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The interplay of gender role orientation and Type-D personality as predictors of body dissatisfaction in undergraduate women

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Abstract

The importance of body image and its effects on psychological functioning and health behaviours has received much interest in recent decades; however its precursors are still unclear. The purpose of the present research was to focus attention on the associations between gender role orientation (agency-communion), Type-D personality and body image. Undergraduate women aged between 18 and 47 from Plymouth University School of Psychology ($N = 120$, $n = 64$ for non Type-D group, $n = 56$ for Type-D group) completed measures of gender role orientation (PAQ), Type-D personality classification (DS-14) and attitudes towards body image (MBRSQ). Results indicate that Type-D personality significantly lowered body image satisfaction. Regression analysis revealed agency as a predictor of body image, even as a function of Type-D classification. The clinical implications of agency as a potential protective factor against body dissatisfaction and scope for future research are discussed.

Introduction

Body image can be defined as a multifaceted concept encapsulating individual's perceptions, thoughts and feelings towards their physical appearance (Grogan, 2008). Surprisingly, evidence suggests that 82% of young women and 79% of young men are dissatisfied with one or several parts of their body (Lioffi, 2003); appropriately termed 'normative discontent' in earlier work (Rodin, Silberstein & Streigel Moore, 1985). Body dissatisfaction (BD) has been widely attributed to westernised social norms that perpetuate and idealise attractiveness (Homan, McHugh, Wells, Watson, & King, 2012); specifically thinness in women (Swami et al., 2010) and a muscular physique in men (Frederick et al., 2007). Although the media may be a prominent culprit in producing these norms, it is likely there are a multitude of underlying factors which may explain individual susceptibility to experiencing BD (Kvalem, von Soest, Roald & Skolleborg, 2006). Surprisingly, the effects of gender roles and personality upon BD have remained under-researched yet may hold promising insights to understand the development of this phenomenon.

What are the Implications of Body Dissatisfaction?

Body dissatisfaction can transpire in the form of detrimental psychological functioning and negative health behaviours (Grogan, 2006). Research indicates that women who have negative perceptions of their bodies tend to be more susceptible to depression (Gaskin et al., 2013), psychological distress (Sujoldzić & De Lucia, 2007), have lower self-esteem (Pesa, Syre & Jones, 2000) and are more likely to engage in risky sexual behaviour (Littleton, Radecki Breitkopf & Berenson, 2005). Furthermore, evidence implies the fear of weight gain may impede smoking cessation (King, Matacin, White & Marcus, 2005); and the perception of weighing more than the prescriptive norm may lead to extreme weight control behaviours (vomiting, crash dieting) regardless of actual weight (Liechty, 2010). As maladaptive eating patterns progress they may manifest in the form of eating disorders such as bulimia and anorexia (Cooley, & Toray, 2001; Heatherton, Mahamedi, Striepe, Field, & Keel, 1997; Killen et al., 1996). Using the Multidimensional Body Self-Relations Questionnaire (MBRSQ) in a sample of 277 college students, Muth and Cash (1997) concluded that women were more vulnerable to BD and were more invested in their appearance (as measured by self-reported grooming and exercise). Research suggests exercise can polarise levels of body satisfaction as women who exercise to increase their attractiveness report greater BD and lower self-esteem (Furnham, Badmin, & Sneade, 2002) compared to those which exercise for enjoyment or to improve health and fitness (Campbell & Hausenblas, 2009).

Although the assumption that BD risks physical and psychological wellbeing is reasonable, an element of ambiguity still remains regarding its antecedents. Given the deleterious outcomes of BD, it is imperative that the factors associated with BD are better understood. Specifically, the present study focuses on the contributions of gender roles and personality and how these may influence body image (for a recent review of the predictors involved in BD, see Slevic, & Tiggemann, 2011).

Gender Roles and Body Image

The term gender role refers to a social construct which is defined by the social norms of what attitudes, behaviours and characteristics that are stereotypically masculine or feminine (Hepp, Spindler & Milos, 2005). The relations between femininity, the aetiology of eating disorders, and investment in appearance is well-established

(Jackson, Sullivan & Rostker, 1988; Rodin, 1987), and worryingly recent research found that women with eating disorders rated themselves as more feminine compared to other women (Behar, De la Barrera, & Michelotti, 2002).

