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University Satisfaction, Peer Communication, and Appearance Appraisal as Predictors of Global Self-Esteem in University Students

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Abstract

The current study set out to explore which constructs were most important in predicting global self-esteem in undergraduate and postgraduate students. A number of studies have highlighted the negative consequences of low self-esteem, including depression (Sharma & Agarwala, 2013), substance abuse (Bachman, O'Malley, Freedman-Doan, Trzesniewski, & Donnellan, 2011), and antisocial behaviours (Bandura, 1982). It is therefore imperative to determine factors that are associated with self-esteem in order to develop successful interventions. Past research has highlighted a number of possible constructs and thus, the following predictor variables were chosen: peer communication, family relatedness, university satisfaction, appearance appraisal, age, and relationship satisfaction (Aryana, 2010; Cabeldue & Boswell, 2012; Kutob, Senf, Crago, & Shisslak, 2010; Ojanen & Perry, 2007; Trzesniewski, Donnellan, & Robins, 2003). Multiple regression analysis revealed university satisfaction to be the strongest predictor of self-esteem; similarly, peer communication and appearance appraisal were also of significance. Interactions between these predictor variables and self-esteem warrant further attention as a means of establishing successful, domain-specific interventions.

Key words: *self-esteem, depression, university, appearance, peer communication*

Global self-esteem has elicited a large body of mounting empirical evidence and still remains one of the most studied psychological concepts within social science (Bachman et al., 2011). The term self-esteem relates to an individual's perceptive evaluation of one's abilities, pretensions, and successes (Sowislo & Orth, 2013). Current literature within the field would suggest that a high self-esteem is positively associated with positive life outcomes such as happiness, self-enhancement, academic success, and successful relationships with peers, family members, and romantic partners (Allen, Hauser, Bell, & O'Connor, 1994; Baumeister, Campbell, Krueger, & Vohs, 2003, Bowling, Eschleman, Wang, Kirkendall, & Alarcon, 2010; Cabeldue & Boswel, 2012; Kutob et al., 2010; Morry, Reich, & Kito, 2010; Wilcox & Stephen, 2013).

An abundance of research has also highlighted the negative relationship between high self-esteem, mental illness (Bachman et al., 2011; Frone, 2000; Kong et al., 2013; Mellor, Fuller-Tyszkiewicz, McCabe, & Ricciardelli, 2010; Sowislo & Orth, 2013; Swann Jr, Chang-Schneider, & Larsen McClarty, 2007) and forms of antisocial behaviours (Bandura, 1982; Brown, 1998; Donnellan, Trzesniewski, Robins, Moffitt, & Caspi, 2005; DuBois & Tevendale, 1999; Flory, Lynam, Milich, Leukefeld, & Clayton, 2004; Harter, 1998; Trzesniewski et al., 2006). Further research has also suggested that individuals with low self-esteem, adolescents in particular, are at a heightened risk of psychological and behavioural problems which include poor academic performance, obesity, and anxiety (Crocker & Wolfe, 2001; Prout & Prout, 1996; Taras & Potts-Datema, 2005).

Moreover, many researchers have argued that, in fact, a lack of self-esteem is a predictor of, and an antecedent to, depressive behaviours (Boden, Fergusson, & Horwood, 2008; Hoffman, Baldwin, & Cerbone, 2003; Pelkonen, Marttunen, Kaprio, Huurre, & Aro, 2008; Reinherz, Giaconia, Pakiz, & Silverman, 1993; Roberts, Gotlib, & Kassel, 1996; Southall & Roberts, 2002). The vulnerability model (Orth, Robins, Widaman, & Conger, 2014) claims that individuals possessing low levels of self-esteem are at risk of developing depression; suggesting that interventions aimed at improving global self-esteem could in turn aid the reduction of melancholic symptoms (Sowislo & Orth, 2013). Alternatively, the scar model states that depression has a negative impact on one's self-esteem, suggesting that the relationship is causal and in fact, depression corrodes an individual's evaluation of self-worth (Gayman, Lloyd, & Ueno, 2010). It must also be noted that although the aforementioned study found a significant relationship between major depression and low self-esteem in

adolescents, the study did not account for stressful life events, trauma, or previous melancholic characteristics throughout this period and should therefore be open to alternative interpretation.

Due to the contrasting research within the field, it is apparent that further studies are required; future research may in fact highlight an alternative explanation for the relationship between low self-esteem and depression. Nonetheless, determining the direction of causality between such associations may in turn, allow for the design of appropriate and effective forms of treatment and intervention (Baumeister et al., 2003). It is essential to further analyse this relationship in order to increase an individual's self-esteem and general resilience. When considering the negative consequences of low self-esteem, it is important to identify the associated determinants to allow for successful intervention and therefore promote self-confidence and self-worth.

