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Emotional intelligence and psychological resilience to negative life events

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ABSTRACT

This study investigated the relative importance of six emotional intelligence (EI) dimensions in the prediction of psychological resilience to multiple negative life events. The strength of relations between life events and distress varied markedly across three latent classes of participants, reflecting vulnerable, average and resilient profiles. Discriminant function analysis indicated that class membership varied as a function of four EI dimensions, with higher scores predicting membership to the resilient class. Across the 414 participants, Emotional Self-Awareness, Emotional Expression, Emotional Self-Control and particularly Emotional Self-Management appeared central to psychological resilience in the aftermath of multiple negative life events.

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1. Introduction

Major life events, including the death of loved-ones, serious illness, or job loss, precede almost all types of mood disorder (Stueve, Dohrenwend, & Skodol, 1998). Emotional intelligence (EI), or the ability to intelligently utilise emotional information, may temper their impact on mental health (Ciarrochi, Forgas, & Mayer, 2001). How EI might buffer the effect of aversive events is the focus of the present study.

Stressful or negative life events have typically been construed as change events that precipitate movement from one set of living conditions to another. The life transitions resulting from such events pose significant adaptational challenges that can strain people's ability to cope to the point of clinical distress, manifest for instance in symptoms of depression, anxiety, and stress. Moreover, the experience of multiple such events can compound distress (Monroe & Simons, 1991). Indeed, one stressful event can impede coping efficacy for additional events, increasing vulnerability to and even the likelihood of further negative events (Kessler, 1997). As well, transitional recovery periods are typically quite long. Research has shown that significant life events often retain their impact over a two-year period (Monroe & Simons, 1991).

While such events are potentially traumatic, people are impacted differently. Some people experience long-term trauma. Others suffer significant short-term impairment. Then there are

those who experience only mild, transient perturbations. Such persons are considered resilient (Bonanno, 2004).

Emotional intelligence may well be directly connected to resilience, such that emotionally intelligent behaviour in stressful circumstances is adaptive. Salovey, Bedell, Detweiler, and Mayer (1999) theorize that persons with higher EI cope better with the emotional demands of stressful encounters because they are able to “accurately perceive and appraise their emotions, know how and when to express their feelings, and can effectively regulate their mood states” (p. 161). EI is thus postulated to buffer the effects of aversive events through emotional self-awareness, expression and management.

Researchers investigating these and other health-related links have frequently distinguished between ability-based EI models in which EI is assessed via intelligence-like tests (e.g. the Mayer-Salovey-Caruso Emotional Intelligence Test; Mayer, Salovey, & Caruso, 2000) and trait models in which EI is measured via self-reported emotion-related dispositions, self-perceptions or motivations (e.g. the Trait Emotional Intelligence Questionnaire; Petrides, Pita, & Kokinnaki, 2007). While ability tests purport to measure “maximal performance”, trait-models measure “typical performance” (Petrides et al., 2007). In the current study we focus on typical performance rather than episodes of peak EI performance in coping with event-related distress. Moreover we take the view that emotional intelligence is antecedent to resilience (Matthews, Zeidner, & Roberts, 2002) rather than encompassing resilience (Bar-On, 1997), such that EI functions through its composite dimensions to facilitate resilience.

The evidence linking self-reported EI to health is considerable. A meta analysis of 80 studies involving 20,000 participants found the

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average strength of relationship between EI and mental health to be around $r = .36$, $r = .33$ for psychosomatic health, and $r = .27$ for physical health criteria (Martins, Ramalho, & Morin, 2010). Other studies have shown that self-reported EI can moderate the psychological impact of experimentally induced-stress (Mikolajczak, Petrides, Coumans, & Luminet, 2009), academic exam stress (Mikolajczak, Luminet, & Mendil, 2006) and emotional labour in the workplace (Mikolajczak, Mendil, & Luminet, 2007). Two studies have also examined the buffering hypothesis in the context of multiple stressful life events (Ciarrochi, Deane, & Anderson, 2002; Day, Therrien, & Carroll, 2005), but despite positive associations between EI and mental health, neither study found substantive evidence of buffering.

