Body image and college women's quality of life: The importance of being self-compassionate

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Abstract:	This study explores self-compassion as a mediator between body dissatisfaction, perceptions of inferiority based on body image, and quality of life, in 662 female college students. Quality of life was negatively correlated with body dissatisfaction and positively correlated with favourable social comparisons and self-compassion. A path analysis revealed that, while controlling for BMI, self-compassion mediated the impact of body dissatisfaction and perceptions of inferiority on psychological quality of life. The path model accounted for 33% of psychological quality of life variance. Findings highlight the importance self-compassion as a mechanism that may operate on the association between negative body image evaluations and young women's quality of life.

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Abstract

This study explored self-compassion as a mediator between body dissatisfaction, social comparison based on body image, and quality of life, in 662 female college students. Path analysis revealed that, while controlling for BMI, self-compassion mediated the impact of body dissatisfaction and unfavourable social comparisons on psychological quality of life. The path model accounted for 33% of psychological quality of life variance.

Findings highlight the importance of self-compassion as a mechanism that may operate on the association between negative body image evaluations and young women's quality of life.

Keywords: Body image; Protective factors; Well-being; Youth; Model

Introduction

It is increasingly recognized that an individual's health and well-being cannot be defined by the absence of physical morbidity (Hoffman and Driscoll, 2000). Research has suggested that one's perception of well-being and quality of life (QoL) is influenced, not only by one's physical state, but also by the psychological domain (Hoffman and Driscoll, 2000; Muldoon et al., 1998; Skevington et al., 2004; Camfield and Skevington, 2008). In line with this, Haugland and colleagues (2001) found that even though young people present relatively low levels of serious physical morbidity, many report subjective health-related symptoms and psychological complaints. Thus, other aspects besides physical health play an important role in the determination of one's perception of well-being and QoL.

Transitional periods in life can be demanding and stressful and can affect one's QoL. College is a key developmental time that can have important implications for psychological well-being (Noel, 1985; Hunt and Eisenberg, 2010). Evidence reveals that 80% of college students reported feelings of moderate stress (Abouserie, 1994), while 60% of college students rated stress levels as high or very high (Makrides et al., 1998). College faces an individual with not only new academic tasks, but also with different social demands, such as the establishment of different relationships and the managing of one's autonomy. Furthermore, this period involves challenges regarding the maintenance of healthy behaviours in this new environment (Bryde, 1990; Compas et al., 1986) with an increased vulnerability for a range of psychological difficulties (Eisenberg et al., 2007). In particular, there is evidence showing that female college students present considerable levels of body image dissatisfaction and are at greater risk for developing body image and eating-related problems (Cook and Hausenblas, 2011; Johnson et al., 1982; Striegel-Moore et al., 1986).

Body image dissatisfaction is highly prevalent, affecting more than 80% of women (Mond et al., 2013). Body image dissatisfaction has been consistently found to be an important risk factor for disordered eating behaviours (e.g., rigid dietary restraint and bulimic behaviours; Anton et al., 2000;

Heatherton et al., 1997; Heatherton et al., 1995; Heywood and McCabe, 2006; Pinto-Gouveia et al., 2014) and eating disorders (Stice et al., 2011). Research has also demonstrated that body image dissatisfaction can negatively affect one's QoL in various domains, namely psycho-social functioning, and mental health (Mond et al., 2013; Liimakka, 2014; Pimenta et al., 2009). Nonetheless, the mechanisms mediating the association between negative perceptions of body image and impaired QoL remain unexplored.

