

EGO-RESILIENCY AS A MEDIATOR BETWEEN CHILDHOOD TRAUMA AND PSYCHOLOGICAL SYMPTOMS

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Clinical research has firmly established that individuals who experience psychological trauma during their childhood are likely to display psychological or functional disorders in adulthood. However, a significant number of adults with a history of trauma remain psychologically healthy. These individuals have been described as resilient. Although there has been much research on resilience in the past decades, the psychological processes involved are still debated. An important issue is whether resilience develops as a consequence of trauma (resilience as an outcome) or if resilience is a relatively common characteristic of many people that can emerge with or without traumatic experiences (resilience as a trait or ego-resiliency). In the present research, we propose an integration of these two perspectives by showing that ego-resiliency can play an important mediating role in the relationship between childhood trauma and psychological symptoms. A total of 118 outpatients at a psychology clinic completed questionnaires measuring their level of childhood trauma, ego-resiliency, anxiety, depression, and self-harm behaviors. Results revealed that ego-resiliency was a significant mediator of the relationship between childhood trauma and these three types of symptoms. Implications for the conceptualization of resilience as a trait are discussed.

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The personal cost of child abuse is extensive (Thomas, 2003). Substantial research has shown that child abuse is associated with a variety of short- and long-term psychological disturbances (McGloin & Widom, 2001; National Research Council, 1993; Wekerle & Wolfe, 1996) and with some of the most severe psychological symptoms and psychiatric problems (Herman, Perry, & van der Kolk, 1989; Johnson, Cohen, Brown, Smailes, & Bernstein, 1999; Klufit, 1996). Although childhood trauma clearly has an impact on people's mental health, it has also been found that a significant number of those who have experienced childhood trauma remain psychologically healthy in adulthood. These people have been defined as being resilient or sometimes ego-resilient. The purpose of the present research was to investigate the role of ego-resiliency as a central psychological process in the relationship between childhood trauma and psychological symptoms in adulthood.

ON RESILIENCE

The term resilience is usually used to refer to a positive adaptation despite a context of adversity (Luthar, Cicchetti, & Becker, 2000; Rutter, 1987). One approach to study resilience is to look at the personal and social outcomes of people with a history of trauma. This conceptualization of resilience will be termed resilience as an outcome, which is assessed by observing and measuring the quality of one or several outcomes (e.g., attachment indices, academic performance, mental health) in an individual's development following adversity. According to this definition, two conditions are required to attest that an individual is resilient: (1) exposure to a significant threat or adversity and (2) the manifestation of a positive adaptation or the absence of indices of poor adaptation in spite of adversity (Luthar et al., 2000).

A second approach that resilience researchers have taken is to examine the factors that protect people from developing psychological symptoms despite trauma and adversity. A number of protective factors have been identified such as social bonding, a positive and supportive caregiver-child relationship, competent parenting, caregiver's mental health, child's temperament, and child's higher cognitive ability (Masten et al., 1999; Tiet et al., 1998; Wyman et al., 1999). However, this research has often investigated how these factors moderate the relationship between childhood trauma and

mental health (e.g., Johnson, Gooding, Wood, & Tarrier, 2010; Martinez-Torteya, Bogart, Von Eye, & Levendosky, 2009). While this approach is useful to highlight the differences between people with a history of trauma who thrive and those who do not, it does not allow researchers to examine variables that may be protective for people with or without a history of trauma. Indeed, recent research (Bonanno, 2004) has shown that most people recover successfully from adverse events, including individuals with no prior history of trauma. In addition, this line of research has found that these people already possessed important personal attributes prior to the adverse event, which helped them to live through the traumatic event and yet emerge psychologically healthy (Bonanno et al., 2002; Fredrickson, Tugade, Waugh, & Larkin, 2003).

