



Brief research report

Predicting excessive body image concerns among British university students: The unique role of Appearance-based Rejection Sensitivity[☆]

Rachel M. Calogero^{a,*}, Lora E. Park^b, Zara K. Rahemtulla^a, Katherine C.D. Williams^a

^a School of Psychology, Keynes College, University of Kent, Canterbury, CT2 7NP, United Kingdom

^b Department of Psychology, University at Buffalo, State University of New York, Buffalo, NY, 14260-4110, United States

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ABSTRACT

The present research examined the extent to which interpersonal concerns about rejection based on appearance, or Appearance-based Rejection Sensitivity (Appearance-RS), serves as an indicator of risk for excessive body image concerns. Extending previous research, we examined the association between Appearance-RS and symptoms of body dysmorphic disorder (BDD) and cosmetic surgery attitudes among 106 British university students. Consistent with predictions, Appearance-RS uniquely predicted greater degree of BDD symptoms after controlling for other known predictor variables. Also, as expected, Appearance-RS uniquely predicted acceptance of cosmetic surgery for both intrapersonal and social reasons and greater consideration of having cosmetic surgery in the future. These findings highlight the importance of assessing individuals' sensitivity to rejection from others based on their physical appearance in investigations of excessive body image concerns.

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Introduction

Heightened sensitivity to interpersonal rejection is a known predictor of disrupted mental health and well-being (Leary, 2001). Of particular interest in the present research was Appearance-based Rejection Sensitivity (Appearance-RS) – the dispositional tendency to anxiously expect, readily perceive, and overreact to signs of rejection based on one's physical appearance (Park, 2007). Empirical evidence has accumulated to suggest that individual differences in Appearance-RS are associated with excessive and disruptive body image concerns. In particular, research has shown that American college students with relatively high versus low Appearance-RS are more likely to negatively interpret and avoid social situations that highlight their physical appearance (Park, 2007; Park & Pinkus, 2009), experience greater symptoms of body dysmorphic disorder (BDD) (Park, Calogero, Young, & DiRaddo, *in press*), and express more support for behaviors that have the potential to alter their physical appearance, such as disordered eating (Park, 2007) and interest in cosmetic surgery (Park, Calogero, Harwin, & DiRaddo, 2009; Park et al., *in press*).

Researchers have highlighted the role of interpersonal rejection in both BDD symptomatology and attitudes toward cosmetic

surgery. According to Phillips (2005), experiences of interpersonal rejection over a person's lifetime may contribute to the onset of BDD symptoms. Cash, Theriault, and Annis (2004) found that, for both men and women, greater concerns about approval and acceptance in social interactions predicted more body image dysfunction, namely body image dissatisfaction, dysfunctional investment in appearance, and situational body image dysphoria. Henderson-King and Henderson-King (2005) found that the fear of becoming unattractive predicted people's reasons for and consideration of cosmetic surgery, and experiences of appearance-related teasing were positively associated with the likelihood of having cosmetic surgery (Sarwer, Cash, et al., 2005). More recently, Park et al. (*in press*) found that Appearance-RS predicted both BDD symptomatology and acceptance of cosmetic surgery among American college students, after controlling for individual differences in personal rejection sensitivity, fear of negative evaluation, appearance satisfaction, and depressive symptoms.

Building on previous research, the scope of the present study was broadened to include an examination of Appearance-RS as a psychological predictor of British university students' excessive body image concerns, thereby providing a conceptual (versus direct) replication of Park et al. (*in press*). Compared to Park et al. (*in press*), the current study examined the variables of interest in a non-American sample of college students, controlled for a different set of covariates, did not exclude individuals who reported high weight concern, and collected additional information about which body parts concerned participants. Moreover, to date, the evidence for a link between Appearance-RS and excessive body image concerns has been based exclusively on American

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* Corresponding author at: Department of Psychology, Keynes College, University of Kent, Canterbury, UK.

E-mail address: R.M.Calogero@kent.ac.uk (R.M. Calogero).

college students (Park, 2007; Park & Pinkus, 2009; Park et al., in press). Although we might expect similar patterns to emerge in other westernized societies where appearance concerns and negative body image are known to be high (Grogan, 2008), it is not sufficient to assume that Appearance-RS plays a significant role in the body image concerns of people across all westernized societies. A prospective study based on a nationally representative cohort of British women found that body-related comments received in childhood predicted body esteem in adulthood (McLaren, Kuh, Hardy, & Gauvin, 2004), linking interpersonal appearance-based experiences with body image concerns; however, explicit tests of Appearance-RS in non-American samples are needed. An investigation of Appearance-RS among British women and men would widen the applicability of this construct and provide the first known empirical evidence for the association between Appearance-RS and excessive body image concerns outside of American samples.