It is therefore not surprising that gender role orientation has been identified as being highly pertinent in disordered eating behaviours (Johnson, Brems & Fischer, 1996; Lancelot & Kaslow, 1994). A meta-analytic review suggests that femininity is associated with eating pathology, while this relation is reversed for those with a masculine personality type (Murnen, & Smolak, 1997). Notably, gender roles had only a small size upon eating disturbances. At the time of conductance, the study samples were heterogeneous, including clinical and non-clinical participants. Although focusing predominantly on eating disorders, it is highly plausible that gender role orientation relates to BD as a robust precursor of eating problems (Polivy & Herman, 2002).

Some research implies that high masculinity is associated with increased likelihood of developing abnormal eating attitudes and behaviours (Cantrell & Ellis, 1991; Silverstein, Carpman, Perlick & Perdue, 1990). However, more recent evidence challenges this position (Gillen, & Lefkowitz, 2006), suggesting that high masculinity could form a protective barrier against BD. Specifically, individuals who reported greater masculinity also reported more positive evaluations of their appearance and greater satisfaction with the body and discrete body areas.

These studies have investigated gender roles in a number of ways. One conceptualisation of gender role orientation, developed by Spence and Helmreich (1978), is the agency-communion distinction. The term agency refers to socially masculine traits including dominance and independence. Communion, however, relates to feminine characteristics such as being caring and warm towards others (Fritz, 2000; Lippa, 1995). Both agency and communion hold positive implications in social functioning and wellbeing. Agency is implicated in emotional adjustment and self-esteem whilst communion is related to positive social outcomes (Ghaed & Gallo, 2006; Helgeson, 1994; Lippa, 1995). Forbes, Adam-Curtis, Rade, and Jaberg (2001) investigated agency and communion and its effects on BD among college students. High reports of masculinity and self-esteem were found to serve as a protective factor against BD, whereas no such association was established for femininity. These findings may be underpinned by the masculinity-only hypothesis which asserts that individuals with low masculinity will have BD compared to those who are more masculine, regardless of femininity levels. Mosher and Danoff-Burg (2008) identified that the relationship between agency and positive body image may be related to a less depressive disposition.

One theoretical framework of BD is based upon Frederickson and Roberts' (1997) objectification theory. The tenets of this theory posit that sociocultural contexts promote women as sexualised objects. Exposure to sexual objectification socialises girls and women to see their bodies from a third-person perspective, that is, one that values them on the basis of their physical appearance. High self-objectification is related to psychological disturbance including disordered eating (Calogero, 2009) and depression (Grabe, Hyde, & Lindberg, 2007). Burgeoning research, using predominantly Australian and American samples, has provided converging evidence that self-objectification is associated with appearance anxiety in women (Szymanski, & Henning, 2007; Tiggemann, & Kuring, 2004). Recently, this has been extended to include British college women (Calogero, & Thompson, 2009). Choma et al. (2010)

tested self-objectification theory by investigating the moderating influence of the gender roles agency and communion on self-surveillance, body shame and appearance anxiety. Agency was found to assuage the association of self-surveillance with body shame and appearance anxiety. Thus, individuals who endorse masculine traits are more likely to defy sociocultural influences associated with self-objectification, body shame, and appearance anxiety.

Overall, these findings suggest that gender role orientation can have profound effects on body satisfaction, however research is still equivocal. Therefore, the present study aims to investigate the role of gender orientation in body image further by using the agency-communion distinction.

Personality and Body Image

Empirical research consistently identifies the broad construct of neuroticism as a salient predictor of BD (Davis, Claridge & Brewer, 1996; Thomas & Goldberg, 1995). Neuroticism refers to the propensity and degree to which individuals experience negative mood, worry and psychological distress (Claridge & Davis, 2001). High neuroticism is associated with psychopathological conditions such as depression (Saklofske, Kerry, & Janzen, 1995), personality disorders (Trull, 1992) and eating disorders (Davis, 1997). Extreme neuroticism is associated with eating disorder symptomatology in clinical (Diaz-Marsa, Carrasco, & Saia, 2000) and non-clinical samples (Wade et al., 2000). This could be explained by the finding that highly neurotic individuals display greater actual-ideal weight discrepancy (Swami et al., 2013) and have stronger appearance orientation (Davis, Dionne, & Shuster, 2001).

Furthermore, the effects of neuroticism appear to be exacerbated by introversion. In a study consisting of female undergraduates, Miller, Schmidt, Vaillancourt, McDougall and Laliberte (2006) found that high neuroticism and introversion are related to disordered eating. Replicating and extending this, MacLaren and Best (2009) also found that high neuroticism and low extraversion are predictive of disordered eating.

