Mediterranean Journal of Clinical Psychology MJCP

ISSN: 2282-1619

VOL 4 N.3 (2016)

The Relationship between Self-Esteem, Depression and Anxiety: Comparing Vulnerability and Scar Model in the Italian Context

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Abstract

Background: The relationship between low self-esteem and depression and anxiety disorders has solicited a growing body of empirical research. The most important explanation models are two: the vulnerability model states that low self-esteem is a risk factor for depression and anxiety, and the scar model states that low self-esteem is an outcome, not a cause, of depression and anxiety.

Method: In the present research we tested the two different models using a sample of Italian preadolescent, aged 11 to 14 years, recruited from an Italian secondary school. To test the models, the path analysis technique was used: one in which self-esteem predicted anxiety and depression (Model 1), and one in which anxiety and depression predicted self-esteem (Model 2). Gender and age were included in the models as covariate.

Conclusions: our findings suggest that the both models had the same good fit, although the effects of self-esteem on depressive and anxiety symptoms were significantly higher than the effects of anxiety and depression on self-esteem. In both models gender was positively associated with anxiety and self-esteem: girls tend to report higher levels of anxiety than boys. In the scar model age was positively related with depression; older preadolescents tend to report higher levels of depression than younger preadolescents.

Keywords: self-esteem, anxiety, depression, early adolescence

Introduction

The concept of Self-esteem has solicited a growing body of theoretical and empirical research for many years (Leary, Schreindorfer, & Haupt, 1995; Swann & Bosson, 2010; Sowislo & Orth, 2013).

Historically conceptualized as a positive or negative evaluation of the self (Rosenberg, 1979), currently self-esteem is described as an individual's subjective evaluation of his or her worth as a person (Orth & Robins, 2013), which has an important function to psychological well-being.

With regard to this last point, several clinical and empirical evidence have examined the correlates and consequences of self-esteem, finding that the judgment that everybody gives himself is related to psychological adjustment (DeNeve & Cooper, 1998). High self-esteem is associated with satisfactory interpersonal relationships, such us security and closeness (Murray, 2005), appropriate coping strategies (Birndorf, Ryan, Auinger, & Aten, 2005). Conversely, low self-esteem is related to depression and anxiety disorder (Liu, Wang, Zhou, & Li, 2014; Michalak, Teismann, Heidenreich, Strohle, & Vocks, 2011; Trzesniewski, Donnellan, & Robins, 2003), loneliness (Vanhalst, Luyckx, Scholte, Engels, & Goossens, 2013), eating disorders (De la Rie, Noordenbos, Donker, van Furth, 2007).

Regarding depression, it is important to note that despite for many authors low self-esteem is a risk factor in the etiology of depressive disorders (Sowislo, Orth, & Meier, 2014; Evraire & Dozois, 2011; Morley & Moran, 2011; O'Brien, Bartoletti, & Leitzel, 2006; Orth, Robins, & Meier, 2009), the precise nature of the relation between low self-esteem and depression has been a topic of continuing debate (Sowislo & Orth, 2013; Roberts & Monroe, 1999; Zeigler-Hill, 2011).

The most important explanation models of relation between low self-esteem and depression are two: *vulnerability model* and *scar model*. The vulnerability model states that low self-esteem operates as a risk factor for depression (Beck, 1967; Orth & Robins, 2013). In this model, low self-esteem is conceptualized as a stable personality factor that predisposes the person to experience depression.

The scar model, in contrast to the vulnerability model, suggests that low self-esteem is a consequence, rather than a cause, of depression. In this model, experiences of depression may leave "scars" in the individual's self-concept that progressively consume self-esteem over time (Coyne, Gallo, Klinkman, & Calarco, 1998; Shahar & Davidson, 2003).

