Individual differences in the regulation of positive emotion: The role of attachment and self esteem

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ABSTRACT

Individual differences in the regulation of positive emotion are associated with psychological resilience and well being. This study investigated the relationship between attachment, self esteem and gender and the regulation of positive emotion. 174 participants completed an online battery measuring attachment avoidance and anxiety, global self esteem and positive emotion regulation strategies (dampening and savouring). Moderating moderation analyses indicated that attachment insecurity was associated with maladaptive regulation of positive emotion. Savouring of positive emotion was predicted by attachment avoidance but not anxiety. Dampening of positive emotion was predicted by avoidance and self esteem and by the interaction of attachment anxiety with self esteem. Correlations between attachment and specific dampening and savouring strategies are discussed. The results are discussed within the broader context of attachment-related differences in emotion regulation.

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1. Introduction

The ability to regulate emotion contingently and flexibly has been widely associated with indices of mental well being and psychological resilience (Côté, Gyurak, & Levenson, 2010; Gross, 2007). Furthermore, it has been recognised that individuals differ in the ability to regulate emotion effectively therefore research into emotion regulation (ER) has attempted to find antecedents of, and associations with, these individual differences with a view to further elaborating theories of ER (e.g., John & Eng, 2014; Shiota, Keltner, & John, 2006). In the last 30 years, attachment has provided a coherent framework for understanding individual differences mainly in the regulation of negatively-valenced emotion (e.g., Mikulincer, Dolev, & Shaver, 2004; Mikulincer, Shaver, & Pereg, 2003). It has not yet, however, been systematically applied to the investigation of attachment in relation to positive emotion. This study set out to investigate whether attachment-related differences in the regulation of positive emotion exist, through examining the relationship between dimensions of attachment insecurity (avoidance and anxiety) and two basic regulatory devices (dampening and savouring) in relation to positive emotion.

1.1. Background

ER is conceptualized as the process by which individuals consciously or non-consciously modulate their emotions in response to environmental demands (Bargh & Williams, 2007). Theoretical models of ER associate adaptive and flexible ER with good mental health outcomes and conversely maladaptive ER with mental health disorders (e.g., Garnefski, Teerds, Kraaij, Legerstee, & van den Kommer, 2004; Gross, 2007). Increasingly, the association between adaptive regulation of positive emotion and general well being is being recognised (e.g., Seligman & Csikszentmihalyi, 2000) and interest in strategies that individuals employ to regulate positive emotion has steadily grown.

Individuals deploy a range of strategies to modulate the magnitude of both negative and positive emotion (John & Gross, 2007). Both negatively- and positively valenced emotions can be upregulated (increased) or downregulated (decreased) (Gross, 1998). Upregulation or *savouring* involves attending to, enhancing or prolonging the positive emotion in order to maximize its effect (Bryant, Chadwick, & Kluwe, 2011), whilst down regulation, or *dampening* involves limiting or reducing the effect of a positive emotion through a variety of means such as suppression, or changing focus away from the positive emotion (Parrott, 1993; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). As would be expected, appropriate savouring of positive emotion has been associated with psychological resilience (e.g., Folkman, 2008), whereas dysfunctional regulation of positive emotion has been

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associated with poor mental health outcomes. For example, a failure to appropriately dampen positive emotion has been associated with the manic phase of bi-polar disorder (Gruber, Mauss, & Tamir, 2011).

The regulation of emotion is central to attachment theory and the influence of individual differences in attachment style on ER has been extensively demonstrated in a number of studies (e.g., Fraley & Shaver, 2000; Gentzler, Kerns, & Keener, 2010; Goodall, Trejnowska, & Darling, 2012; Mikulincer & Shaver, 2007). These studies demonstrate that securely attached individuals integrate cognitive and affective resources to enable adaptive and flexible responses to emotions, whilst insecurely attached individuals employ maladaptive strategies (Fraley & Shaver, 2000; Pascuzzo, Cyr, & Moss, 2012). Two orthogonal dimensions of attachment insecurity have been identified: avoidance and anxiety. Both of these are associated with ER patterns that serve the underlying goals and representations associated with that dimension (Mikulincer & Shaver, 2007). The avoidance dimension, which is characterized by compulsive self-reliance, a desire to appear invulnerable and discomfort with interpersonal dependency, has been associated with a preferential use of suppression to regulate emotions (e.g., Mikulincer & Shaver, 2007). This hypoactivation strategy results in low activation of the attachment system and prevents others from learning about the individual's internal emotional states (Caldwell & Shaver, 2013; Vrticka, Sander, & Vuilleumier, 2012).