It is important to note that although generally low (2.5–5%), the prevalence rates of BDD are higher among college students compared to the general population (Bartsch, 2007; Cansever, Uzun, Donmez, & Ozsahin, 2003; Sarwer, Cash, et al., 2005). Prevalence rates of cosmetic surgery among college students are also low, but the numbers are hardly insignificant. Nearly a quarter of all cosmetic procedures (21%) performed in 2008 involved 19–34-year-old patients, and 27% of 18–24-year olds reported that they would consider having cosmetic surgery at some point in the future (American Society of plastic Surgeons, 2009). In addition to the medical risks associated with cosmetic surgery, these procedures are contraindicated for individuals with significant psychopathology (Crerand, Franklin, & Sarwer, 2006), such as those with BDD who comprise approximately 5–15% of patients seeking cosmetic surgery (Phillips, Grant, Siniscalchi, & Albertini, 2001; Sarwer, Crerand, & Gibbons, 2005). For example, in a clinical sample of 200 people with BDD, 71% sought cosmetic treatments and 64% actually received these treatments, although the majority of those with BDD rarely experienced symptom improvement with cosmetic surgery (Crerand, Phillips, Menard, & Fay, 2005).

In sum, we propose that one psychological predictor of both self-reported BDD symptoms and acceptance of cosmetic surgery may be the degree to which individuals anxiously expect rejection from others based on their appearance. Specifically, we hypothesized that Appearance-RS would predict greater BDD symptoms, acceptance of cosmetic surgery for intrapersonal and social reasons, and consideration of cosmetic surgery in the future. We also expected that these associations would remain significant after controlling for other predictors of body image disturbance and cosmetic surgery attitudes, namely depressive symptoms, social anxiety, body dissatisfaction, weight concern, and personal rejection sensitivity.

Method

Participants and procedure

Participants were 106 students (82 women, 24 men) recruited from an introductory psychology course at a southeastern British university who completed an online survey of social attitudes and behaviors for course credit. Participants were fully debriefed upon completion of the survey. Mean age of participants was 21.54 ($SD = 8.34$). Participants self-identified as White (82%), Asian (13%), or Black (5%), and primarily as British (66%) and heterosexual (91%).

Measures

Appearance-based Rejection Sensitivity. The brief Appearance-RS Scale was used to measure the degree to which individuals anxiously expect to be rejected based on their appearance (Park,

2007). Across 10 scenarios (e.g., “You are leaving your house to go on a first date when you notice a blemish on your face.”), participants indicated their anxiety about being rejected based on appearance (e.g., “How concerned or anxious would you be that your date might be less attracted to you because of the way you looked?”) on a scale from 1 (*very unconcerned*) to 6 (*very concerned*) and their expectation of rejection based on appearance (e.g., “I would expect that my date would find me less attractive”) on a scale from 1 (*very unlikely*) to 6 (*very likely*). Scores were calculated by multiplying the degree of anxious concerns with the degree of rejection expectation in each situation, and then averaging these scores across situations ($\alpha = .88$). Acceptable construct validity and high internal and test–retest reliability for this scale have been demonstrated (Park, 2007).

Self-reported BDD symptoms. A modified version of the Body Dysmorphic Disorder Questionnaire was used to measure self-reported BDD symptoms (cf., Phillips, 2005). We conceptualized BDD symptoms as a continuous variable because our interest was in examining the degree to which participants currently experienced core features of BDD symptomatology as assessed by the BDDQ, rather than determining categorically the presence or absence of such symptoms (cf., Cash, Phillips, Santos, & Hrabosky, 2004a). Participants were first asked: “Please list here which body parts, if any, are of concern to you.” Then they responded to the following seven questions with regard to the body part(s) they had listed: “How worried are you about the way that you look?” on a scale from 1 (*not at all worried*) to 7 (*very worried*); “What effect has the problem with how you look had on your life?” on a scale from 1 (*no effect at all*) to 7 (*very significant effect*); and “How often do you think about problems with your appearance?” “Does your appearance often upset you?” “Does your appearance get in the way of doing things with friends or dating?” “Does your appearance cause you difficulties with school or work?” and “How often do you avoid people, places, or activities because of your appearance concerns?” on a scale from 1 (*never*) to 7 (*always*). The seven items were averaged to create an overall measure of degree of BDD symptoms ($\alpha = .80$).

Acceptance of cosmetic surgery. The Acceptance of Cosmetic Surgery Scale (Henderson-King & Henderson-King, 2005) was used to measure attitudes toward cosmetic surgery. The Intrapersonal subscale (5 items; $\alpha = .89$) measures self-oriented reasons for having cosmetic surgery (e.g., “Cosmetic surgery can be a big benefit to people’s self-image”). The Social subscale (5 items; $\alpha = .86$) measures socially oriented reasons for having cosmetic surgery (e.g., “I would seriously consider having cosmetic surgery if my partner thought it was a good idea”). The Consider subscale (5 items; $\alpha = .83$) measures the likelihood of having cosmetic surgery (e.g., “In the future, I could end up having some kind of cosmetic surgery”). Items were rated from 1 (*strongly disagree*) to 7 (*strongly agree*) and three subscale scores were calculated, with higher scores indicating greater acceptance of cosmetic surgery.