Appearance Appraisal

Research would suggest that appearance appraisal, the self-perception of one's appearance whereby a positive judgement leads to higher levels of body satisfaction, is a key predictor of self-esteem (Chatzisarantis & Hagger, 2007; Furnham & Calnan, 1998; Gotwals, Dunn, & Wayment, 2003). Individuals expressing a low level of self-esteem and a high level of body dissatisfaction are therefore at a heightened risk of developing adverse behaviours, such as restrained eating in order to engage in and elicit weight control methods (Hoffmeister, Teige-Mocigemba, Blechert, Klauer, & Tuschen-Caffier, 2010; Kong et al., 2013; Mellor et al., 2010; Polivy, Heatherton, & Hermon, 1988; Stice, 2002; Wiederman & Pryor, 2000; Vohs et al., 2001). A study conducted by Stice, Hayward, Cameron, Killen, and Taylor, (2000) identified body dissatisfaction as a positive predictor of depression, however it must be noted that the study was limited, as the utilised sample solely consisted of female participants; failing to fully examine the proposed gender-additive model of depression. Others have argued that further understanding of the association between self-esteem and body dissatisfaction may assist in the easing of the increased financial strain on the health system; a result of hospitalisation through dietary restraint and ongoing psychological support for patients (Pratt & Woolfenden, 2002).

Studies conducted by McAllister and Caltabiano, (1994) and Wilksch and Wade, (2004) have provided support for the relationship between low self-esteem and body

dissatisfaction, particularly within the female population (Mellor et al., 2010). Empirical evidence collected within this field of study demonstrates a significant gender difference in reported concern about physical appearance across a number of cultures (Chang & Christakis, 2003; Chen & Jackson, 2008; Iqbal, Shahnawaz, & Alam, 2006; Parnot et al., 2006, as cited in Mellor et al., 2010); whereby women consistently exhibit a higher level of body dissatisfaction than men (Forbes, Adams-Curtis, Rade, & Jaberg, 2001; McCabe & Ricciardelli, 2004a; Morry & Staska, 2001; Noll & Fredrickson, 1998). Perhaps qualitative examination into such findings could indicate reasons why females display lower levels of body satisfaction. It may be that more women are open to discussing their body dissatisfaction and are therefore more likely to take part in such research.

It must be noted however that in the aforementioned studies, concerns over body image were also portrayed by male participants; a concept that has received increasing attention over the last 10-15 years (e.g. Pope, Phillips, & Olivardia, 2000). Research conducted by Stice et al. (2000), and Kutob et al, (2010) for example, examine appearance appraisal within a female-only population, despite arguing that there may in fact be a gender difference. Previously, male body satisfaction research has been heavily focused upon thinness but further research has since suggested that concerns over appearance may be closer linked to muscular appearance and definition (McCreary & Sasse, 2000). Research conducted by Cafri and Thompson (2004) suggests that a muscular, mesomorph body type is more desirable to males than a thin, ectomorph type, therefore studies investigating male body dissatisfaction and thinness would not necessarily consider those who were dissatisfied over their muscular appearance. A review conducted by Blond (2008) found that when exposed to idealised images of the male body, 15 studies found significant negative effect sizes for body dissatisfaction, suggesting that when comparing themselves to images of their ideal body, males are at a heightened risk of negative self-evaluation.

Similarly, obesity within childhood and adolescence is likely to have a negative effect on an individual's self-evaluation of their physical appearance and therefore their overall evaluation of self; thus suggesting such individuals are more susceptible to the psychological and psychosocial issues previously discussed (Biro, Striegel-Moore, Franko, Padgett, & Bean, 2006; Erickson, Robinson, Haydel, & Killen, 2000; Mustillo et al., 2003; Strauss, 2000; Vila et al., 2004; Whetstone, Morissey, & Cummings, 2007; Zametkin, Zoon, Klein, & Munson, 2004). Such research suggests that reducing one's body fat is likely to result in a