Recent studies have shown that body image dissatisfaction may become particularly problematic when it becomes linked to feelings of inferiority and inadequacy in comparison to others (Ferreira et al., 2013a). Even though social comparison can be an adaptive mechanism, low social rank perceptions are associated with poorer mental health indicators (e.g., depression; Allan and Gilbert, 1997). Body image often is an important aspect about which women evaluate themselves and estimate their social rank (e.g., whether they are inferior, undesirable, or unvaluable compared to others; Ferreira et al., 2013a; Gilbert, 2002) and how close/distant they are from qualities valued by their social group (e.g., thinness standards of physical attractiveness; Ahern, Bennett, Kelly and Hetherington, 2011). From this perspective, pathological eating behaviours (e.g., diet) may be seen as means to reach a body shape closer to the thin-ideal (Liimakka, 2014), thus averting feelings of inferiority. However, this strategy can become problematic; there is consistent evidence demonstrating that perceptions of inferiority based on physical appearance-focused social comparison are associated with maladaptive emotion regulation, anxiety and depressive symptoms, and specifically with body image dissatisfaction and eating psychopathology (Ferreira et al., 2013a; Pinto-Gouveia et al., 2014; Shroff and Thompson, 2006). Nonetheless, no studies to date examined whether one's social evaluations in comparison to others based on the body image domain are associated with QoL impairments.

There is evidence that the association between negative social comparisons and feelings of inferiority concerning dissatisfaction with one's body image and eating psychopathology may be ameliorated by self-compassion (Pinto-Gouveia et al., 2014; Ferreira et al., 2013b). Self-compassion is an

emotion regulation strategy that involves the sensitivity to and the desire to alleviate one's suffering (Gilbert, 2005), and the ability to extend kindness and understanding toward the self when facing personal setbacks or inadequacies, rather than being self-critical. Self-compassion involves an attitude of mindfulness, rather than overidentification with one's setbacks or limitations Also, self-compassion entails a sense of common humanity, that is, the recognition that all humans are imperfect, face important life challenges and may fail or make mistakes, rather than adopting an isolating perspective (Neff, 2003b; Neff, 2003a). Growing research shows that self-compassion can play a positive role in mental health. Neff et al. (2007) found that self-compassion in college students was associated with adaptive psychological indicators such as happiness, optimism and positive affect. Furthermore, self-compassion can buffer people against the impact of illness and distressing and challenging situations (Brion, Leary and Drabkin, 2014; Leary et al., 2007). According to Neff (2004) self-compassion encourages individuals to gently hold and accept negative internal experiences (e.g., feelings of inferiority) with a sense of connectedness, and to adopt effective actions towards well-being.

Studies also suggest that self-compassion can have a beneficial impact in the areas of body image and eating behaviour. Studies conducted with female eating disorder patients and women from the general population show that self-compassion is associated with lower feelings of inferiority and negative social comparisons, and predicts lower drive for thinness and eating psychopathology symptoms (Ferreira et al., 2013b; Pinto-Gouveia et al., 2014). There is also some evidence that undergraduate women with higher levels of self-compassion present fewer body image concerns (Wasylkiw et al., 2012) and that self-compassion plays a protective role on the association between higher Body Mass Index (BMI) and body image and eating difficulties (Kelly et al., 2014).

These findings seem to support, therefore, the positive effect of self-compassion in psychological health and well being, as well as in association to body image and eating problems. Nonetheless, little is known on the role that self-compassion plays on the association between negative body image and

perceptions of inferiority in comparison to others on the well-being of young women going through demanding personal and social changes.

The current study had three aims. First, the study aimed at clarifying the impact that body image dissatisfaction has on undergraduate women's subjective QoL, namely regarding the psychological QoL domain. Second, we hypothesized that perceptions of social inferiority are associated with worse subjective QoL. Thirdly, we investigated the role that self-compassion plays among these variables. We hypothesized that self-compassion would be negatively associated with body image dissatisfaction and positively associated with more favourable perceptions of social rank and QoL. We tested whether self-compassion mediates the association between both body image dissatisfaction and perceptions of social rank based on body image and QoL.