As previously mentioned, women who possess stereotypically masculine characteristics report greater body satisfaction (e.g. Jackson, Sullivan, & Rostker, 1988). Davis, Dionne and Lazarus (1996) investigated the effects of gender role orientation on BD and the moderating influence of neuroticism, finding that the protective effects of masculinity on BD diminished at higher levels of neuroticism. Taken together, these findings illustrate the maladaptive effects neuroticism can have on body image.

The Distressed personality type (Type-D), describing individuals with emotional and interpersonal difficulties, is a trait constellation of negative affectivity (NA) and social inhibition (SI) (Denollet, Sys, & Brustsaert, 1995). Both NA and SI have been identified as precursors for BD (Carter, Kelly, & Norwood, 2012; Haedt-Matt, Zalta, Forbush, & Keel, 2012) and both are strongly associated with (high) neuroticism and (low) extraversion (De Fruyt & Denollet, 2002). Epistemological studies have found that Type-D personality ranges in prevalence from 13% and 38.5% in the general population (Kupper & Denollet, 2007; Williams et al., 2008). The presence of Type-D is predictive of a number of physical health problems and psychological issues; including poorer adherence to treatment, higher susceptibility to chronic heart failure, depression, and anxiety (Mols, & Denollet, 2010)

To date, only one published study has investigated the effects of Type-D upon BD (Borkoles, Polman, Levy, 2010). In an all-male sample, Borkoles et al. found that sedentary lifestyle and Type-D predict poorer BD; displaying lower body areas satisfaction and reporting higher self-classified weight on measures of the MBRSQ. Worryingly, Type-D classified individuals were also less likely to invest in their appearance, fitness and health, suggesting a double-edged sword. As no mediating effect of exercise status on BD was evidenced, it is plausible that BD is associated with NA and SI (i.e. Type-D). Importantly, the hypothesis that Type-D personality influences BD in women remains untested, as does the potential moderating effect of gender role orientation.

The Present Study

Overall, the body image literature suggests that gender role orientation and, more recently, personality dispositions such as Type-D can profoundly influence how much individuals are satisfied with their body. However, no empirical research has combined these influences. In considering this, the following hypotheses are tested:

H₁: In accordance with the findings of Borkoles et al. (2010), individuals classified as Type-D (vs. no Type-D classification) are predicted to have lower body satisfaction.

H₂: Following the results of empirical research examining the effects of gender role orientation (e.g. Forbes et al., 2001), it is predicted that individuals high in masculinity (vs. high femininity) will have greater body satisfaction.

H₃: In line with research emphasising the effect of gender role orientation and Type-D on BD, it is predicted that agency, communion and Type-D will significantly predict body image.

Method

Design

A correlational research design with questionnaire measures was utilised. The first predictor variable was gender role orientation as measured by agency and communion. The second predictor variable was Type-D personality classification: either non Type-D or Type-D. The criterion variable was participant's body image satisfaction.

Participants

Data were collected from an opportunity sample of 120 women who were Psychology undergraduate students attending Plymouth University, aged between 18 and 47 years ($N = 120$, $M_{age} = 20.73$, $SD = 4.62$). Each participant signed a form which verified their informed consent before their participation. Permission for the study to be conducted was granted by Plymouth University Ethics Committee. Course credit was granted for participation in the study entitled "Self-Perception".

Materials and Procedure

Each participant received a booklet consisting of three questionnaires which took approximately 20 minutes to complete. The participants' ages were also recorded. The questionnaire scales were presented in the following order:

Type-D classification. The Type-D Scale-14 (DS14; Denollet, 2005) assesses the global traits of negative affectivity (NA) and social inhibition (SI) with 7 items measuring each construct. Both NA (e.g. "I often feel unhappy") and SI (e.g. "I often feel inhibited in social interactions") are measured using a 5-point Likert scale (0 = false to 4 = true). Scores range from a minimum of 0 to a maximum of 28. Participants who scored ≥ 10 on both NA and SI subscales are classified as having Type-D personality. This cut-off has been well established in clinical groups and the general population (Emons, Meijer, & Denollet, 2007). The present study found good reliability for NA ($\alpha = .87$) and low reliability for SI ($\alpha = .54$). The reliability found for NA is congruous with Denollet (2005) however the value for SI is not.