In the current study, we examine the relative value of six EI dimensions that constitute the Swinburne University Emotional Intelligence Test (SUEIT; Palmer & Stough, 2002) in moderating the ongoing psychological impact of multiple negative life events that occurred in the preceding 2 years. The SUEIT was chosen for its robust psychometric properties, well-defined scales, rigorous testing history (Gignac, 2005, 2010) and alignment with Salovey et al.'s (1999) theoretical postulate. The six EI dimensions concern: (1) awareness of emotions in self, and (2) others, (3) emotional expression, (4) emotional self-control, (5) emotional management of self, and (6) others. Research in related fields highlights the potential buffering effects of the six EI dimensions.

1.1. Emotional self-awareness

Research focused on alexithymia, a condition characterized by poor emotional self-awareness, indicates that persons afflicted typically fail to respond to rising stress levels until distress is fully-blown (Martin & Pihl, 1986). They often experience more severe symptoms and longer periods of recovery in the aftermath of stressful events than more perceptive persons, who deploy personal coping resources earlier and more effectively (Naatanen, Ryyanenen, & Keltikangas-Jarvinen, 1999).

1.2. Emotional awareness of others

Perspective taking is an important tool in developing quality social relationships (Soenens, Duriez, Vansteenkiste, & Goossens, 2007), which are a well established source of psychological support (Kessler, 1997). Propensity to anticipate and account for the feelings of others may therefore play a role in facilitating greater personal psychological resilience.

1.3. Emotional expression

Emotional expression through overt channels, such as voice and musculature, has been found to result in attenuation of physiological reactivity and associated psychological symptoms. On the other hand, inhibition results in retention of physiological arousal and psychological agitation, which over time manifests in physical illness (Franz, Schaefer, & Schneider, 2003), and mental health symptoms (Wastell, 2002).

1.4. Emotional self-control

Persons with poor emotional control are more likely to respond to personal distress with anti-social behaviours (Roger & Najarian, 1989), driving supportive persons away (Benotsch, Christensen, & McKelvey, 1997). Moreover, impulsive behaviour often translates into unhealthy coping behaviours such as substance use (Salovey, 2001) Consequently, higher levels of distress are experienced when faced with stressful situations (Roger & Najarian, 1989).

1.5. Emotional management of self

Persons able to self-induce positive moods are happier in both positive and negative circumstances (Ciarrochi, Chan, & Caputi, 2000), and tend to be more physically and mentally healthy (Extremera & Fernandez-Berrosal, 2002). They engage more frequently in active coping behaviours such as problem-solving, self-pep talks and physical exercise (Salovey, Stroud, Woolery, & Epel, 2002).

1.6. Emotional management of others

Persons able to induce positive moods in others often have greater access to social supports (Ciarrochi, Chan, & Bajgar, 2001). They are more willing to seek help when feeling overwhelmed, and to benefit (Ciarrochi & Deane, 2001).

Evidently, there are a variety of ways in which EI can potentially buffer individuals against life event distress. Why then did Ciarrochi et al. (2002), and Day et al. (2005) fail to find substantive support for this position? One possible answer stems from the fact that moderator effects are notoriously difficult to detect in observational field studies, using traditional moderated multiple regression procedures. The measurement error typical of non-experimental variables creates levels of noise that make reliable effects hard to detect. Compounding this, measurement error is exacerbated when independent variables are multiplied together to form moderator variables (McClelland & Judd, 1993). This makes moderator effects even harder to detect.

In light of this, we used a different approach to explore the question of whether persons with higher EI scores are more resilient to the effects of multiple events. We performed a series of latent class regression analyses to determine whether the relationship between the frequency of negative events experienced in the past two years and psychological distress was relatively homogenous across all participants in the study, or, whether the strength of this effect differed across participants to the extent that latent classes of participants better represented the data. (i.e. whether there were distinct clusters of participants who varied according to their event-distress regression scores).