Although a growing body of longitudinal studies indicates that low self-esteem prospectively predicts depression (Kernis et al., 1998; Orth, Robins, & Roberts, 2008; Orth et al., 2009), conforming that the vulnerability effect is robust and holds across a wide range of samples and study designs, some studies have failed to confirm this temporal pattern of results and they have found prospective effects in support of the scar model (Burwell & Shirk, 2006; Shahar & Henrich, 2010). According to Sowislo and Orth (2013), it is possible not only that these inconsistencies are due to within-study sampling error, but that systematic differences between studies (e.g., age of participants or measures used) account for variability in the findings.

An important question is whether the vulnerability model and the scar model are specific for depression or whether low self-esteem is related in similar ways to affective symptoms, as anxiety. The relation between self-esteem and anxiety is less frequently studied and discussed in literature (Roberts,Walton, & Viechtbauer, 2006; Maldonado et al., 2013). Cross-sectional studies have reported negative, medium-sized to strong correlations between the constructs (Lee & Hankin, 2009; Riketta, 2004; Watson, Suls, & Haig, 2002). According to Terror Management Theory (Greenberg, Pyszczynsk, & Solomon, 1986; Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004) self-esteem may predict a decrease in subsequent anxiety because it serves as a buffer against anxiety elicited by awareness of human mortality.

However, causal direction inverse is also plausible: experiences of intense anxiety might leave "scars" in the self-concept, that persistently threaten and reduce self-esteem (Crocker & Park, 2004).

Numerous longitudinal studies have demonstrated that low self-esteem prospectively predicts increases over time in anxiety and depression, whereas anxiety and depression do not predict declining levels of self-esteem (Bajaj, Robins, & Pande, 2016; Sowislo & Orth, 2013).

The two principal theories about the relationship depression/anxiety and self-esteem are the Tripartite Model (Clark, Watson, & Mineka, 1994) and the Cognitive Content Hypothesis (Beck, Steer, & Epstein, 1992).

In the Tripartite Model, depression is in a stronger relation to self-esteem than does anxiety. Depression and anxiety share the feature of high negative affectivity, that is, a stable disposition to experience nonspecific distress and unpleasant mood. Whereas depression is linked to both positive and negative affect, anxiety is linked to negative affect only. For this reason, the Tripartite Model suggests that low self-esteem is more relevant for depression than for anxiety (Clark et al., 1994).

Conversely, Cognitive Content Hypothesis states that depression and anxiety can be distinguished by specific cognitive vulnerabilities. Depressive cognitions reflect negative evaluations of the self, the world, and the future, whereas anxious cognitions reflect the anticipation of a physical or psychological threat. Accordingly, low self-esteem should be a stronger diathesis for depression than for anxiety (Beck et al., 1992).

Because the temporal sequence of self-esteem, depression and anxiety is still unclear and the depressive and anxiety disorder are more frequent during early adolescence, in the present study we examined, by a groups of Italian students, the associations of self-esteem, anxiety and depression, in order to test the two principal different models: the vulnerability model, according to which self-esteem predicted depression and anxiety; and the scar model, according to which depression and anxiety might be a consequence of low self-esteem. Also, we explored the differences by gender and age in the two models.

In line with previous research (Trzesniewski et al., 2003; Orth et al., 2008), we expected that the vulnerability model is higher than the scar hypothesis. Furthermore, we hypothesized that gender and age could be related in different ways with self-esteem, depression and anxiety.

Method

Participants and procedure

The research involved 454 students (54% males, 46% females), aged 11 to 14 years (*M*=12,20, *SD*=.87) recruited from an Italian secondary school.
Study procedures were conducted in accordance with the teachers and parental consent was also obtained.
The measures were filled out during class hours and the anonymity was guaranteed. Before being asked to complete the questionnaire, on the day of the data collection students were informed of the purpose of the study and assured on confidentiality of their responses by the researchers.

Measures

Self-esteem. Self-esteem was assessed using the Italian version of *Multidimensional Self Concept Scale* (MSCS; Bracken, 1992). The MSCS consists of 150 Likert-type items and was designed for either individual or group administration. Participants rate the extent to which they agree with each item on a four-point Likert scale (4= "absolutely true" to 1= "absolutely false"). The test reflects a global and multidimensional self-concept model and assesses the following six subdomains: Social, Competences, Affect, School, Family, and Physical, which contribute to an overall construct of self-concept. The MSCS manual reports .98 total scale internal consistency and .90 stability.