Method

Participants

Participants were 662 female college students from 18 to 26 years old with a mean age of 20.33 (SD = 1.76), and a mean of 13.22 (SD = 1.38) years of education. The participants' Body Mass Index mean was 21.86 (SD = 3.12) Kg/m^2. Seventy-one participants (10.72%) were underweight (BMI <18.5), 498 (75.23%) had a normal weight (18.5 $\geq$ BMI $\leq$ 25.0), and 93 (14.05%) were overweight (BMI > 25), according to the conventional classification, which reflects BMI distribution in the young female Portuguese population (Poínhos, 2009).

Measures

Body Mass Index (BMI) was calculated from the Quetelet Index from self-reported participants height and weight (Kg/m^2).

Figure Rating Scale (FRS; Thompson and Altabe, 1991; Ferreira, 2003). The FRS is measure of body image dissatisfaction (BD). It presents a series of nine schematic figures of different sizes, ranging from very thin (1) to very large (9). Participants are asked to select the silhouettes that best represent their current and ideal body images; the divergence between the two silhouettes reflects the degree of body image dissatisfaction (BD). The scale has shown good temporal, convergent and divergent validities (Thompson and Altabe, 1991).

Social Comparison through Physical Appearance Scale (SCPAS; Ferreira et al., 2013a). SCPAS is a brief and valid self-report measure to assess the perception of one's social attractiveness and ranking, according to the way one compares oneself with others, using physical appearance as a reference. Participants are asked to compare themselves physically to proximal targets (part A: Peers) and distal targets (part B: Models) regarding 11 bipolar constructs (e.g., inferior/superior). Answers are given on a Likert scale ranging from 1 to 10, with lower scores characterizing more unfavourable social comparisons (e.g., feelings of inferiority, of being devalued, less accepted) based on the physical appearance domain. The SCPAS presented a high internal reliability (.94 in Part A: Peers, and .96 in Part B: Models) in the original study. Given the aim of this study, only part A was used in the analyses.

Self-Compassion Scale (SCS; Neff, 2003b; Castilho, 2011). This self-report instrument, with 26 items, assesses self-compassion. Items are designed to capture how respondents perceive their actions towards themselves in difficult times (e.g., "When I'm going through a very hard time, I give myself the caring and tenderness I need") and are rated using a Likert-type scale ranging from 1 (almost never) to 5 (almost always). It comprises two main components: a positive one that includes the self-kindness, the common humanity and the mindfulness subscales; and a negative one comprising the self-judgment, isolation, and the over-identification subscales. In this study the three positive dimensions were gathered to compute a global measure of self-compassion. The SCS presents good internal reliability in the original version (.92) and in the Portuguese version (.89).

World Health Organization Brief Quality of Life Assessment Scale (WHOQOL-BREF; Group, 1998; Canavarro, 2007). The WHOQOL-BREF is a 26-item short-form of the subjective QoL assessment scale. This scale provides scores on four domains: physical health, environmental health, psychological health, and social relationships. Furthermore, the scale includes an additional item to assess one's overall perception of QoL. Items are scored on a five-point Likert-type scale, with scores ranging from "1" (extreme dissatisfaction) from "5" (extreme satisfaction) with higher scores indicating higher QoL. Prior studies suggest that the WHOQOL-BREF has adequate criterion and content validity, internal consistency and test–retest reliability, both in its original version and in the Portuguese adaptation.

Internal consistencies and descriptive statistics of the variables in the current study are reported in Table 1.

Procedure

Participants comprised a sample that was part of a wider ongoing research regarding the effect of distinct emotional regulation processes on body and eating-related problems and QoL.

The ethics committees of all the educational institutions involved in the study provided their approval. The female college students that were invited to participate in the study were fully informed about the study aims, that their cooperation was voluntary, about the confidentiality of the collected data and signed the consent form. The questionnaires were completed during class (approximately 30 minutes), in the presence of the teacher in charge and one of the researchers. Twenty-five subjects declined to take part in the study.