more positive judgement of appearance, increase levels of body satisfaction, and therefore increase global self-esteem. Studies have revealed that active groups tend to score higher on the Rosenberg Self-Esteem Scale (Armstrong & Oomen-Early, 2009; Bowker, 2006; Ference & Muth, 2004; Koyuncu, 2010; Simmons & Childers, 2013); indicating a positive association between physical activity and body image (Greenleaf & McGreer; Kennedy & Reis, 1995; Kirkcaldy, Shepherd, & Siefen, 2002; Sherblom & Rust, 2004). One explanation could originate from response-contingent positive reinforcement (Lewinsohn & Hoberman, 1982), whereby physical activity has been shown to help reduce symptoms of depression (Chilvers et al., 2001; Doyne et al., 1987; Doyne, Chambless, & Beutler, 1983; Frazer, Christensen, & Griffiths, 2005; Greist, Klein, Eischens, Gurman, & Morgan, 1979; Klein et al., 1985; Lawlor & Hopker, 2001; McCann & Holmes, 1984) and therefore may directly influence an individual's self-esteem. An increase in exercise could result in a decrease in body weight, as well as an increase in positive self-perceptions of physical proficiency (Ference & Muth, 2004); therefore, individuals who participate in more physical activities will begin to experience elevated levels of body satisfaction (Russell & Cox, 2003; Sherblom & Rust, 2004) and decline in physique anxiety (Koyuncu, 2010). It could be argued that physiological effects, such as a reduction in body weight, are more likely to provide an explanation as to why physical activity can lead to increased levels of body satisfaction and therefore improve one's self-esteem.

Kutob et al. (2010) analysed constructs associated with self-esteem in pre-adolescent females and found that although appearance appraisal was the most influential criterion, weight-related teasing was also significant in predicting the participants' self-worth, more so than their actual body weight. Similar results were found in a study conducted by Eisenberg, Neumark-Sztainer, and Story (2003), whereby 30 per cent of adolescent girls and 24.7 per cent of adolescent boys expressed that they had experienced weigh-related teasing. In addition to a decline in global self-esteem, such teasing has been found to elicit further psychosocial issues including low academic performance, anxiety, and isolation as a result of lack of social acceptance (Brown, Birch, & Kancherla, 2005; Robinson, 2006). It is therefore imperative to consider relationships with peers and social acceptance as well as appearance appraisal when questioning influences of self-esteem.

Peer Communication

Social acceptance and a supportive network of relationships have been associated with high self-esteem, with numerous studies highlighting friendships as a strong predictor of self-worth (Brown et al., 1998; Harter, 1996; 1999; Shapka & Keating, 2005), self-reliance, and relative achievement (Ryan, Stiller, & Lynch, 1994). It would appear that both social acceptance and peer rejection are strong predictors of self-esteem (Leary, Cottrell, & Phillips, 2001). Socialisation has also been linked to motivation theory, whereby close friendships and relatedness have facilitated levels of motivation and self-worth (Connell & Wellborn, 1990; Goodenow, 1993; Ryan & Lynch, 1989). More recently, Wilcox and Stephen (2013) identified online associations as a key contributor, through the medium of social networking. Such communication has been acknowledged as a means of gratifying specific psychological needs including affiliation and self-expression (Back et al., 2010), with individuals reflecting upon, and taking care about, how they are portrayed online to their close friends (Wilcox & Stephen, 2013). Further research has suggested that following a negative emotional experience, those with lower self-esteem are more likely to seek support through the use of social networks as a means of wellbeing restoration (Buechel & Berger, 2012); therefore suggesting that positive online feedback from close companions may in fact result in the augmentation of self-worth (Valkenburg, Peter, & Schouten, 2006). Consequently, it is important to further analyse the impact that socialisation with peers has on global self-esteem.

Family Relatedness

In addition to social acceptance, family communication and maternal affection throughout childhood are also important constructs to consider (Allen et al., 1994; Kobak & Sceery, 1988). Associations have been found between autonomy, relatedness, and self-esteem, with individuals of high self-worth reporting increased levels of adjustment (Kenny, 1987; Moore, 1987; Ryan & Lynch, 1989), maternal support (Bell & Bell, 1983), and trust between family members (Doyle & Markiewicz, 2005; Kerns, Klepac, & Cole, 1996; Yunger, Corby, & Perry, 2005). In fact, Greenberg, Siegal, and Leitch (1983) found that relatedness and positive communications within the family are more predictive of global self-esteem than similar communications within peer groups; in support of principal parental representations.