Depression and Anxiety. Depressed mood and general anxiety were assessed using an Italian instrument: *Psychiatric Scale for Children and Adolescents* (SAFA) processed by Cianchetti and Sannio Fancello (2001). SAFA is battery of six scales, each with subscales, that can also be used separately. Specifically, it included scales to evaluate: Anxiety (SAFA-A), Depression (SAFA-D), Obsessive-Compulsive symptoms (SAFA-O), Psychogenic Eating Disorders (SAFA-P), Somatic symptoms and Hypochondria (SAFA-S), Phobias (SAFA-F). Each scale consists of a version for subjects aged 8-10 (marked by the letter "e") and by a single version for subjects aged 11-18 years (marked by "m/s"); only anxiety scale (SAFA-A) has three different versions: 8-10 (e), 11-13 (m), 14-18 years (s).

The administration can be both individual and collective; participants rate the extent to which they agree with each item on a three-point Likert scale (2= “true” to 0= “false”). The psychometric properties of the battery, internal consistency and stability are respected.
In the present study only SAFA-D e SAFA-A were administrated.

Data Analysis

The analyses were aimed to examine the associations of self-esteem, anxiety and depression. The path analysis technique by EQS 6.1 (Bentler, 2006) was used to test two different models: one in which self-esteem predicted anxiety and depression (Model 1), and one in which anxiety and depression predicted self-esteem (Model 2). All models testing used maximum likelihood estimation. In addition, robust statistics were used in order to account for the multivariate non-normality of variables; robust statistics included the Satorra-Bentler χ^2 test statistic and robust Comparative Fit Index (Satorra & Bentler, 1994), both of which adjust standard errors to calculate parameter estimates in situations where multivariate normality cannot be assumed. In evaluating the overall goodness of fit for the models, the following criteria were used: the robust Comparative Fit Index (CFI > .90), and the Root-Mean-Square Error of Approximation (RMSEA < .05).
Gender and age were included in the models as covariate.

Results

Descriptive statistics

Means, standard deviations, range of scores of study variables, and Pearson correlation coefficients are presented in Table 1. Self-esteem was associated negatively with depression and anxiety. Depression and anxiety were associated positively with each other.

Table 1

Means, standard deviations, observed range scores, and correlation coefficients of study variables

	Self-esteem	Depression	Anxiety	Gender	Age
Self-esteem	1				
Depression	-.31***	1			
Anxiety	-.29***	.83***	1		
Gender	.07	.01	.09*	1	
Age	-.04	.09*	.04	-.03	1
M	29.63	32.19	33.63	1.46	12.20
SD	2.94	20.35	18.79	.50	.87
Range	13.17-36.83	0-95	2-89	1-2	10-15

*$p < .05$, ***$p < .001$.

Models of relations among study variables

To determine whether self-esteem predicted anxiety and depression (Model 1), a path analysis was run. The model had a good fit to the data: SBχ^2 (1) = .57, CFI = 1.00, RMSEA = 0. The standardized solution is reported in Figure 1. Results evidenced that self-esteem was negatively related with both anxiety and depression. Gender was positively associated with anxiety; girls tend to report higher levels of anxiety than boys.

To determine whether anxiety and depression predicted self-esteem (Model 2), a path analysis was run. The model had the same fit to the data of Model 1: SBχ^2 (1) = .57, CFI = 1.00, RMSEA = 0. The standardized solution is

reported in Figure 2. Results evidenced that both anxiety and depression were negatively related with self-esteem. Gender was positively associated with anxiety and self-esteem; girls tend to report higher levels of anxiety than boys. Age was positively related with depression; older preadolescents tend to report higher levels of depression than younger preadolescents.