Thus, a third approach to the study of resilience has been to examine trait resilience. Resilience as a trait may be defined in terms of the characteristics that individuals possess that enable them to achieve positive outcomes or to avoid negative ones. This conceptualization of resilience is also known as psychological resilience (e.g., Tugade & Fredrickson, 2004) or ego-resiliency (Block & Kremen, 1996). Ego-resiliency may be defined as a flexible and resourceful adaptation to ever-changing situations, desires, and environmental demands (Block & Block, 1980; Block & Kremen, 1996), that is, the capacity to adapt one's behavior to various situational contexts (Block, 2002). This capacity is a personal attribute that is not established by the experience of a trauma, but acquired over time. The concept of ego-resiliency is a high-level personality component of the self, and for this reason, it can be viewed as a personality trait or as a relatively stable cognitive structure or schema. However, it is not an unchanging set of behavioral manifestations that is genetically determined and permanently fixed, as how the five-factor personality model is frequently envisioned (see McAdams & Pals, 2006, on dispositional traits). Ego-resiliency conceptualizes these behavioral manifestations as the dynamic product of the regulations that took place between the self and the environmental demands and that have stabilized over time as a general trait (Block, 2002; Stern, 1985). Thus, ego-resiliency is a measure of the flexibility of the psychological processes in place that have been shaped over time and that may lead to resilient manifestations.

Taken together, the main difference between the trait and outcome conceptions of resilience is that the latter presupposes an exposure to substantial adversity, whereas the former does not. However, as

mentioned above, this conceptualization of resilience necessitating substantial adversity is at odds with recent research revealing that people showing resilience in the face of adverse life events are much more prevalent than initially expected (e.g., Bonanno, 2004) and that these thriving people possess certain trait attributes that are present before an adverse event occurs (Bonanno et al., 2002; Fredrickson et al., 2003). These two conceptualizations have very often been contrasted with one another (see Kaplan, 1999, for a discussion of this issue). In the present research, we seek to show how these two approaches may be partially integrated by examining whether ego-resiliency is a fundamental factor in the process of resilience as an outcome. In other words, ego-resiliency may be a critical ingredient allowing people who have experienced childhood trauma to remain psychologically healthy in adulthood.

THE PRESENT RESEARCH

The purpose of the present research was to examine the role of ego-resiliency as a psychological process that might allow people who have experienced trauma as a child, as well as those who did not, to thrive and be free of psychological symptoms in adulthood. In the present research, we conceptualized the outcome of resilience as an absence of psychological suffering, which is operationalized as an absence of psychological symptoms. As highlighted in the introduction, childhood traumas, such as emotional and physical neglect or physical and sexual abuse, commonly lead to different types of psychological maladjustment that include emotional and behavioral problems (e.g., Soffer, Gilboa-Schechtman, & Shahar, 2008). Research has shown that childhood trauma is positively associated with anxiety (Safren, Gershuny, Marzol, Otto, & Pollack, 2002), depression (Brown, Cohen, Johnson, & Smailes, 1999; Kaplan, Pelcovitz, Salzinger, Mandel, & Weiner, 1997; Levitan, Rector, Sheldon, & Goering, 2003), and self-harm behavior (Brodsky et al., 2001; Evren & Evren, 2005; Van der Kolk, Perry, & Herman, 1991). Therefore, to assess the possible protective effect of ego-resiliency, these psychological symptoms were chosen as undesirable outcomes commonly associated with maltreatment during childhood.

One point that needs to be clarified is that the present study relies on a trait definition of resilience, as defined by Block (2002), which specifies that resilience may be present in all people, with

or without prior experience of trauma. Therefore, ego-resiliency was not expected to display a protective effect exclusively in people who had experienced trauma—in concordance with a resilience-outcome definition resulting in a moderation effect. Rather, we expected ego-resiliency to have the same protective effect for everyone—implying a mediation effect rather than a moderation effect. If ego-resiliency is at play, statistically controlling for ego-resiliency should reduce the positive relationship between childhood trauma and these different psychological symptoms to a nonsignificant relationship. In addition, because ego-resiliency is posited to occur not only in people who suffered from childhood trauma, but also in people who did not undergo such types of detrimental experience (Block, 2002; Bonanno et al., 2002), ego-resiliency was hypothesized to reduce psychological symptoms at all levels of trauma experienced (from severe trauma to none). It was thus expected that ego-resiliency would act as an important mediator in the relationship between childhood trauma and undesirable psychological symptoms in adulthood.