Previous research has suggested that perceived connectedness and maternal warmth are conducive of self-esteem and that parental control, or omission of positive communication, may consequently lead to the development of poor self-worth, behavioural issues, and symptoms of depression (Allen et al., 1994; Barber & Harmon, 2002; Bean, Bush, McKenry, & Wilson, 2003; Garber, Robinson, & Valentiner, 1997; Ojanen & Perry, 2007; Zahn-Waxler, Kochanska, Krupnik, & McKnew, 1990). Inter-family relationships and the process of individuation have been closely associated with aspects of the self-system model including identity formation and exploration (Grotevant & Cooper, 1985). Under those circumstances, it could be assumed that one's evaluation of self-worth, as a result of granted autonomy, family connectedness, and perceived maternal behaviour, plays a significant role in adolescent development (Barber, Olsen, & Shagle, 1994; Egan & Perry, 1998; Chang, Swartz, Dodge, & McBride-Chang, 2003; Ojanen & Perry, 2007; Pettit, Laird, Dodge, Bates, & Criss, 2001). Ryan, Stiller, and Lynch (1994) proposed that perceived autonomy is a key factor in the development of secure relatedness to others; acknowledging that such an association is indeed conducive to self-esteem, confidence, and volition.

University Satisfaction

In addition, Ryan and Grolnick (1986) found that similar autonomy and support from teachers leads to an increase in student motivation and levels of self-perceived proficiency. Motivation theory (Ryan, Stiller, & Lynch, 1994), could also apply within an academic setting whereby decision making skills, coping, and control are fostered by the student's perceived relatedness to adults to whom they feel positively associated. Empirical evidence suggests that alongside positive relationships with others, self-esteem is linked to academic success and efficient levels of occupational performance (Aryana, 2010; Booth & Gerard, 2011; Trzesniewski, Donnellan, & Robins, 2003).

The concept of organisation-based self-esteem (OBSE) as described in Bowling et al. (2010), reflects the physical wellbeing, occupational success, and job satisfaction of employees (Pierce, Gardner, Cummings, & Dunham, 1989); allowing an evaluation of an individual's competency within an organisational setting. Such a concept allows for assessment of a particular self-esteem in connection to the self-observed importance within its relevant domain (Geng & Jiang, 2013). This is of great importance when considering individuals may feel competent in some general settings, for example as a spouse, yet feel

less capable within the workplace (Rosenberg et al., 1995; Simpson & Boyle, 1975) and therefore interventions may need to be designed to address specific self-esteem.

A review of the current literature has highlighted that not only do positive interactions occur between academic satisfaction and high levels of self-esteem throughout childhood; significant associations are also present throughout adulthood, in relation to further education and occupational success and satisfaction. It could therefore be argued that the interaction is cyclical in nature, whereby associations are not limited to a specific time in an individual's life span. When considering domain specific self-esteem, Pullman and Allik (2008) found that academic self-esteem was a significant predictor of school achievement. This study will therefore address university satisfaction and the individual's perceived competence in relation to progress in assignments and how they feel they will cope upon completion of their degree.

Relationship Status and Satisfaction

This final predictor variable has received little attention to date, with much of the current research reflecting upon how self-esteem is important in the regulation of a current relationship and also the instigation of romantic intimacy (Eryilmaz & Atak, 2011; Sternberg, 1999). However, few studies have provided empirical evidence to investigate whether relationship status has an effect on an individual's self-esteem. Zeigler-Hill, Campe, and Myers (2009) hypothesised that those involved in a romantic relationship may feel more positively about themselves and therefore hold a higher value of self-esteem. It could also be argued that in order to start an intimate relationship, one must initially have a positive self-worth (Eryilmaz & Atak, 2011; Pettijohn, Naples, & McDermott, 2010). Cabeldue and Boswell (2012) argued that the self-esteem of an individual is likely to have a positive effect on the relationship self-efficacy (RSE), whereby high levels of self-confidence could perhaps predict relationship satisfaction and low concerns about rejection (Cramer, 2009; Sciangula & Morry, 2009; Zeigler-Hill, Fulton, & McLemore, 2011). Certainly, more research is required to determine how self-esteem, relationship status, and relationship satisfaction interact with one another.

The framework of literature certainly implies that self-esteem can be significantly influenced by a number of constructs. Consequently, in order to develop successful interventions, it is an imperative prerequisite to identify such factors that significantly affect an individual's self-esteem. Such research would indicate negative predictors of self-esteem

and therefore, treatment programmes can be developed to address specific constructs as a means of improving an individual's self-worth. Based upon the existing research, age, appearance appraisal, peer communication, relationship status and satisfaction, and family relatedness will be examined in order to determine which constructs most significantly predict self-esteem. Evidence would suggest that each construct in this analysis is a positive predictor of global self-esteem, implying that high appearance appraisal, social acceptance with peers, supportive family interactions, university satisfaction, and a high level of relationship self-efficacy all result in positive global self-esteem.