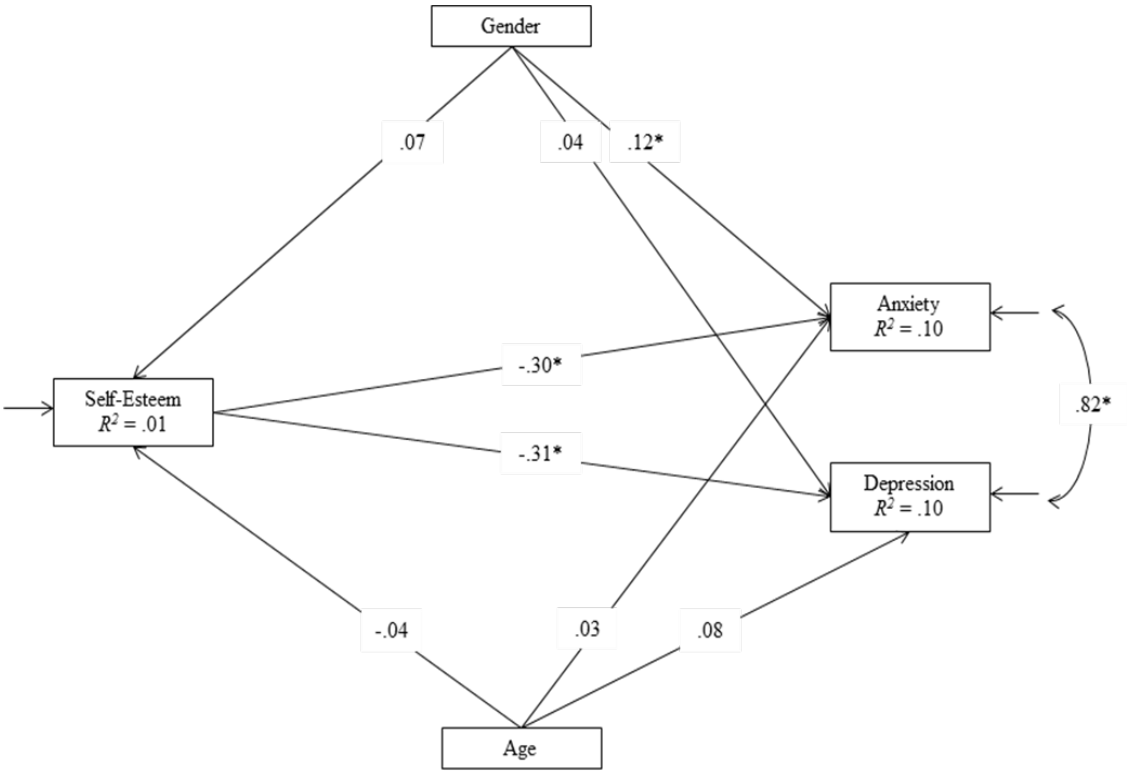

Figure 1. Standardized solution of Model 1.