The anxiety dimension has been associated with a poor self concept and exaggerated sense of vulnerability as well as continual fears of rejection or abandonment by others, a (e.g., Lavy, Mikulincer, Shaver, & Gillath, 2009; Shaver & Mikulincer, 2002). The ER strategy most commonly associated with the anxiety dimension is reappraisal, but in a negative direction (Mikulincer & Shaver, 2007). Instead of decreasing negative emotion, individuals high on anxiety tend to exaggerate negative emotion responses. Anxiety is also associated with hypervigilance towards threat and a tendency towards negative rumination (Gentzler et al., 2010; Lanciano, Curci, Kafetsios, Vanda, & Zammuner, 2012).

In summary, attachment anxiety and avoidance have been independently associated with divergent ER strategies in response to negative emotions. Furthermore, there is some evidence to suggest that attachment-related differences exist in some aspects of positive emotional experience, for example, insecurely attached individuals report feeling positive emotion less often than securely attached individuals (Shiota et al., 2006; Simpson, Collins, Tran, & Haydon, 2007) and individuals with high levels of avoidance demonstrate less positive emotions when exposed to positive stimuli (Magai, Hunziker, Mesias, & Culver, 2000; Spangler & Zimmermann, 1999). It is a logical progression to assume that attachment-related differences in the regulation of positive emotion will exist, however it is not necessarily logical to assume that regulatory processes operate in the same way for positive and negative emotions thus more detailed investigation is warranted.

1.2. Purpose

Based on the assumption that attachment representations are relatively stable across the lifespan, it can be assumed that

attachment-related differences in ER are likely to be habitual (Picardi, Caroppo, Toni, Bitetti, & Di Maria, 2005). With this in mind, the present study focused on investigating the relationship between self-reported dispositional attachment and regulation of positive emotion. The study also included self esteem as a potential moderating variable as converging evidence demonstrates a robust relationship between low self esteem and attachment insecurity (Mikulincer & Shaver, 2007; Schmitt & Allik, 2005). Furthermore, at least one study has demonstrated that high self esteem individuals are more likely to savour positive emotion, whilst low self esteem is positively associated with dampening, possibly because positive emotion causes low self esteem individuals to feel anxious (Wood, Heimpel, & Michela, 2003). Gender was also included as a potential moderator as previous research has demonstrated gender differences in ER (McRae, Ochsner, Mauss, Gabrieli, & Gross, 2008).

The purpose of the present study was to investigate (1) how attachment anxiety and attachment avoidance are associated with dampening and savouring in relation to positive emotion; (2) whether any moderating effects of self esteem or gender exist. As stated previously one cannot assume that individuals will apply the same regulatory processes to positive emotion that they habitually apply to the regulation of negative emotion. It is difficult therefore to make specific predictions related to either dimension of attachment insecurity, thus it was simply hypothesized that both dimensions of attachment insecurity would be independently associated with maladaptive regulation of positive emotion.

2. Methods

2.1. Participants and procedure

Prospective participants were contacted via the Queen Margaret University, Edinburgh email system and via social networking sites. A link to an online survey site hosted by the Bristol Online Survey was provided and participants were self-selecting. The survey opened with an information sheet; participants signaled consent by clicking onto the next page. Ethical approval was granted by the University. 221 participants completed the survey; 47 questionnaires were incomplete and were subsequently removed from the analysis, leaving a total of 174 participants (30 males; 144 females). The mean age was 32 years (SD = 12; age range = 18–73 years).

2.2. Materials

The survey comprised three standardized questionnaires measuring adult attachment, global self esteem and the regulation of positive emotion:

Table 1
Descriptive statistics and Pearson's correlations among main variables (n = 174).

	M	SD	1	2	3	4	5
1. Savouring	11.85	6.17	1				
2. Dampening	2.99	3.16	−.10	1			
3. Anxiety	3.16	1.07	−.16*	.38**	1		
4. Avoidance	3.0	0.94	−.43**	.33**	.58**	1	
5. Self esteem	19.67	4.70	.21*	−.32**	−.57**	−.44**	1

* p < 0.05 level.
** p < 0.01 level.

Table 2
Moderated moderation analysis predicting dampening from anxiety, self esteem and gender.

	b	SE B	t	p
Constant	2.66 [2.18, 3.14]	0.24	10.93	<.001
Anxiety	0.87 [.33, 1.40]	0.27	3.19	.002
Self esteem	−0.10 [−.22, .02]	0.06	−1.58	.12
Gender	0.29 [−1.11, 1.69]	0.71	0.41	.68
Anxiety × self esteem	−0.10 [−0.19, −0.01]	0.05	−2.14	.03
Anxiety × gender	1.89 [−.00, 3.79]	0.96	1.97	.51
Self esteem × gender	0.19 [−.12, 0.49]	0.16	1.21	.23
Anxiety × self esteem × gender	−0.08 [−0.17, 0.35]	0.13	−0.65	.51

R^2 = .23 (p < .001).