In line with previous research, it was expected that there would be a latent class (i.e. cluster) of participants who would demonstrate a significantly stronger association between life events and distress (a vulnerable group). Conversely, it was expected that there would be at least a second latent class that would demonstrate a non-significant or weaker life events – distress relationship (i.e., a resilient group). Moreover it was expected that EI would discriminate between these two classes in that the vulnerable group would have lower EI scores, whereas the resilient group would have higher EI scores.

2. Method

2.1. Participants and procedure

Members from 56, life event focused, online discussion forums (e.g. healingwell.com; widownet.org; joblayoffsupport.com) were invited to complete an online survey. Of 1156 persons who answered the first survey question, 414 (48.5%) completed the survey and were of the age of adult consent. Participants were mostly women (76%), aged between 24 and 58 ($M = 36.7$, $SD = 12.4$), who had completed a university degree (60%). Most were in paid employment (42% full-time, 17% part-time). A smaller number were full-time students (19%) or performed home duties (10%). Citizens of the USA comprised the largest proportion of participants (45%), fol-

Table 1
Intercorrelations among EI dimensions, distress and negative life events.

	M	SD	1	2	3	4	5	6	7
1. Emotional self-awareness	7.56	1.42	(.74)						
2. Emotional expression	15.87	3.97	0.44 ^c	(.82)					
3. Emotional awareness of others	63.93	8.43	0.43 ^c	0.31 ^c	(.89)				
4. Emotional self-control	11.87	3.00	0.24 ^c	0.30 ^c	0.32 ^c	(.77)			
5. Emotional self-management	29.60	6.52	0.36 ^c	0.36 ^c	0.35 ^c	0.62 ^c	(.86)		
6. Emotional management of others	20.27	3.56	0.38 ^c	0.39 ^c	0.58 ^c	0.31 ^c	0.42 ^c	(.74)	
7. Distress	36.57	28.59	−0.24 ^c	−0.36 ^c	−0.09	−0.38 ^c	−0.61 ^c	−0.17 ^c	(.95)
8. Negative life events	4.83	3.34	−0.10 ^a	−0.16 ^b	−0.04	−0.13 ^a	−0.36 ^c	−0.08	0.46 ^c

N = 414.

Cronbach's alphas are located on the diagonal in parentheses.

^a $p < 0.05$.

^b $p < 0.01$.

^c $p < 0.001$.

lowed by Australia (24%), the UK (15%) and Canada (9%). The remainder were citizens of European, Asian or African countries.

2.2. Measures

2.2.1. Emotional intelligence

Emotional intelligence was measured using a revised 44-item version of the SUEIT. This version was derived from extensive factor analytic investigation involving data from 1503 participants (Gignac, 2005). It is the predecessor to the newly published 70-item Genos EI, factorially validated on some 4700 participants (Gignac, 2010), with which it shares the same dimensional structure and 44 items (Palmer, Stough, Harmer, & Gignac, 2009). Participants responded to statements on a five-point Likert scale from 1 = 'almost never' to 5 = 'almost always'. Scores were calculated separately for six subscales: (1) *Emotional Self-Awareness* and (2) *Emotional Awareness of Others* concern perceiving and understanding one's own and others' emotions respectively; (3) *Emotional Expression* concerns expressing one's emotions effectively; (4) *Emotional Self-Control* concerns controlling one's strong emotions; (5) *Emotional Management of Self* and (6) *Emotional Management of Others* concern managing one's own and others' emotions respectively. A seventh and final subscale concerned with 'Emotional Reasoning' in decision-making, was not included in the current study due to weak factorial validity, an issue common to all such factors across EI inventories (Gignac, 2010).

2.2.2. Psychological distress

Distress was assessed using the short version of the Depression Anxiety Stress Scale (DASS-21; Lovibond & Lovibond, 1995), which contains 21 items distributed across depression, anxiety, and stress subscales. Participants rate the extent to which they had experienced each of the items over the past month on a 4-point severity/frequency scale ranging from 0 = 'did not apply to me at all' to 3 = 'applied to me very much'. In the present study, the full scale score was used.