METHOD

PARTICIPANTS

A total of 118 outpatients (82 females, 35 males, and one missing gender value) from a psychology clinic at a Canadian university participated in this study. These participants were assessed before receiving a psychological treatment. Their age varied between 18 and 72 years ($M = 32.82$ years, $SD = 12.65$ years). Marital status was distributed as follows: 66 single, 16 married, 25 common law union, nine separated or divorced, one widowed, and one missing value. A total of 62 participants had a university educational level, 35 a college one, 19 a high school level, and two participants reported to have an elementary school level.

MEASURES

Ego-Resiliency. The level of ego-resiliency was assessed with the Ego-Resiliency Scale (Block & Kremen, 1996). Ego-resiliency is the aptitude to adapt one's responses to changing situation demands,

TABLE 1. Means, Standard Deviations, and Correlations Among Childhood Trauma, Ego-Resiliency, and Adults' Psychological Symptoms

	Mean	SD	Alpha	1	2	3	4
1. Childhood trauma	1.72	0.59	.92	—			
2. Ego-resiliency	2.95	0.41	.80	-.22*	—		
3. Anxiety	16.19	12.28	.92	.19*	-.28**	—	
4. Depression	18.47	10.31	.89	.33**	-.44**	.70**	—
5. Self-harm behaviors	4.68	7.67	—	.22*	-.27**	.15	.27**

Note. $n = 118$. * $p < .05$; ** $p < .01$.

especially frustrating and stressful encounters. This scale is composed of 14 items responded to on a 4-point Likert scale ranging from 1 (does not apply at all) to 4 (applies very strongly). A sample item includes "I enjoy dealing with new and unusual situations." Strong evidence of validity and reliability has been reported for this scale. It has been shown to converge with behavioral descriptions as rated by external judges blind to the participants' responses to the scale (Block & Kremen, 1996), to be positively associated with psychological adjustment variables (Callahan, Roge, Cardenal, Cayrou, & Sztulman, 2001; Ong, Bergeman, Bisconti, & Wallace, 2006) and to predict increases in positive emotions after a distressful encounter (Philippe, Lecours, & Beaulieu-Pelletier 2009; Tugade & Fredrickson, 2004), faster emotional recovery (Tugade & Fredrickson, 2004), and lower depressive symptoms and increases in psychological resources in times of crisis (Fredrickson et al., 2003). The ego-resiliency scale was also shown to be negatively associated with internalizing behavior problems in children, over and beyond the five-factor model of personality (Huey & Weisz, 1997). Table 1 presents the alpha coefficients of all the scales used in this study.

Childhood Trauma. The degree of childhood trauma was assessed with the short form of the Childhood Trauma Questionnaire (CTQ-SF; Bernstein et al., 2003). This instrument assesses various types of trauma (emotional, physical, and sexual abuse; emotional and physical neglect) with 28 items using a 5-point Likert scale (1 = never, 5 = very often). The CTQ-SF has displayed adequate convergent evidence of validity with therapists' assessments of abuse histories (Bernstein et al., 2003).

Anxiety. The Beck Anxiety Inventory (BAI; Beck, Epstein, Brown, & Steer, 1988) is a 21-item scale used to assess clinical anxiety. Partic-

ipants were asked to evaluate the extent to which they have been affected by different anxiety symptoms (i.e. "unable to relax" or "fear of losing control") over the past week with a 4-point scale ranging from 0 (not at all) to 3 (severely, I could barely stand it).

Depression. Depression was assessed with the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). The BDI is a 21-item self-report questionnaire measuring the intensity of depressive symptoms over the past week on a 4-point Likert scale ranging from 0 to 3.