Covariates. The Center for Epidemiological Studies Depression Scale (Radloff, 1977) measured depressive symptoms over the past week on a scale from 1 (*rarely/none of the time*) to 4 (*most or all of the time*) (20 items; $\alpha = .64$). The Interaction Anxiousness Scale (Leary & Kowalski, 1993) measured social anxiety on a scale from 1 (*not at all characteristic of me*) to 5 (*extremely characteristic of me*) (15 items; $\alpha = .91$). The Body Dissatisfaction subscale of the Eating Disorders Inventory-3 (Garner, 2004) measured body dissatisfaction on a scale from 1 (*never*) to 6 (*always*) (10 items; $\alpha = .80$). Weight concern was measured with the item, “My main concern about how I look is that I’m not thin enough/I might get too fat,” on a scale from 1 (*not at all*) to 5 (*very often*). The Rejection Sensitivity Questionnaire (Downey & Feldman, 1996) measured personal rejection sensitivity following the same scoring procedure as the Appearance-RS Scale (8 scenarios; $\alpha = .80$). Each of the covariate

Table 1
Descriptive statistics and zero-order correlations between predictor and outcome variables.

	BDD symptoms	Intrapersonal motives for cosmetic surgery	Social motives for cosmetic surgery	Consider cosmetic surgery in future	M (SD)
Appearance-RS	.40**	.40**	.23*	.37**	12.75 (5.64)
Body dissatisfaction	.19	.24*	.21*	.30**	3.25 (1.09)
Weight concern	.35**	.14	.27*	.30**	3.44 (2.00)
Social anxiety	.28**	.30**	.26*	.31**	2.95 (0.77)
Depressive symptoms	.45**	.35**	.29**	.32**	2.00 (0.27)
Personal-RS	.21*	.38**	.14	.16	15.73 (5.60)
M (SD)	3.02 (1.17)	3.86 (1.31)	2.19 (1.19)	2.98 (1.44)	

Note. BDD = Body dysmorphic disorder.

* $p < .05$.

** $p < .01$.

measures utilized in the present study has demonstrated good construct validity and high internal reliability. Further information on the psychometric properties of these measures can be found in their respective references cited above.

Results

For descriptive purposes, we tabulated participants' responses about which body part(s) concerned them. The most common body part listed by women was legs/feet/hips/thighs (47.6%), whereas for men it was facial features (37.5%) and stomach/gut/waist (37.5%). Other body parts listed by women were stomach/gut/waist (42.7%), hair (18.3%), skin (15.9%), face (15.9%), butt (11%), breasts (9.8%), and hands/arms (8.5%), whereas men listed arms/hands (12.5%), legs/feet/hips/thighs (12.5%), skin (8.3%), and hair (4.2%).

Table 1 presents means, standard deviations, and zero-order correlations. As expected, Appearance-RS was significantly positively correlated with BDD symptoms, intrapersonal and social reasons for cosmetic surgery, and considering cosmetic surgery. Additionally, BDD symptoms were significantly positively correlated with considering cosmetic surgery, $r(105) = .44$, $p < .001$, and social reasons for cosmetic surgery, $r(105) = .43$, $p < .001$, but not intrapersonal reasons for cosmetic surgery, $r(105) = .16$, $p = .10$.

To test our primary hypotheses, we conducted a series of hierarchical regression analyses. At Step 1, we entered gender and the covariates. At Step 2, we entered the key predictor variable, Appearance-RS, to examine whether adding this variable significantly improved model fit. Table 2 presents standardized beta coefficients for each predictor variable in each model. Gender did not significantly interact with Appearance-RS to predict any of the dependent variables ($ps > .44$); however, these results should be interpreted with caution because of the unequal sample sizes of

men and women. As hypothesized, Appearance-RS was uniquely related to BDD symptoms after controlling for other predictor variables ($sr^2 = .05$). Also, as expected, Appearance-RS uniquely predicted both intrapersonal reasons ($sr^2 = .03$) and social reasons ($sr^2 = .04$) for cosmetic surgery, and considering cosmetic surgery ($sr^2 = .05$).

Discussion

The more sensitive participants were to being rejected based on their appearance, the more likely they were to report thoughts and behaviors characterizing BDD symptoms, to view cosmetic surgery as acceptable for both social and intrapersonal reasons, and to consider having cosmetic surgery in the future. Importantly, these results emerged even after controlling for other variables that have been theoretically or empirically linked to BDD symptoms and cosmetic surgery attitudes.