Method

Participants and Procedure

A sample of 120 participants was gathered through the use of opportunistic sampling and consisted of 83 females and 37 males, aged between 18 and 54 ($M = 22$). Participants were either undergraduate or postgraduate students at the University of Cumbria, studying a range of degrees including Applied Psychology, Event Management, and Early Years Education. Participants were each provided a copy of the questionnaire and demographic details were collected from participants including their age, gender, relationship status, and if applicable, the length of their relationship in months.

Materials

The questionnaire utilised in the present study was adapted from the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) and involved elements of the Multidimensional Body-Self Relations Questionnaire (MBSRQ; Brown, Cash, & Mikulka, 1990). This study employed a nine-point Likert scale ranging from 1 "Strongly disagree" to 9 "Strongly agree" and to ensure reliability. Items included "I'm inclined to feel that I put more effort into my friendships than my friends do" and "My friends provide a strong support network". A high score therefore reflected elevated levels of global self-esteem.

The 45-item questionnaire utilised in the present study received a Cronbach's α of .90 and was comprised of six subscales measuring global self-esteem ($\alpha=.92$), peer communication ($\alpha=.75$), family relatedness ($\alpha=.66$), university satisfaction ($\alpha=.75$),

appearance appraisal ($\alpha=.80$), and relationship satisfaction ($\alpha=.78$). These scores suggest the questionnaire utilised in the present study is of high internal reliability.

The Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) is a widely recognised self-report scale consisting of ten items to measure one's global self-esteem (Robins, Hendin, & Trzesniewski, 2001) and has received the most empirical support of all self-report measures (Gray-Little, Williams, & Hancock, 1997). Such validation suggests that the RSE demonstrates high levels of test-retest reliability (Robins, Trzesniewski, Tracy, Gosling, & Potter, 2002), internal consistency (Blascovich & Tomaka, 1991), and construct validity (Bosson, Swann, & Pennebaker, 2000; Lucas, Diener, & Suh, 1996; Marsh, Scalas, & Nagengast, 2010; Schmitt & Allik, 2005). A review conducted by Gray-Little, Williams, & Hancock (1997) suggested that the RSE could be significantly shortened without compromising its validity and reliability. The scale was therefore adapted for the needs of this study.

MBSRQ

In order to gain a multidimensional measurement of body satisfaction, elements of the MBSRQ (Brown et al., 1990) were incorporated into the questionnaire utilised in this study. The full 69-item version of the MBSRQ is comprised of ten subscales evaluating participants' body image constructs. Research suggests a high level of internal consistency (Rucker & Cash, 1992) and test-retest reliability (Cash, 2002); therefore, indicating that the MBSRQ is a reliable instrument in providing an attitudinal assessment for body satisfaction. Due to the length of the MBSRQ, questions from the appearance evaluation subscale were selected to gain an overview of the participant's appearance appraisal, whilst ensuring the validity of the measurement was not compromised.

Results

Table 1 provides the Pearson correlation matrix of the variables investigated within part one of this study. As anticipated, the following predictor variables were positively correlated

with self-esteem; peer communication ($r = .47$), family relatedness ($r = .35$), university satisfaction ($r = .62$), and appearance appraisal ($r = .51$).

Table 1.

Two Tailed Correlations Between the Variables in the Study [Romantic Relationship/Not Involved in a Relationship]

Variable	1	2	3	4	5	6	7
1. Global self esteem							
2. Peer communication	.47*** [.24*/.67***]						
Females	.33** [.21/.53**]						
Males	.67*** [.33/.79***]						
3. Family relatedness	.35*** [.29*/.44***]	.36*** [.26*/.47***]					
Females	.33** [.31*/.37*]	.23* [.25/.22]					
Males	.43** [.33/.53*]	.61*** [.35/.77***]					
4. University satisfaction	.62*** [.47***/.74***]	.47*** [.38**/.53***]	.44*** [.41***/.48***]				
Females	.50 *** [.44**/.58**]	.21 [.14/.30]	.42*** [.42**/.46**]				

Male	PREDICTORS OF GLOBAL SELF-ESTEEM	.78*** [.57*/.85***] ¹⁰⁷	.50** [.50/.52*]			
5. Appearance appraisal		.51*** [.45***/.56***]	.16 [-.01/.35**]	.21* [.07/.42**]	.42*** [.27*/.57***]	
Females		.44*** [.44**/.41*]	.13 [.05/.28]	.22* [.06/.56**]	.36** [.30*/.43*]	
Males		.61*** [.43/.68***]	.20 [-.21/.41]	.20 [.18/.27]	.50** [.18/.68***]	
6. Age		-.04 [-.18/.19]	-.02 [-.04/.03]	-.13 [-.20/.07]	.01 [-.03/.07]	.14 [-11/.16]
Females		-.12 [-.23/.19]	-.07 [-.06/-08]	-.16 [-.19/-07]	-.05 [-.09/.00]	0.10 [.04/.21]
Males		.16 [.02/.21]	.10 [.05/.15]	-.01 [-.22.27]	.14 [.14/.15]	.30 [.45/.10]
7. Relationship satisfaction		[-.05]	[.26*]	[-.05.]	[.01]	[.06]
Females		[-.10]	[.24]	[-.08]	[-.08]	[.05]
Males		[.46]	[.72**]	[.63*]	[.79**]	[.15]
						[.09]