2.2.3. Negative life events

Life events were sampled from a revised Social Readjustment Rating Scale (SRRS; 43 items; Scully, Tosi, & Banning, 2000), the original being devised by Holmes and Rahe (1967) and cited in over 4000 publications (Hobson et al., 1998). As with the original, events range from minor (e.g. change in dietary habits) to major (e.g. death of a loved one). In the present study, events referring to a change in circumstances were re-itemized to reflect improvement or worsening of the situation (e.g. dietary habits worsened). The number of events subsequently expanded to 59¹. Participants

indicated whether they had experienced each event within the past two years and whether the event continued to have a positive or negative effect on their wellbeing. The frequency of events continuing to have a negative effect was summed for a total out of 59 for each participant.

3. Results

Table 1 presents descriptive statistics and correlations among the variables. On average, the sample remained negatively affected by five events that had occurred in the past 2 years, and reported distress symptoms consistent with mild depression, anxiety and stress. EI levels were comparable to those reported by Gignac (2005). All six dimensions were positively interrelated, and most were negatively related to life events and distress.

3.1. Latent class regression analysis: negative life events and distress

A series of latent class regression (LCR) analyses were performed using Latent Gold (Version 4) to determine whether the effect of negative life events on distress was homogenous across all participants, or whether the strength of this effect differed across participants to the extent that latent classes of participants better represented the data. Unlike traditional regression techniques, which assume that a similar regression coefficient holds true for all cases in a given sample, LCR detects and extracts distinct latent classes of participants who share similar regression coefficients on a set of predictor-outcome variables (Magidson & Vermunt, 2004).

As recommended by Vermunt and Magidson (2000), a 1-class model was initially estimated using maximum likelihood (ML), followed by additional models which successively incremented the number of classes by one, until the simplest model with the smallest Bayesian Information Criterion (BIC) value was found. The default Latent Gold LCR setting of 10 random starts was retained for each model.

As shown in Table 2, similar BIC values occurred for the 3 and 4-class models. However, classification error was notably larger for the 4-class model, and parameters were fewer for the 3-class model. The 3-class model was thus considered better fitting and more parsimonious. Eighty percent of variation in distress was explained by negative life events in the 3-class model.

Latent class regression statistics for the 3-class model are shown in Table 3. The unstandardized beta values indicate that for each class, higher numbers of negative life events predicted higher distress levels. However, Wald statistics for events indicated that the strength of this relationship was significantly different between classes.

Regression lines depicting the relationship between accumulated events and distress for each latent class are plotted in

¹ Expanded scale available from first author

Table 2
Latent class regression model fit statistics: negative life events regressed on distress.

Model	LL	BIC	AIC	NP	Class. Error	R ²
1-Class	−1926.53	3871.14	3859.06	3	0	.21
2-Class	−1873.62	3789.43	3761.24	7	.16	.71
3-Class	−1855.97	3778.23	3733.94	11	.24	.80
4-Class	−1844.22	3778.84	3718.44	15	.29	.92

Note. N = 414

LL, log-likelihood; AIC, akaike information criterion; NP, number of parameters; Class. Error, Classification error.

* Minimum BIC value.

Table 3
Latent class regression statistics for the best fitting 3-class model for negative life events regressed on distress.

	3-Class Model			Wald statistics Between class
	Class 1 (n = 184)	Class 2 (n = 120)	Class 3 (n = 110)	
R ²	.44	.26	.20	–
Distress intercept	15.05 ^b (2.28)	37.40 ^b (6.72)	6.01 ^b (1.54)	24.40 ^b
Negative life events B	2.78 ^b (0.32)	4.59 ^b (0.88)	.90 ^a (0.29)	26.18 ^b

Note. N = 414.

SE in parentheses.

^a p < 0.01.

^b p < 0.001.