Self-Harm Behaviors. Self-harm behaviors were assessed with the Self-Harm Behavior Questionnaire (SHBQ; Gutierrez, 1998). The SHBQ is composed of four sections assessing self-harm, suicide threat, suicide ideation, and suicide attempts. Each response is weighted by the seriousness of the behavior reported, in line with the SHBQ manual. The total score is obtained by summing the weighted score of each section. The SHBQ has shown adequate evidence of validity (Gutierrez, Osman, Barrios, & Kopper, 2001).

PROCEDURE

Participants were recruited while sitting in the waiting room of the university's clinic. A male experimenter introduced himself and asked if they were interested in participating in a study to learn about people's general psychological functioning. They were assured that their participation would be anonymous and confidential and that they could stop their participation at any time. They were also told that their refusal to participate would not impact the course of their therapy or their position on the waiting list. Upon their agreement, they were administered the questionnaire package. Participants returned the questionnaires to the experimenter once completed.

RESULTS

The correlations among the present study variables are presented in Table 1. Structural equation modeling was used to assess the hypothesized mediational model. In light of the small sample size, random item parceling was used; that is, observed index variables

composed of three, four, or five items, were created for each latent construct (see Bandalos, 2002). There was only one observed variable for the self-harm behavior measure, since this measure is the result of a weighted score. LISREL 8 (Jöreskog & Sörbom, 2003) was used to estimate the model using Robust Maximum Likelihood. This method of estimation was used in order to handle the nonnormality of the data. Ego-resiliency was modeled to fully mediate the relationships between childhood trauma and the three psychological symptoms. Covariances among the three latent variables representing the psychological symptoms were allowed to freely covary. Fit indices for this model were satisfactory: Satorra-Bentler (SB) $\chi^2(113) 149.93, p = .01, NC = 1.33, RMSEA = .054 [.027; .075], CFI = .98, NNFI = .98, NFI = .93, SRMR = .086$. As shown in Figure 1, childhood trauma was negatively associated with ego-resiliency, which was in turn negatively related to depression, anxiety, and self-harm behaviors. All indicators had high factor loadings. The inclusion of gender and age in this model revealed that they were unrelated to all study variables and their inclusion did not alter the parameter estimates of the above model.

Following Preacher and Hayes's (2008) recommendations, bootstrapping analyses with 5,000 resamples were conducted to examine the significance of each of the mediations. Results revealed that the 99% confidence interval for the mediations of ego-resiliency between childhood trauma and depression [.035; .578], anxiety [.003; .155], and self-harm [.015; .342] did not include zero, thus suggesting that each mediation was significant at $p < .01$ (point estimates were .241, .057, and .123, respectively). A partial mediation model including the direct paths from childhood trauma to each psychological symptom was tested. Results revealed that adding each direct effect separately, all $\Delta SB\chi^2(1) = < 3.32, ps > .07$, or including all of them at the same time, $\Delta SB\chi^2(3) = 5.41, p = .14$, did not improve model fit indices (all Satorra-Bentler chi-squares were rescaled to be comparable, see Satorra & Bentler, 2001).

Although the parameter estimate of each direct path did not reach the $p < .05$ significance level, we examined the range of values that could have taken each direct path. Standardized 95% confidence intervals were computed for each direct path. Results revealed that the direct path from childhood trauma to depression was [-.02; .29] with a point estimate of .13, from childhood trauma to anxiety was [-.23; .15], with a point estimate of -.04, and from childhood trauma to self-harm behaviors was [-.04; .18], with a point estimate of .07.