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

A Standard multiple regression revealed three significant positive predictors of global self-esteem; peer communication, university satisfaction, and appearance appraisal. The strongest predictor of global self-esteem was university satisfaction, followed by appearance appraisal, and peer communication was also a significant positive predictor of self-esteem (see Table 2).

Table 2.

Standard Multiple Regression of Global Self Esteem on to Peer Communication, Family Relatedness, University Satisfaction, and Appearance Appraisal.

Variable	Beta	t	Sig	R ²	Adj R ²
Peer communication	.24	3.16	.002		
Family relatedness	.05	.65	.519		
University satisfaction	.36	4.19	<.001		
Appearance appraisal	.31	4.25	<.001	.51	.49

ANOVA: $F(4,113) = 29.20, p < .001$

Case files were then split to determine whether relationship status had a mediating effect on an individual's global self-esteem. Further multiple regression analysis revealed two significant positive predictors for individuals involved in a romantic relationship: appearance appraisal and university satisfaction (see Table 3).

Table 3.

Standard Multiple Regression of Global Self Esteem for Participants Involved in a Romantic Relationship on to Peer Communication, Family Relatedness, University Satisfaction, and Appearance Appraisal.

Variable	Beta	t	Sig	R ²	Adj R ²
Peer communication	.14	1.16	.249		
Family relatedness	.11	.97	.338		
University satisfaction	.27	2.14	.036		
Appearance appraisal	.38	3.46	.001		
Relationship satisfaction	-.11	-.97	.339	.37	.32

ANOVA: $F(5,58) = 6.85, p < .001$

Further analysis revealed that two of the predictor variables (university satisfaction and peer communication) significantly predicted global self-esteem for individuals who are not involved in a romantic relationship (see Table 4).

Table 4.

Standard Multiple Regression of Global Self Esteem for Participants Not Involved in a Romantic Relationship on to Peer Communication, Family Relatedness, University Satisfaction, and Appearance Appraisal.

Variable	Beta	t	Sig	R ²	Adj R ²
Peer communication	.39	3.90	<.001		
Family relatedness	-.03	-.34	.737		
University satisfaction	.43	3.89	<.001		
Appearance appraisal	.20	1.93	.059	.68	.65

ANOVA: $F(4,49) = 25.57, p < .001$

Appearance appraisal was the only significant positive predictor of global self-esteem for male participants, with a considerable amount of variance being explained by the predictor variables (Table 5)

Table 5.

Standard Multiple Regression of Global Self Esteem for Male Participants on to Peer Communication, Family Relatedness, University Satisfaction, and Appearance Appraisal.

Variable	Beta	t	Sig	R ²	Adj R ²
Peer communication	.36	2.03	.051		
Family relatedness	-.01	-.11	.910		
University satisfaction	.30	1.61	.118		
Appearance appraisal	.39	3.25	.003	.70	.66

ANOVA: $F(4,32) = 18.74, p < .001$

There were three significant positive predictors for female participants: university satisfaction, appearance appraisal, and peer communication (see Table 6).

Table 6.

Standard Multiple Regression of Global Self Esteem for Female Participants on to Peer Communication, Family Relatedness, University Satisfaction, and Appearance Appraisal.

Variable	Beta	t	Sig	R ²	Adj R ²
Peer communication	.21	2.27	.026		
Family relatedness	.08	.78	.437		
University satisfaction	.32	3.03	.003		
Appearance appraisal	.28	2.84	.006	.38	.34

ANOVA: $F(4,76) = 11.45, p < .001$

To summarise, the multiple regression analysis revealed three significant predictors of global self-esteem; university satisfaction, peer communication and appearance appraisal. Two significant predictors of global self-esteem were found for participants who were involved in a romantic relationship; university satisfaction and appearance appraisal. For single participants, university satisfaction and peer communication were the two significant predictors of global self-esteem.