Gender role orientation. The Extended Personal Attributes Questionnaire (EPAQ; Spence & Helmreich, 1978) was administered to assess agency and communion. It consists of three 8-item subscales which measure agency, communion and unmitigated agency (scores range between 8 and 40 for each subscale). For the purposes of the present study the unmitigated agency subscale was not used. Each item is responded to on a 5-point bipolar adjective scale (e.g. "1 = not at all self-confident to 5 = very self-confident" ; "1 = not at all emotional to 5 = very emotional"). Helmreich, Spence & Wilhelm (1981) found good reliability for both the agency and communion subscales ($\alpha = .71$; $\alpha = .77$, respectively). In the present sample, the agency subscale showed low reliability ($\alpha = .45$) whereas the communion subscale had acceptable reliability ($\alpha = .68$).

Body image. The Multidimensional Body-Self Relations Questionnaire (MBSRQ; Cash, 2000) is a 69 item toolkit consisting of 10 subscales which measures self-perceptions of appearance and the body. The 7-item *Appearance Evaluation* subscale focuses on feelings with overall physical appearance (e.g. "My body is sexually appealing"). High scores reflect general satisfaction whereas low scores suggest dissatisfaction. The present sample showed good reliability ($\alpha = .89$). The 12-item *Appearance Orientation* subscale assesses investment in appearance (e.g. "Before going out in public, I always notice how I look"). High scores reflect greater importance of appearance by paying more attention to looks and engaging in excessive grooming behaviours. Reliability for this subscale was good ($\alpha = .89$). The 3-item *Fitness Evaluation* subscale assesses feelings of being physically fit/unfit (e.g. "I easily learn physical skills"). High scores indicate a view of being physically fit and a likelihood of engaging in physical activity whereas low scorers feel physically unfit and do not tend to participate in physical activity. Good reliability was found for this scale ($\alpha = .72$). The 13-item *Fitness Orientation* scale quantifies the level of investment on being physically fit and athletically competent (e.g. "I would pass most physical-fitness tests"). Good reliability was found for this scale ($\alpha = .88$). The 6-item *Health Evaluation* subscale accounts for feelings of general physical health and wellbeing (e.g. "I am in control of my health"). Good reliability was found for this subscale ($\alpha = .72$). The 8-item *Health Orientation* subscale measures the investment in leading a healthy lifestyle (e.g. "I know a lot about things that affect my physical health"). High scores reflect a drive towards a healthy lifestyle however low scores indicate a disinterest in being healthy. Good reliability was found for this scale ($\alpha = .72$). The 5-item *Illness Orientation* subscale indicates reactivity to illness (e.g. "If I am sick, I don't pay much attention to my symptoms"). High scores indicate a high awareness of the signs related to illness whilst low scores do not. Good reliability was demonstrated for this scale ($\alpha = .77$). The 4-item *Overweight Preoccupation* subscale (e.g. "I constantly worry about being or becoming fat") and 2-item *Self-*

Classified Weight subscale (e.g. “I think I am...very overweight”) measure fat anxiety, eating restraint and perceptions of weight (i.e. very underweight- very overweight). Good reliabilities were found for both scales ($\alpha = .84$; $\alpha = .88$, respectively). Responses to these nine subscales were measured on five-point Likert scales (1 = definitely disagree to 5 = definitely agree). The 9-item *Body Areas Satisfaction* subscale assesses satisfaction of discrete body parts (e.g. the face and torso). High scores indicate general satisfaction with areas of the body whereas low scores reflect general dissatisfaction. Good reliability was found for this subscale ($\alpha = .76$). The reliabilities for each subscale in the present sample are comparable to those found by Cash (2000).

Results

Preliminary Analysis

Inspection of frequency tables indicated no outliers. Fitness orientation score distribution in the non Type-D group suggests platykurtic distribution ($K = -.95$; $SE = .30$), but skewness of little concern ($S = .30$; $SE = .30$). Body areas satisfaction score distribution in the non Type-D group indicates considerable leptokurtic distribution ($K = 1.10$; $SE = .59$), but skewness of little concern ($S = -.59$; $SE = .30$). Appearance evaluation score distribution in the Type-D group suggests considerable platykurtic distribution ($K = -1.02$; $SE = .63$) but no indication of skewness ($S = -.03$; $SE = .32$). Fitness orientation score distribution suggests slight positive skewness ($S = .89$; $SE = .32$), but kurtosis of no concern ($K = -.09$; $SE = .63$). These departures from normality could be attributed to the large sample size (Field, 2009). Visual inspection of histograms for score distributions on each MBRSQ subscale across non Type-D (vs. Type-D) indicates no other departures from normality, thus satisfying assumptions of parametric testing.