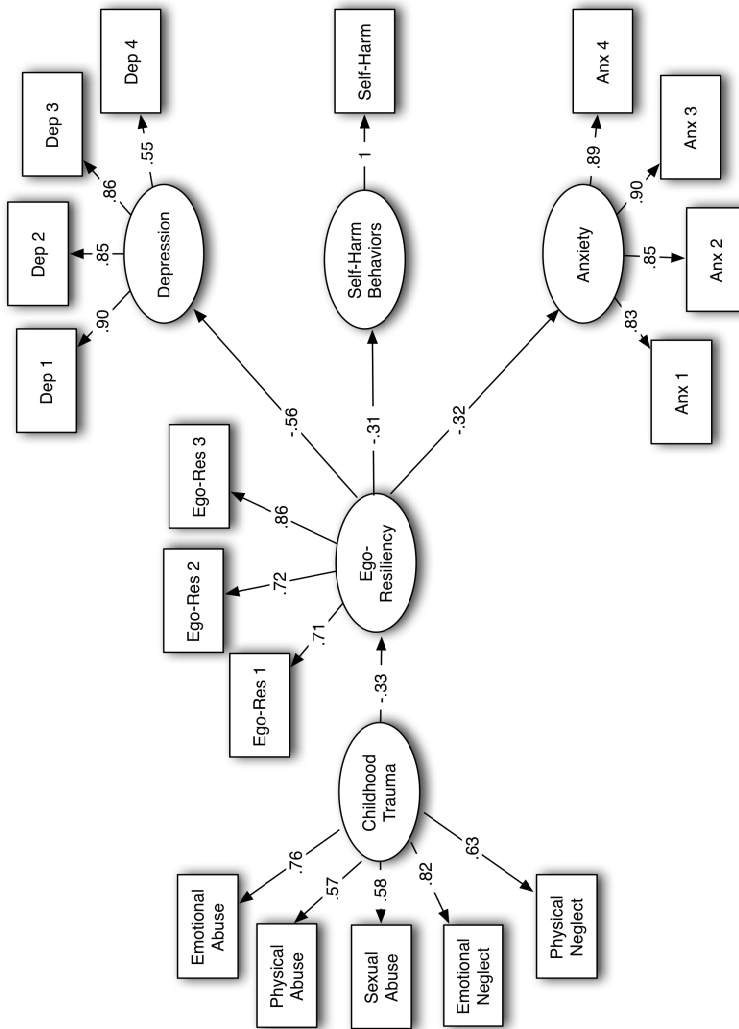


FIGURE 1. Structural Equation Model Testing Ego-Resiliency as a Mediator in the Relationship Between Childhood Trauma and Three Psychological Symptoms.

Thus, these results show that a direct effect as large as .29 could be found between childhood trauma and depression, given another sample. Also, the upper bounds of the confidence intervals of anxiety and self-harm behaviors show that a significant direct effect of childhood trauma on these variables might be found with a larger sample size. Thus, ego-resiliency may more realistically act as a strong partial mediator between childhood trauma and psychological symptoms rather than as a full mediator. Importantly, results also revealed that there were no significant interactions between ego-resiliency and childhood trauma predicting psychological symptoms (all $ps > .45$). Thus ego-resiliency appears to provide a protective effect from psychological symptoms, whether trauma has been severely experienced or not at all experienced.

Finally, the mediation analysis and the bootstrapping procedure were conducted again with each type of childhood trauma separately in order to examine which ones were mediated by ego-resiliency. Results revealed that ego-resiliency significantly mediated the relationships between emotional abuse, physical neglect, and emotional neglect and all three psychological symptoms (all three bootstrap confidence intervals for each type of trauma did not include zero), but not between sexual and physical abuse and these symptoms—although these two latter types of trauma were correlated with ego-resiliency with a small and negative coefficient ($-.08$, ns). These results thus suggest that ego-resiliency is less implicated as a protective factor when sexual and physical abuses are at play.

DISCUSSION

The purpose of the present research was to investigate the role of ego-resiliency in mediating between childhood trauma and various psychological symptoms. Mediation analyses showed that ego-resiliency mediated the relationship between childhood trauma and three different types of psychological symptoms—*anxiety, depression, and self-harm behaviors*. These findings indicate that ego-resiliency may play a protective role in preventing psychological symptoms, and that this beneficial effect seems to exist for all levels of trauma. Indeed, results showed that when ego-resiliency was modeled as a mediator, all the relationships between childhood trauma and psychological symptoms were significantly reduced. In addition, there were no interactions between childhood trauma and

ego-resiliency, thus suggesting that this mediation effect existed at all levels of trauma. These results indicate that, in line with other authors (Bonanno, 2004; Fredrickson et al., 2003; Ong et al., 2006), ego-resiliency may be present in all individuals, with prior experiences of trauma or not, and that it protects against the emergence of psychological symptoms at all levels of trauma. However, further analyses also showed that ego-resiliency was a significant mediator between childhood trauma and psychological symptoms as long as emotional abuse, physical neglect, and emotional neglect were concerned. The mediation appeared to be much weaker when childhood trauma involves physical and sexual abuse.