Much emphasis is placed upon appearance appraisal; a significant predictor of self-esteem for both male and female participants. Additionally, university satisfaction and peer communication were significant predictors for female participants. When examining relationship status for both males and females, it was revealed that peer communication was a significant predictor for both male and female, single participants and that those involved in a romantic relationship place a greater importance on appearance appraisal. These findings suggest that the importance of peer communication on one's self-esteem is significantly reduced upon the involvement of a romantic relationship and instead, more importance is placed upon appearance appraisal.

Further Analysis

A 2 x 2 between subjects Factorial ANOVA was conducted to explore differences in how global self-esteem is affected by participant gender and relationship status. There was no significant difference in the main effect of gender ($F(1,115) = 1.95, p=.165, \eta^2 = .02$) and no difference in the main effect of relationship status ($F(1,115) = .99, p=.321, \eta^2 = .01$). Thus suggesting that neither gender nor relationship status directly affects levels of global self-esteem.

A second 2 x 2 between subjects Factorial ANOVA explored the differences in how body satisfaction is affected by one's relationship status as well as gender. There was no significant difference in the main effect of gender ($F(1,116) = 2.31, p=.131, \eta^2 = .02$) however, there was a significant difference in the main effect of relationship status ($F(1,116) = 4.50, p<.05, \eta^2 = .04$) suggesting that participants' body satisfaction levels are higher for those who are involved in a romantic relationship, regardless of their gender.

Discussion

The current study set out with the aim of exploring which constructs most greatly influence an individual's self-esteem. Initial correlation analysis revealed positive associations between variables, with the exception of participant age. Detailed analysis revealed three significant predictors of global self-esteem; peer communication, university satisfaction, and appearance appraisal. Contrary to the hypothesised expectations of this study, age and family relatedness were not significantly related to self-esteem. Further examination revealed that peer communication was only a significant predictor for single participants and that the involvement in a relationship resulted in appearance appraisal becoming a more important construct to consider.

Overall, it was found that university satisfaction was the strongest predictor of global self-esteem; suggesting that individuals with a high level of satisfaction throughout their university career will also possess high levels of self-worth. However, much of the knowledge within the field remains focused on childhood experiences of school and occupational success in later adulthood. There is an abundance of research suggesting that self-esteem is closely linked to occupational success and job satisfaction, (Bowling et al.,

2010; Judge & Bono, 2001; Pierce & Gardner, 2004; Tharenou, 1979). Similarly, Ryan and Grolnick, (1986) argue that supportive teachers throughout childhood lead to increased levels of motivation, improved academic success and therefore increased global self-esteem. It appears that perceived warmth received from teachers is of great importance; consequently resulting in academic success and perhaps later occupational achievement. Indeed, there may be an interaction between academic and occupational achievements and should be addressed in future research. The results from this study support these arguments; however, there is a paucity of research focused specifically at undergraduate and postgraduate study. Future research could investigate this relationship further throughout one's adulthood.

The second strongest predictor of global self-esteem was appearance appraisal; a domain of self-liking based upon external contingencies that are dependent on approval (Geng & Jiang, 2013). Such an interaction suggests that individuals with a positive perception of their appearance are likely to have high levels of global self-esteem. It would also suggest that low levels of self-esteem are associated with body dissatisfaction; a key contributor to restrained eating (Kong et al., 2013), and depression (Darby, Hay, Mond, Rodgers, & Owen, 2007; Stice, 2002; Wiederman & Pryor, 2000). It could be argued therefore, that interventions aimed directly at appearance appraisal and developing positive perceptions of the self could decrease body dissatisfaction and thus, increase general self-liking. It must be noted however, that the significant interaction found in the current study shows only an association between the two variables. Direction of causality is yet to be distinguished, therefore suggesting that improving an individual's global self-esteem may in turn, improve levels of body satisfaction. Again, future research is required as a means of establishing the direction of the interaction.

Similarly, peer communication was also a predictor of self-esteem, supporting arguments presented by Brown et al. (1998), Harter (1996, 1998), and Shapka and Keating (2005). Recent studies have examined online associations and have found that social networking can increase levels of self-esteem, particularly when shared content receives positive feedback from peers (Valkenburg et al., 2006). Moreover, it has been suggested that individuals with low self-esteem often seek support through their online associations (Buechel & Berger, 2012); thus implying that internet resources could be developed as a means of improving the self-esteem of emotionally unstable individuals.

Further multiple regression analysis focused on how relationship status mediated the effects of the predictor variables on self-esteem. The result of this analysis revealed that peer communication and university satisfaction were positive predictors for single participants. For those involved in a romantic relationship at the time of data collection, university satisfaction and appearance appraisal significantly predicted global self-esteem. Such results suggest that peer communication is less significant upon the initiation of a relationship; instead, more importance is placed upon appearance appraisal. Interestingly, relationship satisfaction is not a significant predictor of self-esteem; questioning the arguments presented previously (Zeigler-Hill, Campe, & Myers, 2009).

