *Critical Public Health*, 19(3-4), 307-323.

Fredrickson, B.L. & Roberts, T-A. (1997). Objectification theory: towards understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, 21, 173-206.

Giles, D.C. & Close, J. (2008). Exposure to 'lad magazines' and drive for muscularity in dating and non-dating young men. *Personality and Individual Differences*, 44, 1610-1616.

Gough, B. & Flanders, G. (2009). Celebrating "obese" bodies: Gay "bears" talk about weight, body image and health. *International Journal of Men's Health*, 8, 235-253.

Grammas, D.L. & Schwartz, J.P. (2009). Internalization of messages from society and perfectionism as predictors of male body image. *Body Image*, 6, 31-36.

Green, S.B. (1991). How many subjects does it take to do a regression analysis? *Multivariate Behavioural Research*, 26, 499-510.

Harrison, K. & Bond, B.J. (2007). Gaming magazines and the drive for muscularity in preadolescent boys: A longitudinal examination. *Body Image*, 4, 269-277.

- Kaminski, P.L., Chapman, B.P., Haynes, S.D. & Own, L. (2005). Body image, eating behaviors, and attitudes toward exercise among gay and straight Men. *Eating Behaviours*, 6, 179-187.
- Karazsia, B.T. & Crowther, J.H. (2008). Psychological and behavioral correlates of the SATAQ-3 with males. *Body Image*, 5, 109-115.
- Labre, M.P. (2005). The male body ideal: perspectives of readers and non-readers of fitness magazines. *Journal of Men's Health and Gender*, 2(2), 223-229.
- Legenbauer, T., Vocks, S., Schäfer, C., Schütt-Strömel, Hiller, W., Wagner, C. & Vögele, C. (2009). Preference for attractiveness and thinness in a partner: influence of internalization of the thin ideal and shape/weight dissatisfaction in heterosexual women, heterosexual men, lesbians, and gay Men. *Body Image*, 6, 228-234.
- Marino-Carper, T.L., Negy, C. & Tantleff-Dunn, S. (2010). Relations among media influence, body image, eating concerns and sexual orientation in men: a preliminary investigation. *Body Image*, 7, 301-309.
- Martin, K.A., Rejeski, W.J., Leary, M.R., McAuley, E. & Bane, S. (1997). Is the social physique anxiety scale really multidimensional? Conceptual and statistical arguments for a unidimensional model. *Journal of Sport and Exercise Psychology*, 19, 359-367.
- Martins, Y., Tiggemann, M. & Kirkbride, A. (2007). Those speedos become them: the Role of self-objectification in gay and heterosexual men's body image. *Personality and Social Psychology, Bulletin*, 33, 634-647.
- McCreary, D.R., Saucier, D.M., Courtenay, W.H. (2005). The drive for muscularity and masculinity: testing the associations among gender-role traits, behaviors, attitudes, and conflict. *Psychology of Men and Masculinity*, 6(2), 83-94.
- Monro, F.J. & Huon, G.F. (2006). Media-portrayed idealized images, self-objectification, and eating behavior. *Eating Disorders*, 7, 375-383.
- Pope, C.G., Pope, H.G., Menard, W., Fay, C., Olivardia, R. & Phillips, K.A. (2005). Clinical features of muscle dysmorphia among males with body dysmorphic disorder. *Body Image*, 2, 395-400.
- Pope, H.G., Phillips, K.A. & Olivardia, R. (2000). *The Adonis Complex: The Secret Crisis of Male Body Obsession*. Simon & Schuster: New York.
- Saucier, J.A. & Caron, S.L. (2008). An investigation of content and media images in gay men's magazines. *Journal of Homosexuality*, 55(3), 504-523.
- Swami, V., Hadji-Michael, M. & Furnham, A. (2008). Personality and individual difference correlates of positive body image. *Body Image*, 5, 322-325.
- Tiggemann, M. & McGill, B. (2004). The role of social comparison in the effect of magazine advertisements on women's mood and body dissatisfaction. *Journal of Social and Clinical Psychology*, 23(1), 23-44.

Thompson, J.K., van den Berg, P., Roehrig, M., Guarda, A.S. & Heinberg, L.J. (2003). The Sociocultural Attitudes Towards Appearance Scale-3 (SATAQ-3): development and validation. *International Journal of Eating Disorders*, 35, 293-304.

Tylka, T.L., Bergeron, D. & Schwartz, J.P. (2005). Development and psychometric evaluation of the Male Body Attitudes Scale (MBAS). *Body Image*, 2, 161-175.

Wrench, J.S. & Knapp, J.L. (2008). The effects of body image perceptions and sociocommunicative orientations on self-esteem, depression and identification and involvement in the gay community. *Journal of Homosexuality*, 55, 471-503.

Yelland, C. & Tiggemann, M. (2003). Muscularity and the gay ideal: body dissatisfaction and disordered eating in homosexual men. *Eating Behaviours*, 4, 107-116.