Table 1: Descriptive statistics of study variables for Non Type-D (n = 64) and Type-D (n = 56).

	Non Type-D		Type-D	
	<i>M (SD)</i>	Min-Max	<i>M (SD)</i>	Min-Max
Agency	3.36 (0.41)	2.43 - 4.14	3.14 (0.52)	1.86 - 4.00
Communion	4.01 (0.37)	3.00 - 4.75	3.90 (0.55)	2.75 - 5.00
Appearance Evaluation	2.87 (0.80)	1.00 - 4.71	2.52 (0.90)*	1.00 - 4.00
Appearance Orientation	3.50 (0.68)	1.92 - 4.75	3.67 (0.74)	1.58 - 5.00
Fitness Evaluation	3.30 (0.83)	1.33 - 4.67	3.00 (0.91)	1.00 - 5.00
Fitness Orientation	3.05 (0.71)	1.92 - 4.62	2.83 (0.80)	1.77 - 4.85
Health Evaluation	3.26 (0.71)	1.00 - 4.83	3.08 (0.77)	1.33 - 5.00
Health Orientation	3.09 (0.57)	1.88 - 4.63	2.87 (0.72)	1.13 - 4.38
Illness Orientation	2.77 (0.83)	1.40 - 5.00	2.94 (0.82)	1.20 - 4.40
Body Areas Satisfaction	3.12 (0.61)	1.13 - 4.56	2.75 (0.65)**	1.00 - 4.11
Overweight Preoccupation	2.84 (1.05)	1.00 - 5.00	3.29 (1.07)*	1.00 - 5.00
Self-Classified Weight	3.20 (0.59)	1.50 - 4.00	3.51 (0.78)*	1.50 - 5.00

Note. *M (SD)* marked with * are significant at $p < .05$, and ** at $p < .01$.

Principal Analyses

Descriptive statistics are shown in *Table 1*. A series of independent samples *t* tests were used to test the effect of Type-D on body image (*Hypothesis 1*). Body image was significantly lower in the Type-D (vs. non Type-D) group for appearance evaluation, $t(111) = -2.26, p < .05$, and body areas satisfaction, $t(114) = -3.09, p < .01$. In addition, body image scores were significantly higher for overweight preoccupation, $t(115) = 2.33, p < .05$, and self classified weight, $t(118) = 2.44, p < .05$, in the Type-D (vs. non Type-D) group. Therefore, these results indicate that Type-D individuals are more dissatisfied with overall appearance and discrete body areas, are more preoccupied with weight and rate themselves as being heavy, in comparison with non Type-D individuals. This offers support for *Hypothesis 1*.

Table 2: Bivariate correlations among agency, communion and MBRSQ subscales as defined by Non Type-D (n = 64) and Type-D (n = 56).

MBRSQ Subscales	Non Type-D		Type-D	
	Agency	Communion	Agency	Communion
Appearance Evaluation	.37**	.09	.48**	-.02
Appearance Orientation	-.23	.09	-.05	.01
Fitness Evaluation	.50**	.05	.35**	-.02
Fitness Orientation	.38**	-.20	.52**	-.17
Health Evaluation	.38**	-.22	.14	-.16
Health Orientation	.38**	-.01	.20	.17
Illness Orientation	.23	.11	.15	.26*
Body Areas Satisfaction	.34**	.09	.54**	.11
Overweight Preoccupation	-.21	.13	-.16	.00
Self-Classified Weight	-.23	-.05	-.35**	.12

Note. Correlations marked with * are significant at $p < .05$, and ** at $p < .01$.

A Pearson product-moment correlation coefficient was computed to assess the relationship between agency, communion and body image ratings (*Hypothesis 2*). Together, as displayed in *Table 2*, these results suggest that increases in agency were correlated with increases in body image scores, even as a function of Type-D classification. This offers some support for *Hypothesis 2*.

Table 3: Results of the first regression analysis: Testing agency, communion and Type-D as predictors of body image (N = 120).