Self-report questionnaires were initially completed by 719 students. After internal 'cleaning' procedures that excluded 7.9% of the sample, 662 students were included in the data analysis. The 'cleaning' procedure was based on strict criteria (e.g., excluding participants who were older than 26

years, participants who did not provided details of both height or weight, and cases in which more than

15% of the responses were missing from a questionnaire).

Analysis

The software SPSS (v.21 SPSS; Armonk, NY: IBM Corp) was used to conduct descriptives and

correlational analyses. Pearson Product-moment Correlation analyses were conducted to examine the

correlations between age, BMI, body image dissatisfaction, social comparison based on physical

appearance, self-compassion, and QoL (Cohen et al., 2003). To estimate the association between the

variables under analysis in the theoretical model, a series of path analyses were conducted (Figure 1) with

the software AMOS (Analysis of Momentary Structure, software version 18, SPSS Inc. Chicago, IL;

Figure 1).

In the theoretical model we tested whether the association between body image dissatisfaction (BD)

and social comparison (SCPAS; exogenous variables) and psychological QoL (endogenous variable)

would be mediated by self-compassion (SCS; endogenous mediator variable), while controlling for BMI.

To test for the significance of the regression coefficients and to compute fit statistics, the Maximum

Likelihood estimation method was selected. A set of goodness of fit indices was used to test the

plausibility of the model: Chi-square (χ^2); the Tucker Lewis Index (TLI) and the Comparative Fit Index

(CFI), with values above .95 attesting a very good adequacy of the model; and the Root-Mean Square

Error of Approximation (RMSEA), with 95% confidence interval, which indicates a good model fit when

values range between .05 and .08 (Hu and Bentler, 1999).

The significance of direct, indirect and total effects was assessed by Chi-Square tests. Furthermore,

the Bootstrap resampling method, with 2000 Bootstrap samples and 95% bias-corrected confidence

intervals (CI) around the standardized estimates of total, direct and indirect effects, was used to test the significance of the mediational paths. Effects with $p < .050$ were considered statistically significant.

Results

Preliminary data analyses

Uni and multivariate normality was examined by the values of Skewness and Kurtosis. The Skewness values ranged from -.02 to 1.78 (in the SCPAS and in the BMI, respectively), while the values of Kurtosis ranged from .12 to 8.62 (in BD and BMI, respectively). These values indicated that there was no severe violation of the normal distribution (Kline, 2005).

Descriptive statistics and correlations

The means and standard deviations of the study variables are reported in Table 1. Pearson product-moment correlation coefficients indicated that QoL was significantly associated with all the study variables. Specifically, general QoL scale and the subscales physical, relationships and environmental QoL showed low and negative associations with BMI and body dissatisfaction and, on the contrary, positive associations with favourable social comparisons and self-compassion. An exception was verified regarding the subscales physical and relationships that revealed nonsignificant associations with BMI. It is noteworthy to mention that psychological QoL was significantly and positively associated, with moderate correlations, with favourable social comparisons and with self-compassion. Negative and weak correlations were also found between psychological QoL and BMI and body image dissatisfaction.

BMI was found to be highly positively associated with body image dissatisfaction. However, a weak correlation was found between BMI and favourable social comparisons. Self-compassion was positively and moderately associated with favourable social comparisons. Finally, participants' age was only

marginally associated with social comparison and with general QoL and was not significantly associated with the remaining variables. Therefore, age was not considered in the following analyses.

Path analyses

The initial model comprised 22 parameters. Analyses indicated the progressive removal of the following nonsignificant paths: first, the direct effect of BMI $\rightarrow$ SCS (.001; p = .936) and BMI $\rightarrow$ Psychological QoL (.198; p = .242); secondly, the direct effect of BD $\rightarrow$ Psychological QoL (-.74; p = .103).