Fig. 1. Anchors for negative life events comprise the mean and one standard deviation above and below. Anchors for distress comprise percentile ranks and ranges sourced from Lovibond and Lovibond (1995). Figure 1 illustrates a pattern of graduated life event distress class profiles. Class 2 were most distressed by higher numbers of life events, Class 3 were least distressed, while Class 1 fell in between. Classes 2, 1 and 3 were thus labelled Vulnerable, Average and Resilient.

3.2. Discriminant function analysis: class membership and emotional intelligence

A discriminant function analysis was subsequently modelled to test whether membership to the three classes varied as a function of the six EI variables. Summary statistics for the EI variables by class are presented in Table 4.

The three classes were reliably distinguished by one discriminant function, which comprised four EI variables and explained 35% of the variation in class membership, Wilks = .65, $\chi^2(12) = 174.27$, $p < .001$. The function was very strongly correlated with Emotional Management of Self, $r = .90$, $p < .001$, strongly correlated with Emotional Self-Control, $r = .51$, $p < .001$, and moderately correlated with Emotional Expression, $r = .44$, $p < .001$, and Emotional Self-Awareness, $r = .39$, $p < .001$. Centroids for the discriminant function revealed that the Resilient class (.96) had significantly higher EI scores than both other classes, that the Vulnerable class (−.94) had the lowest EI scores, and that the Average class (.04) fell almost precisely in between.

4. Discussion

The current study sought to identify which participants were more and less successful at adapting to the emotional demands of stressful events, and to identify the extent to which individual differences in adaptation could be attributed to respective aspects of emotional intelligence. The study found that the relationship be-

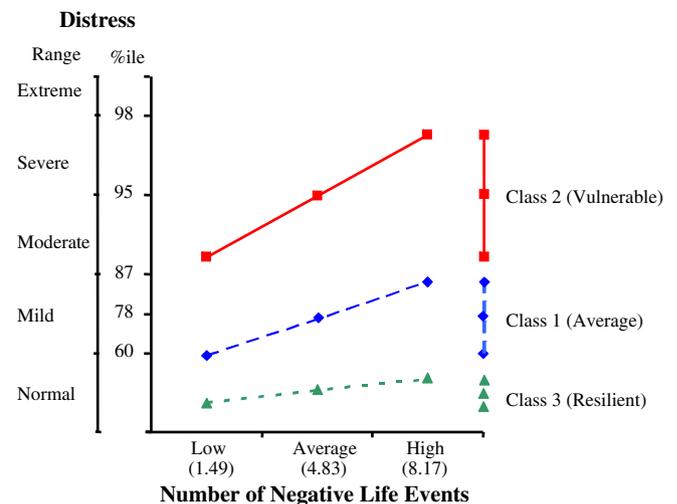


Fig. 1. Distress regressed on negative life events by latent class.

tween negative life events and distress varied as a function of four intrapersonal EI dimensions. The life event-distress relationship was weaker for participants with higher levels of Emotional Self-Awareness, Emotional Expression, Emotional Self-Control and particularly, Emotional Self-Management.

4.1. The nature of relations between stressful life events and distress

Ninety-five percent of participants reported that one or more stressful events continued to exert a negative influence on their wellbeing up to 2 years later. On average, participants remained negatively affected by around five events, while event distribution data indicated that the number of such events typically ranged from a low one or two, to a high eight events. A greater accumulation of such events predicted heightened symptoms of psychological distress in the preceding month.

Yet, while pervasive, the life event-distress relationship was not uniform across the sample. Instead, three latent classes with distinct life event-distress profiles were identified. These classes were subsequently labelled Vulnerable, Average and Resilient. For the 29% of participants classified into the Vulnerable class, the ongoing negative affect of just one or two past events corresponded with current distress levels within the moderate clinical symptom range. Worse were those who continued to be affected by the sample average of five events who reported clinical symptoms bordering on severe. Those who remained affected by a high eight events reported symptoms well within the severe clinical range.