Predictors	Body Image	
	β	t
Agency (AG)	.49	5.97***
Communion (CO)	.03	0.36
Type-D (TD)	-.03	-0.37

Note. Standardised coefficients are reported. $R^2 = .25$, ($p < .001$). *** $p < .001$.

Forced entry (enter) multiple regression analysis was used to test the prediction that agency, communion and Type-D personality would significantly predict body image (*Hypothesis 3*). As shown in *Table 3*, agency was found to be a significant predictor, whereas communion and Type-D were not. Overall, this regression model suggests that the three predictors explain 23% of the variance, $R^2 = .25$, $F(3, 116) = 13.06$, $p < .001$. This result contests *Hypothesis 3*.

Table 4: Results of the second regression analysis: Testing Type-D as a moderator of agency and body image.

	β	Body Image	
		t	R^2
Step 1			
Agency (AG)	.50	6.28***	.25
Step 2			
Agency (AG)	.49	5.99***	
Type-D (TD)	-.04	-0.42	.25
Step 3			
Agency (AG)	.57	4.41***	
Type-D (TD)	.40	0.68	
TD x AG	-.43	-0.75	.26

Note. Standardised coefficients are reported. $\Delta R^2 = .24$ for Model 3 ($p < .001$). *** $p < .001$.

A further (hierarchical) multiple regression was used to establish if Type-D (vs. non Type-D) moderated the relationship between agency and body image. An interaction variable was included in the second regression analysis to make this possible (TD x

AG). Given that communion was not a significant predictor of body image in the first regression analysis, it was omitted from this additional analysis. As *Table 4* indicates, agency was a significant predictor of body image, even as a function of Type-D. Overall, the three predictors explain 24% of the variance, $R^2 = .26$, $F(1, 116) = 13.25$, $p < .001$. It seems, therefore, that agency is more important in predicting body image than communion and Type-D personality.

Discussion

The present study aimed to investigate the effects of gender role orientation and Type-D personality on body image. It was, to the author's knowledge, the first to examine the effects of Type-D personality on body image in women. This study adds to the findings of Borkoles et al. (2010), and other research by Davies et al. (1996) and Swami et al. (2013), which have identified personality dispositions such as Type-D, high neuroticism and low extraversion as risk factors of BD. In the present study, there were data to suggest that women in the Type-D (vs. non Type-D) group expressed significantly lower appearance evaluation and body areas satisfaction. Furthermore, individuals classified as Type-D were significantly more preoccupied with their weight and perceived themselves as being heavier. Supportive evidence for *Hypothesis 1* was therefore found.

This finding has some important implications. The results obtained were from women in a university context whereas Borkoles et al. (2010) focused on an exercise context. Thus, coupled with those of Borkoles et al., the findings of the current study seem to suggest that Type-D is associated with negative attitudes towards the body in a variety of contexts. Further research, however, needs to examine if these results also extend to other contexts, including populations with clinical conditions such as anorexia and bulimia. This will facilitate a more comprehensive understanding of how far the negative association Type-D personality has with body image is generalisable across a number of populations.

Although Type-D seemed to negatively impact on elements of body image, this study is concurrent with Muth and Cash (1997) to the extent that undergraduate women were found to be generally dissatisfied with their bodies. A plausible explanation for this level of dissatisfaction may be explained in terms of the context from which the sample was recruited. Students in the first years of university are challenged with experiencing a series of socio-environmental changes. Individuals are subjected to a peer dominated context which may increase the likelihood of social comparisons being made in regards to appearance. Consequently, students may place more emphasis on their appearance and evaluate the way they look in terms of the beauty ideal. This emphasises the need for prerequisites of BD to be further understood.

The current study also found evidence that individuals scoring high on agency felt more physically attractive, engaged more in physical activity, valued activities which maintain fitness, and were satisfied with discrete body areas regardless of Type-D classification (*Hypothesis 2*). High agency scores were related to decreased perceptions of being overweight in Type-D individuals. Taken together, this indicates that agency could serve as a protective factor against the development of BD and the effects of Type-D personality. These findings corroborate those reported by Forbes et al. (2001) who also used the agency-communion gender role distinction, and provide further support for the masculinity-only hypothesis. The results are also consistent

with research which has used other dimensions of gender roles (e.g. Gillen & Lefkowitz, 2006).