Three variables significantly predicted global self-esteem for female participants; university satisfaction, peer communication, and appearance approval. As university satisfaction was not a significant predictor of self-esteem more male participants, this implies that females place a greater importance in their university satisfaction than men. When considering relationship status, it was revealed that university satisfaction and peer communication were significant for single, female participants, and appearance appraisal was significant for those involved in a relationship. Again, suggesting that peer communication is only of importance for those who are not involved in a romantic relationship. A possible explanation for such an interaction may be the fact that once engaged in a romantic relationship, the partner is likely to be the first point of contact rather than their friendship network. Thus, suggesting that the friendship network is not utilised as much when involved in a romantic relationship.

It was also found that gender and relationship status does not directly affect levels of global self-esteem contrary to findings presented by Bachman et al., (2011). However, results indicated that body satisfaction increased for those who were involved in a romantic relationship, regardless of their gender. According to Kutob et al., (2010) elevated levels of body satisfaction are likely to lead to overall happiness, thus resulting in increased levels of global self-esteem. It could therefore be argued that although relationship status does not have a direct effect on perceptions of self, it could have a beneficial effect on constructs which are intrinsically associated with self-esteem, such as appearance appraisal; a secondary effect as opposed to a direct, primary effect.

There were a number of methodological shortcomings within this study. Firstly, it must be noted that studies have consistently found that levels of self-esteem change over time (Harter, 1999), particularly throughout adolescence and early adulthood; therefore, it could be argued that a longitudinal study could more accurately monitor changes in self-esteem. The current study however wished to evaluate self-perceptions of university students at an undergraduate and postgraduate level, therefore a cross-sectional design was adopted to account for such a specific period. Although it was examined, participant age did not significantly correlate with self-esteem in this case, however it could be argued that the lack of range with regard to the age of university students did not allow for an in-depth analysis of the changes of self-esteem over time.

Similarly, family relatedness did not correlate with self-esteem and it could be argued that the sample population utilised in the current study may have influenced such a result. Participants are university students, many of which will have moved out of the family home to attend further education. Demographic information about living conditions of participants was not collected in this study and should therefore be considered in future research. Finally, the definition of low self-esteem is the negative overall perception of one's self and it has been argued that individuals with low levels of self-esteem do not limit their negativity to themselves alone (Baumeister et al., 2003). It has been argued that low self-esteem is therefore difficult to distinguish from general negativity and that individuals have a tendency to react in a way of floccinaucinihilipilification; whereby negativity surpasses that of the self and is also aimed towards general events and life circumstances.

It is apparent that future research is required in order to examine student's university experiences as a predictor of global self-esteem. Additionally, it may be of interest to further examine the extent to which academic success at both undergraduate and postgraduate level is influenced by university satisfaction. Currently, the direction of the interaction between university satisfaction and self-esteem has not been established and thus, no comment of causality can currently be applied; the relationship may in fact be reciprocal in nature. Additional studies could therefore determine such a direction and thus, specific interventions can be designed as a means of improving students' levels of self-esteem. Results from the current study suggest self-esteem is greatly influenced by how a student perceives their university career and therefore resources should be developed; focusing specifically at university enjoyment. Future research should address the interaction between the perceived

warmth and support received from teachers, university satisfaction, and occupational achievements; it may appear that a supportive teacher may predict greater success throughout childhood, adolescence, and later adulthood. Additionally, a wider range of ages could be utilised to determine the extent to which self-esteem changes throughout adulthood. Finally, demographic details could be collected about the living arrangements of the participants. Perhaps future research could investigate differences in students that have moved away to university compared to students that commute from the family home.

Conclusion

The current study has contributed to the current body of knowledge within the field in terms of determining which constructs are most significant in predicting self-esteem levels in students. It has been found that university satisfaction is a key contributor, yet remains somewhat overlooked and therefore requires further examination. By establishing which constructs most significantly predict self-esteem, resources can be tailor-made and domain specific to individuals; therefore, increasing the likelihood of successful intervention (Marsh, 2008). In this case, interventions should be focused upon improving university satisfaction for students; thus, elevating an individual's motivation to succeed, improving assignment grades, and therefore increasing global self-esteem. Such findings could assist the development of interventions specifically designed to elevate students' levels of self-esteem throughout university therefore reducing negative consequences of poor self-worth.

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