For the 44% of participants in the Average class, the ongoing negative affect of 1–2 events in the past 2 years corresponded with normal present functioning. Five events corresponded with symptoms bordering on mild distress. Moderate distress symptoms emerged for those who remained affected by a high eight events. Finally, the 27% of participants that comprised the Resilient class exhibited the weakest relationship between accumulated life events and distress. Although their reported distress symptoms were worse when event numbers were greater, their symptoms remained well within the range of normal psychological functioning even when event numbers were high.

4.2. Emotional intelligence and psychological resilience to life event distress

EI was negatively associated with events and distress. Most persons with higher EI scores reported that fewer stressful events

Table 4
Summary statistics and structure coefficients for emotional intelligence in the 3-class model.

	Vulnerable Class (n = 120)		Average Class (n = 184)		Resilient Class (n = 110)	
	M	SD	M	SD	M	SD
Emotional self-awareness	7.11	1.55	7.51	1.37	8.14	1.11
Emotional expression	14.20	4.08	16.07	3.74	17.35	3.56
Emotional awareness of others	63.38	9.58	63.41	8.41	65.37	6.87
Emotional self-control	.75	3.02	11.64	2.75	13.49	.71
Emotional self-management	25.02	5.61	29.71	5.75	34.39	4.99
Emotional management of others	19.68	3.86	20.26	3.75	20.95	2.72

Note. N = 414.

continued to distress them. Importantly, individual differences in four EI dimensions were found to distinguish between the Vulnerable, Average and Resilient latent classes: Emotional Self-Awareness, Emotional Expression, Emotional Self-Control and particularly, Emotional Self-Management.

The small benefit of Emotional Self-Awareness in predicting resilience is consistent with alexithymia research (e.g. Naatanen et al., 1999), in which afflicted persons typically fail to detect stress or deploy coping mechanisms until a stressor exerts its full impact. The moderate benefit of Emotional Expression accords with research in which overt expression has been shown to provide a stress release (e.g., Wastell, 2002). The moderate benefits of Emotional Self-Control concur with research linking this construct to impulse control in times of stress (Salovey, 2001). The considerable benefit of Emotional Self-Management is consistent with research linking emotion regulation to positive mood maintenance (Ciarrochi et al., 2000) and active rather than passive coping behaviours in times of stress (Salovey et al., 2002). Overall, the findings support Salovey et al.'s (1999) theory that emotional self-awareness, expression and self-management buffer the effects of aversive events, and suggest that emotional self-control plays a role as well.

It is notable that the two interpersonal EI dimensions, Emotional Awareness of Others and Emotional Management of Others, did not discriminate between more and less resilient persons in the presence of the four intrapersonal dimensions. The current findings suggest that when coping with multiple life events, the benefits of intrapersonal EI outweigh the benefits of interpersonal EI.

4.2.1. Methodological and future considerations

Ours is the first study to find empirical support for the value of EI as a psychological buffer in the context of multiple life events, and to illustrate the relative importance of four intrapersonal EI dimensions. The findings emphasise the value of examining the relationship between aggregated life events and psychological symptoms using latent class regression rather than traditional regression techniques. Otherwise, the resilience of the majority is likely to be blurred with the vulnerability of a sizable minority. Furthermore, the importance of distinguishing between the respective contributions of EI dimensions in the prediction of psychological resilience, rather than treating EI as unitary construct, is emphasized.

There were several study limitations. A self-selected rather than representative sample was used. EI and distress levels were self-reported rather than clinician-rated. The EI, life event, distress associations may be an artifact of self-report mono-method bias whereby mood congruent or dispositional response patterns may be responsible for observed relations. A single point in time, cross-sectional design was employed, limiting causal argument. These are issues that future research may wish to address. Similar future research would also benefit by identifying and controlling for pre-event symptoms, and investigating the longitudinal stability of latent class membership. Extending such research to samples

undergoing extremely stressful life transitions such as learning to live with cancer or HIV, and to those who vary more widely in EI traits, would further clarify the buffering effects of EI.

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