A viable explanation to these findings may lie within the traits encapsulating the agency construct. As previously mentioned, agency is related to high self-esteem, self-confidence and self-efficacy (Choi, 2004; Ghaed, & Gallo, 2006). Given the relation between agency and these concepts, it is not surprising that agency has been associated with greater health interest and physical activity (Danoff-Burg, Mosher, & Grant, 2006). Those who exercise for fitness and enjoyment are more likely to be satisfied with their body image (Hausenblas, & Fallon, 2006). A recent systematic review found that exercise could have modest improvements in individuals with depression (Krough, Nordentoft, Sterne, & Lawlor, 2011). Due to its similarities with depression, exercise could also be used to attenuate BD. Borkoles et al. (2010) also suggested that exercise could reduce BD in males with Type-D which could be transferable to women with Type-D personality. Therefore, exercise could be used as an effective strategy to increase mental health and wellbeing by focusing on improvements of fitness and enjoyment rather than appearance and weight. Contrary to *Hypothesis 2*, there was no association found between high levels of communion and BD. This does not follow those findings of Behar et al. (2002) and Murnen and Smolak (1997) whereby high femininity was associated with pathological eating patterns and, therefore, low body satisfaction.

Given the complexity of the precursors associated with BD, future research investigating body image may also need to include the role of sociocultural factors, as well as personality disposition and gender role orientation. As Choma et al. (2010) found, individuals who endorsed a masculine gender role were more resistant to self-objectification, body shame and appearance anxiety. This is also supportive evidence of agency being a possible protective factor against BD. However, as this study did not include any measure of societal influence on body image, its influence on BD alongside personality and gender role cannot be determined. Therefore, as an implication for subsequent research, the moderating influence of Type-D personality and gender roles in relation to self-objectification and the mediating effect on BD could be considered.

The assumption that agency, communion and Type-D personality would predict body image was only partially supported (*Hypothesis 3*). Multiple regression analysis was used to understand the contribution of each of these measures in the context of each other. In line with what was expected, agency was a significant predictor of body image satisfaction however, surprisingly, no support was found for communion or Type-D personality. Agency emerged as a significant predictor even as a function of Type personality. As BD is often predictive of eating disorders and other clinical conditions (Polivy & Herman, 2002), the results from the current study may have implications in clinical practice, especially when designing and implementing intervention programmes which aim to ameliorate BD in men and women. Based on these findings, intervention programmes should focus on promoting the endorsement of agentic traits, such as self-confidence, independence and being more active, as oppose to focusing on self-esteem *per se*. Therefore, these traits may serve as a protective factor and increase resilience an individual suffering from or is at-risk to BD, and the potential manifestation of a clinical disorder.

Limitations of the Present Study and Conclusions

The present study had several limitations. Firstly, causal links cannot be identified between gender roles, Type-D and body image due to the correlational nature of the study. While gender roles and Type-D personality could make one more susceptible in developing body dissatisfaction, it is plausible to suggest that body image could influence both of these dispositions. Therefore, a combination of longitudinal and experimental methods may help determine causality. Also, low reliabilities were found for the social inhibition scale from the DS-14 and agency scale in the PAQ which could limit the validity of the data. However, this could be attributed to the author as less reliable items were not omitted from analysis. Moreover, only questionnaires were used as measures. Perhaps a combination of self-reports with other techniques, such as interviews, will provide stronger evidence in subsequent research. Finally, no distinctions between high and low agency were made in the current study. Proceeding research may find differing results if they conduct the double-median split recommended by Spence, Helmreich, and Stapp (1975) to make distinctions between high/low agency-communion groups.

Despite these limitations, it is important to note that the present study adds some valuable contributions to the body image literature. The large sample consisted purely of women. This is beneficial as it enables the testing of intra-sex group differences as oppose to the differences between men and women as many other studies have done in this field of research. The present study exemplifies that personality traits and perceptions of body image can vary somewhat even in a homogenous sample. As such, this study provides an important preliminary step into understanding how agency, communion and Type-D personality are associated with body image. Taken together, the results show that agency is as a robust factor against body image dissatisfaction, even as a function of Type-D. Therefore personality characteristics associated with agency may be more important when considering body image, rather than communion.

In sum, the present study suggests that, like many other studies, BD is a common problem within a student population consisting of women. Body dissatisfaction can have pertinent clinical implications with regards to psychological morbidity. This study has provided an important insight into how both gender role orientation and Type-D personality can relate to body image. The identification of agency as a potential buffer against negative perceptions of appearance could help inform our understanding of how gender roles can have important clinical implications in the prevention of body image disturbance and, thus, eating disorders.

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