The present research has implications with respect to the difference between the resilience as an outcome and the ego-resiliency perspectives and their integration in a common framework. Recently, some authors have underlined the importance of disentangling these two constructs in scientific writings, and some have further argued against using terms that suggest a personality trait in the study of resilience, such as resiliency or ego-resiliency (Luthar et al., 2000; Reynolds, 1998). Although resilience as an outcome and ego-resiliency can address separate aspects of resilience (see Luthar et al., 2000 on the differences between a protective effect and other types of effect), the mediation analyses from the present research suggest that ego-resiliency, which describes people's psychological processes in terms of a dynamic trait, plays a significant role in the process of resilience as an outcome by protecting one from developing subsequent psychological symptoms after a traumatic event. This is the first empirical combination of these two processes in the relationship between childhood trauma and mental health in adulthood, supporting the thesis put forward by several authors that ego-resiliency is involved in the dynamic process of resilience as an outcome (Block, 2002; Cicchetti & Rogosch, 1997; Cicchetti, Rogosch, Lynch, & Holt, 1993). However, one important difference with the resilience as an outcome perspective is that the experience of a trauma is not a *sine qua non* condition to benefit from the protective effect of ego-resiliency on mental health. The present findings also extend previous research (Cicchetti & Rogosch, 1997; Cicchetti et al., 1993) showing that ego-resiliency was positively associated with adaptive functioning in children, by highlighting that ego-resiliency also provides a long-term protective effect lasting into adulthood. In addition, the present findings suggest that the protective role of ego-resiliency is the same when no severe trauma

has been experienced in childhood. However, it remains unclear if other types of resilient markers that have been used in past research such as social functioning and academic achievement might yield the same results. Future research is needed to clarify this issue.

Relatedly, it would be interesting for future research to examine whether other personal attributes or environmental factors may moderate the mediation Childhood trauma → Ego-resiliency → Psychological symptoms, or some part of it. For example, the relationship between childhood trauma and ego-resiliency may be less negatively correlated for certain people possessing certain attributes or living in some type of protective environment, which allowed them to develop higher levels of ego-resiliency. Such types of moderation would provide an even larger integrative framework for the definitions of resilience presented in this article. Furthermore, other factors may increase ego-resiliency and thus reveal other mediating effects on psychological symptoms. These other mediating and moderating factors may provide a base for interventions seeking to increase people's ego-resilience.

LIMITATIONS

Some limitations of the present study need to be underscored. First, the present research was cross-sectional. Therefore, nothing can be inferred with respect to the causality of the relationships in this study. Future research should use longitudinal designs to confirm the mediating role of ego-resiliency between childhood trauma and psychological symptoms. A second limitation is that the present study used a clinical sample composed of outpatients with moderate levels of psychological symptoms. It is unknown if the mediations highlighted in the present study would also hold in a sample of inpatients with higher levels of psychological symptoms. Similarly, it might even be argued that the most resilient people would not need to consult for psychological treatment (although one should be cautious not to treat resilience as a state of invulnerability). Therefore, there is a need to replicate the present findings with a nonclinical population and with a clinical population of patients with more severe psychological symptoms. A third limitation is that only self-report measures were used. Although all measures used in the present research have been shown to highly correlate with

interview-based assessments, future research is needed to replicate the present findings using psychiatric evaluations and diagnoses.

Despite these limitations, the present research provides evidence for the protective role of ego-resiliency in preventing long-term psychological symptoms at all levels of trauma intensity. It further suggests that ego-resiliency is involved in the developmental process of resilience as an outcome. However, when physical and sexual abuses have been experienced, ego-resiliency seems to be a weaker protective factor. Future investigations of these issues appear promising.

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