After the re-specification of the model (Figure 1), results indicated that the model explained 33% of psychological QoL. All path coefficients were statistically significant (p < .050) and model fit indices revealed an excellent fit to the empirical data, as supported by the χ^2 = 4.019, p = .259; TLI = .995; CFI = .998; RMSEA = .023 (.00 to .07; p = .763; Hu and Bentler, 1999).

BMI was highly associated with BD and revealed a low association with unfavourable social comparisons (SCPAS). Furthermore, the model explained 11% of SCS. BD had a direct effect on SCS of -.11 (b_{BD} = -.08; SEb = .03; Z = -3.00; p = .003). Also, SCPAS had a direct effect of .28 on SC (b_{SCPAS} = .02; SEb = .00; Z = 7.41; p < .001). Finally, SCS had a direct effect of .33 on psychological QoL (b_{SC} = 6.67; SEb = .67; Z = 9.97; p < .001).

Moreover, SCPAS had a total effect of .47 on psychological QoL, with a direct effect of .38 (b_{BD} = .41; SEb = .04; Z = 10.27; p < .001), and an indirect effect of .09, through the mechanism of self-compassion. BD, in turn, had a total effect of -.04 on psychological QoL, with its effect being operating fully through the mechanism of self-compassion. These effects were significant at the level of p < .001 According to the Bootstrap resampling method, framed by a CI of 95%, the estimate of the indirect effect of SCPAS on psychological QoL was significantly different from zero (CI = .065 to .123), as well as the estimate of the indirect effect of BD (CI = -.067 to -.011).

The final model pictured with the standardized estimates of the regression coefficients and the R^2 of the variables is represented in Figure 1.

Discussion

This is the first study to examine the associations between BMI, body image dissatisfaction, social comparison based on body image, and QoL in young college women. The associations between these variables and self-compassion were also explored. The sample presented a wide range of BMI values and results indicated that BMI had small or nonsignificant associations with the dimensions of QoL. The study also confirmed that body image dissatisfaction and perceptions of inferiority based on body image in comparison to others are associated with worse QoL in all of its dimensions: physical, environmental, quality of social relationships and, especially with the psychological dimension.

Results showed that the path model explained 33% of the variance of psychological QoL, which is considered a main aspect of individuals' level of health (Hoffman and Driscoll, 2000; Camfield and Skevington, 2008). Furthermore, findings indicated that, even though increased BMI was highly associated with the perceived discrepancy between one's real body and the desired one, BMI only showed a weak association with the degree in which one compares oneself (un)favourably with others based on the physical appearance domain. Also, BMI did not directly predict psychological QoL. Noteworthily, body dissatisfaction also did not have a direct impact on this important dimension of QoL.

In fact, even though there is evidence that body image dissatisfaction is very common and can negatively impact on women's mental health (Ahern et al., 2011; Mond et al., 2013), this study's findings suggest that, by itself, that perception that one's body is discrepant from an idealized body do not directly affect the perception of QoL. Indeed, the tested model shows that body image dissatisfaction impacts on psychological QoL fully through lower levels of self-compassion. This means that it is only when one has a lower ability to deal with one's body image dissatisfaction in a kind and accepting manner that this

negative evaluation may impact one's perception of psychological QoL. These findings add to current knowledge regarding the healing effect of self-compassion when faced with inadequacies or limitations (Berry et al., 2010) and the protective role that this ability plays on a range of indicators of mental health (Brion et al., 2014; Neff, 2003b; Neff, 2003a).

Furthermore, this study revealed that favourable social comparisons based on physical appearance have a direct effect on a positive perception of psychological QoL. This suggests young women's psychological QoL is highly dependent on how they perceive themselves in relation to their peers using body image as a reference. Nonetheless, the data also showed that social comparison exerts influence on psychological QoL partially through the mechanism of self-compassion.