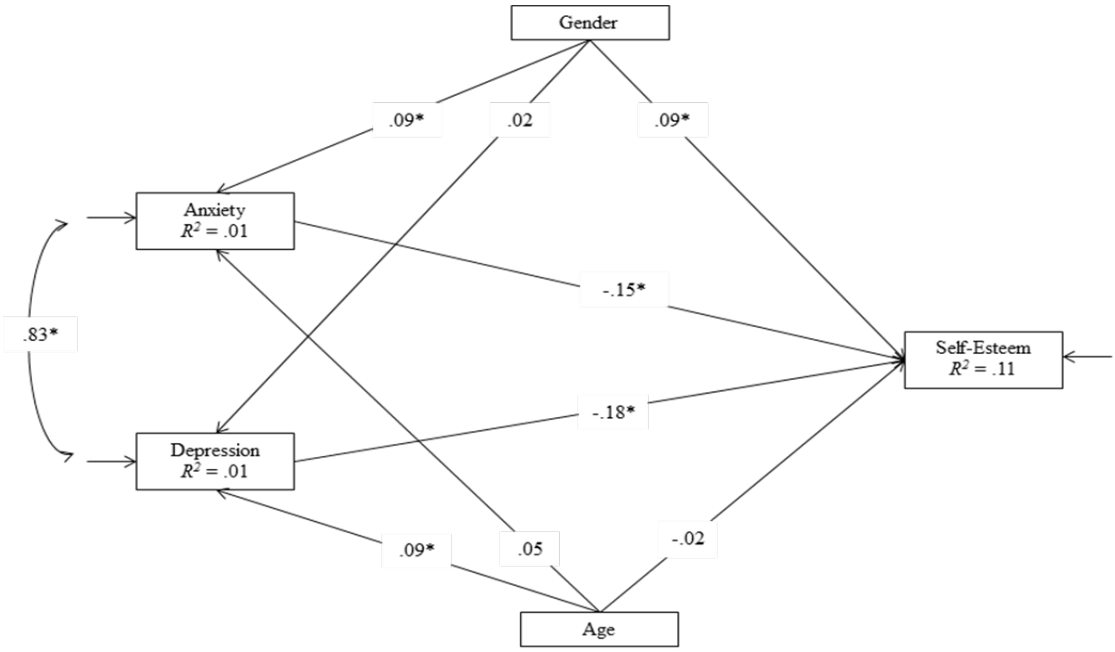

Figure 2. Standardized solution of Model 2.

Discussion

This study was aimed to explore the associations of self-esteem, anxiety and depression testing two principal different models: the vulnerability model in which low self-esteem predicted depression and anxiety; and the scar model where depression and anxiety might be a consequence of low self-esteem rather than causal factors.

Our findings suggest that both models had the same good fit, although the effects of self-esteem on depressive and anxiety symptoms (Model 1) were significantly higher than the effects of anxiety and depression on self-esteem (Model 2). These results are in line with previous studies underling that vulnerability effects are greater than those of the scar model (Orth, Robins, & Roberts, 2008; Sowislo & Orth, 2013).

Our results evidenced that self-esteem was negatively related with depression stressing that self-esteem could be considered as a protective factor especially in this challenging time of life. Moksnes, Moljord, Espnes and Byrne (2010), stressed that adolescents with high self-esteem have better coping resources and are protected against the consequences of stressful life events, conversely adolescents with low self-esteem are more vulnerable to stress. Trzesniewski et al., (2006) found that adolescents with low self-esteem developed more depression and anxiety disorder during adulthood than adolescents with high self-esteem.

Low self-esteem also plays an important role on anxiety. Supports for the inverse association between self-esteem and negative emotional outcomes have been found in other studies (Boden, Ferguson, & Horwood, 2008).

Regarding gender differences, in both models girls tended to report higher levels of anxiety than boys, whereas in the scar models age was positively related with depression; older preadolescents tended to report higher levels of depression than younger.

The finding that girls show higher scores on anxiety than boys is in line with other studies (Moksnes et. al, 2010), highlighting that girls may be more vulnerable than boys in this time of life.

In the scar model the experience of depressive symptoms might influence self-esteem of preadolescents by altering the way in which they process information on themselves. The doubt of their value and sense of self seems to increase with age. Episodes of depression might leave scars in the individual's self-esteem over time (Orth, Robins, & Roberts, 2008).

In general, this pattern of results suggested the importance of identifying the relations between self-esteem and emotional states to identify potential problem for designing interventions for children aimed at preventing or reducing negative psychological functioning.

This study has also several limitations. Firstly, the use of only self-report measurements, may have inflated effects due to shared method variance. Secondly, the study is also limited by the fact that it is a cross-sectional study; further longitudinal studies will need to consider the clinical variables studied to investigate more definite causal relationships between them. Thirdly, the causal effect of self-esteem on depression should be tested using alternative research designs. The study has focused attention exclusively on global self-esteem and the total score of depression and anxiety.

It would be interesting to know the influence that each domains of self-esteem may have in different subscales of anxiety and depression and verify if gender and age may have different outcomes. These differences could help to design more specific psychological interventions to increase self-esteem or to prevent depression and anxiety.

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