Appearance-RS reflects people's sensitivity to rejection based on their appearance within *interpersonal* contexts. Thus, beyond the multitude of intrapersonal variables associated with excessive body image concerns (e.g., Swami, Chamorro-Premuzic, Bridges, & Furnham (2008)), Appearance-RS may be especially relevant for understanding the interpersonal dimensions of these appearance-based phenomena. In particular, it is the interplay between individuals' cognitive expectations of being rejected because of how they look and the anxiety associated with this anticipated rejection that predicted disruptive and excessive body image concerns in this sample.

In addition, we identified specific reasons why British university students accept cosmetic surgery as a way of altering their physical appearance. Appearance-RS predicted social reasons for having cosmetic surgery (e.g., to please one's partner), consistent with research linking sociocultural influences – such

Table 2
Summary of hierarchical regression analyses for BDD symptoms and cosmetic surgery attitudes.

	BDD symptoms		Intrapersonal reasons for cosmetic surgery		Social reasons for cosmetic surgery		Consider cosmetic surgery in future	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Gender	.05	-.03	.11	.07	-.09	-.10	.15	.09
Personal-RS	.03	-.14	.27*	.19	.14	.16	.03	.14
Social anxiety	.19*	.15	.06	.03	.08	.07	.17	.13
Body dissatisfaction	.50**	.48**	.36*	.37*	.08	.07	.13	.15
Weight concern	.70**	.69**	.18	.18	.31*	.31*	.13	.13
Depressive symptoms	.42**	.38**	.25*	.22*	.31*	.29*	.29*	.25*
Appearance-RS		.30*		.22*		.23*		.28*
Model R^2	$\Delta R^2 = .44$	$\Delta R^2 = .05$	$\Delta R^2 = .29$	$\Delta R^2 = .03$	$\Delta R^2 = .24$	$\Delta R^2 = .04$	$\Delta R^2 = .26$	$\Delta R^2 = .05$
Model F	$\Delta F(6, 99)$ = 12.82**	$\Delta F(1, 98)$ = 10.47*	$\Delta F(6, 99)$ = 6.85**	$\Delta F(1, 98)$ = 4.20*	$\Delta F(6, 99)$ = 5.37**	$\Delta F(1, 98)$ = 5.99*	$\Delta F(6, 99)$ = 5.65**	$\Delta F(1, 98)$ = 6.51*

Note. Regression coefficients represent standardized betas. Gender was coded as 1 = female, 0 = male. BDD = body dysmorphic disorder; Personal-RS = Personal Rejection Sensitivity; Appearance-RS = Appearance-based Rejection Sensitivity.

* $p < .05$.

** $p < .01$.

as conditional peer acceptance based on appearance and feeling pressure to meet media appearance ideals – with higher levels of Appearance-RS (Park, DiRaddo, & Calogero, 2009b). Appearance-RS also predicted intrapersonal reasons for accepting cosmetic surgery (e.g., to boost one's self-image), which is consistent with research linking Appearance-RS with lower appearance satisfaction and self-esteem and higher appearance-contingent self-worth (Park, 2007). These findings are largely consistent with patterns found among American college students (Park et al., in press), further supporting the idea that in westernized societies the desire to feel good about oneself may extend to a desire to feel accepted by others. Thus, excessive body image concerns may reflect not only dissatisfaction with appearance, but also concerns about possibly being rejected by others based on one's looks.

Consistent with previous research among BDD patients (Crerand et al., 2005), BDD symptoms were positively associated with considering cosmetic surgery. BDD symptoms were also positively associated with social reasons for cosmetic surgery, but not intrapersonal reasons, highlighting the importance of perceived social rewards in understanding the link between BDD symptoms and cosmetic surgery attitudes, at least among British university students. Additionally, both BDD symptoms and social reasons for cosmetic surgery were positively associated with weight concern (whereas intrapersonal reasons were not), and BDD symptoms were positively related to social reasons but not intrapersonal reasons for cosmetic surgery. These findings suggest that individuals' weight concern, in conjunction with Appearance-RS, may be a specific target for early detection and prevention of excessive body image concerns.

Several limitations and future directions of this research should be considered. First, the sample size was relatively small and not particularly diverse. Future research should test hypotheses regarding Appearance-RS and excessive body image concerns in larger cross-cultural samples. Second, to improve generalizability, future research could examine the role of Appearance-RS in clinical samples of BDD and community populations. Third, we assessed a selected set of covariates based on prior work linking specific variables with BDD and/or cosmetic surgery. Alongside Appearance-RS, future studies might examine the relative impact of other personality, sociocultural, and body image measures on excessive body image concerns. Finally, future research is needed to clarify the causal links between Appearance-RS, BDD symptoms, and actual engagement in cosmetic procedures.

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