These findings suggest that body image is an important domain to define individuals' QoL, namely the psychological dimension. However, this study highlights that more than one's actual weight or body shape, it is the way this body image dimension becomes linked to perceptions of inferiority or inadequacy in the social group, that is key to individuals' psychological QoL. This is in line with prior research demonstrating that, particularly among the feminine gender, weight perceptions and perceived external pressures regarding body image have a greater impact than BMI on the endorsement of thinness and QoL (Gillison et al., 2006). Moreover, self-compassion emerges in this model as an important emotion regulation process that may ameliorate the link between negative experiences related to body image and the subjective perception of QoL. In this sense, this study has important implications for the development of community-based interventions focused on the promotion of QoL in college women. In particular, this study emphasizes that these interventions should target not only one's experience related to body image, but mostly how one relates to such experience. That is, our findings suggest that more relevant than efforts being placed in targeting weight or body image dissatisfaction, interventions should focus on developing more adaptive ways to deal with such negative experiences related to body image. In particular, a more kind and accepting relationship with these negative aspects of the self should be

promoted. This compassionate attitude in relation to oneself and one's body could increase women's sense that all bodies are unique, as well as their sense of connectedness (i.e., that some of these body-related negative experiences are shared). In this perspective, one's body-related flaws and limitations are kindly accepted and do not define one's sense of self-worth and well-being (Neff, 2003b; Berry et al., 2010).

This study contained some limitations. First, the cross-sectional design precludes causal conclusions to be drawn. Thus, future research should expand this investigation testing the temporal course of these pathways and the role of other variables (e.g., life events, shame) and emotion regulation processes that were not the focus of this work (e.g., thought suppression, decentering). Also, experimental studies should test the efficacy of compassion-based interventions on promoting body image acceptance and adaptive ways to deal with negative self-evaluations, in order to diminish maladaptive behaviours (e.g., pathological dieting) and increase QoL. Thus, the current data offers important insights for future research and supports the importance of developing interventions that target self-compassion to promote QoL in undergraduate students.

To sum up, this study offers new insights on how body image dissatisfaction and perceptions of inferiority based on body image can be important predictors of QoL in young women. Also, key to our findings was how the impact of these negative experiences related to the body on QoL, may be highly dependent on one's ability to be self-compassionate.

Declaration of Conflicting Interests

The authors declare that there is no conflict of interest.

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Table 1

Means (M), Standard Deviations (SD), Cronbach's alphas and Product-moment correlation coefficients between self-report measures (N = 662)

|	α	M	SD	1	2	3	4	5	6	7	8	9	10
1_BMI	_	21.86	3.12	1									
2_BD	_	.67	.98	.58**	1								
3_SCPAS	.90	62.93	12.34	-.14**	-.25***	1							
4_SCS	.91	3.06	.68	-.10**	-.18***	.31***	1						
5_QoL_Physical	.72	75.42	11.91	-.04	-.08*	.30***	.29***	1					
6_QoL_Psychological	.79	68,72	13.53	-.09*	-.20***	.48***	.45***	.57***	1				
7_QoL_Relationships	.68	73.38	16.53	-.06	-.15***	.29***	.23***	.32***	.52***	1			
8_QoL_Environmental	.75	68.34	11.68	-.12**	-.12**	.21***	.23***	.49***	.47***	.29***	1		
9_QoL_General	_	3.96	.55	-.12**	-.14***	.23***	.26***	.29***	.40***	.20***	.50***	1	
10_Age	_	20.33	1.76	-.01	-.07	.11**	.02	-.00	.04	.03	-.06	-.14**	1

Note:

* $p < .050$; ** $p < .010$; *** $p < .001$; BMI = Body Mass Index; BD = Body Dissatisfaction; SCPAS = Social Comparison through Physical Appearance Scale; SCS = Self-compassion Scale; QoL_Physical, QoL_Psychological, QoL_Relationships, QoL_Environmental, QoL_General: domains of the World Health Organization Brief Quality of Life Assessment Scale.
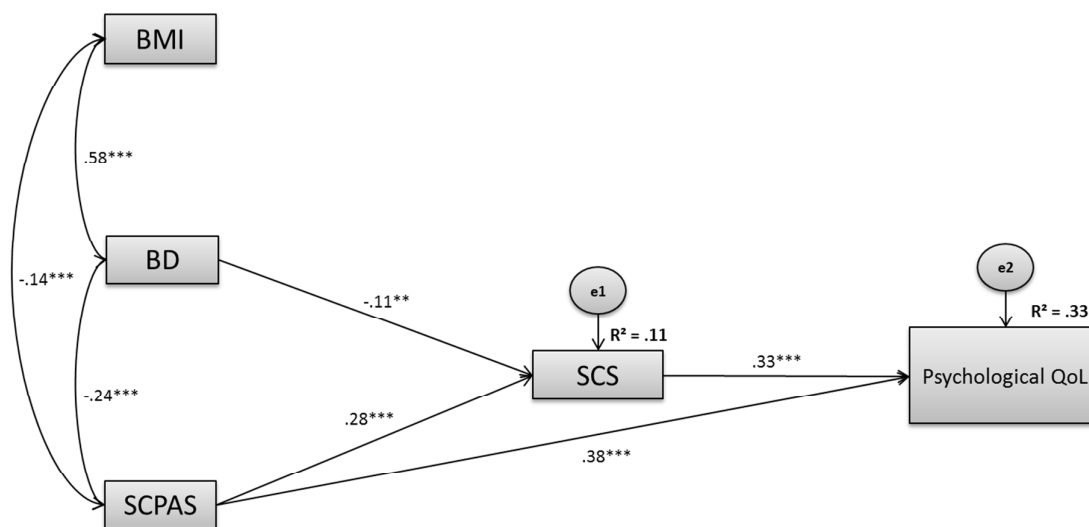
Figure 1. Path Model

Note. Standardized path coefficients among variables are presented. All path coefficients are significant at the .05 level.

$^{**}p < .010$; $^{***}p < .001$. BMI = Body Mass Index; BD = Body Dissatisfaction; SCPAS = Social Comparison through Physical Appearance Scale; SCS = Self-Compassion Scale; Psychological QoL = domain of the WHOQOL-BREF.
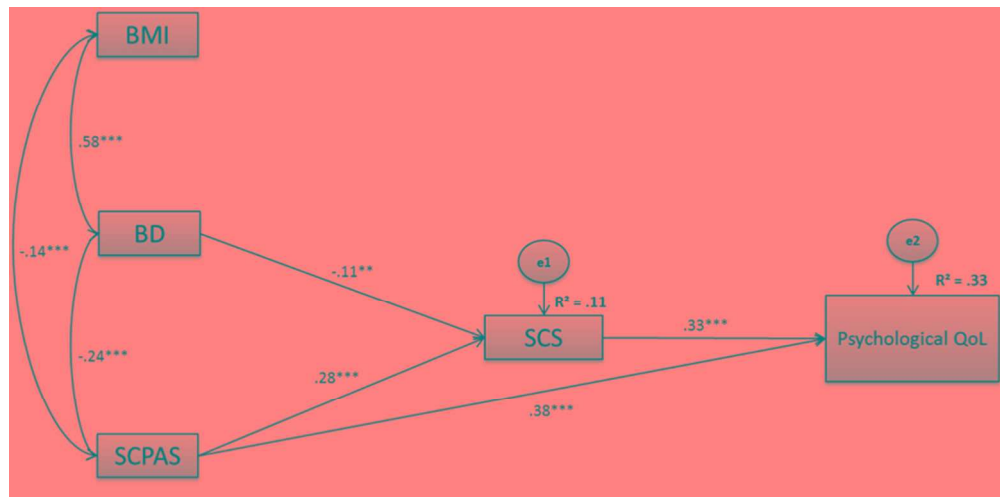
Path Model
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155x76mm (150 x 150 DPI)