Table 3
Moderated moderation analysis predicting dampening from avoidance, self esteem and gender.

	b	SE B	t	p
Constant	2.85 [2.30, 3.41]	0.28	10.12	<.001
Avoidance	0.80 [0.18, 1.42]	0.31	2.54	.01
Self esteem	−0.17 [−0.29, −0.04]	0.06	−2.54	.01
Gender	1.45 [−0.63, 3.54]	1.06	1.38	.12
Avoidance × self esteem	−0.11 [−0.26, 0.05]	0.08	−1.37	.17
Avoidance × gender	0.26 [1.92, 2.44]	1.11	0.24	.81
Self esteem × gender	−0.13 [−0.55, 0.29]	0.21	−0.60	.55
Avoidance × self esteem × gender	0.03 [−0.39, 0.45]	0.21	0.14	.89

$R^2 = .19$ ($p = .002$).

Table 4
Moderated moderation analysis predicting savouring from anxiety, self esteem and gender.

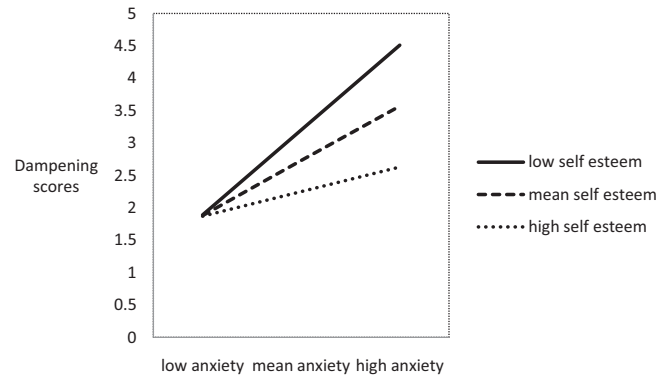|	b	SE B	t	p
Constant	12.08 [10.99, 13.17]	0.55	21.80	<.001
Anxiety	−0.22 [−1.37, 0.94]	0.59	−0.37	.71
Self esteem	0.23 [−0.05, 0.50]	0.14	1.64	.10
Gender	−2.09 [−5.56, 1.39]	1.76	1.19	.24
Anxiety × self esteem	0.09 [−0.10, 0.28]	0.10	0.91	.36
Anxiety × gender	1.19 [−4.99, 2.60]	1.92	−0.62	.53
Self esteem × gender	−0.36 [−1.23, .52]	0.44	−0.80	.42
Anxiety × self esteem × gender	−0.42 [−0.90, 0.06]	0.24	−1.74	.08

$R^2 = .08$ ($p = .04$).

Fig. 1. Simple slopes equations of the regression of dampening on anxiety at three levels of self esteem.

(i) *The Emotion Regulation Profile-Revised* (ERP-R; Nelis, Quoidbach, Hansenne, & Mikolajczak, 2011). The ERP-R is vignette-based measure of the regulation of positive and negative emotion. In this study only the positive emotion component was used. Participants were presented with vignettes concerning the following positive events: completing an important but boring task; winning the lottery; going on a romantic break; enjoying a scenic walk with friends; making a significant career achievement and being invited on a free holiday. Participants were then allowed to choose as many options as they wanted from eight options to indicate how they would typically respond in these situations. Four of these options were designated as savouring strategies. They were:
(i) behavioural display – expressing positive emotions with non-verbal behaviours such as smiling;
(ii) being present – deliberately directing attention to the present pleasant experience;
(iii) capitalising – communicating and celebrating the event with others;
(iv) positive mental time travel – remembering or anticipating positive mental events.

Four of the options were designated as dampening strategies. They were:

(i) suppression – repressing or hiding positive emotions;
(ii) distraction – engaging in activities and thoughts – often worries – unrelated to the current positive event;
(iii) fault finding – paying attention to negative elements of otherwise positive situations;
(iv) negative mental time travel – negative reminiscence on the causes of a positive event with an emphasis on external attribution.

Depending on which strategies were checked, participants would receive a total score on eight strategies. Total dampening and savouring scores were calculated by adding the total scores for the four savouring strategies and the four dampening strategies. Nelis et al. (2011) reported good reliability ($\alpha = .84$) and good internal consistency for the sub-scales (αs = .83 and .79). The Cronbach's alpha co-efficient in this study was .84.

Table 5
Moderated moderation analysis predicting savouring from avoidance, self esteem and gender.

	b	SE B	t	p
Constant	12.13 [11.14, 13.11]	0.50	24.30	<.001
Avoidance	−2.61 [−3.66, −1.57]	0.53	−4.94	<.001
Self esteem	0.05 [−0.19, 0.28]	0.12	0.41	.68
Gender	−1.40 [−3.96, 1.18]	1.30	−1.06	.29
Avoidance × self esteem	0.13 [−.10, 0.36]	0.11	1.12	.26
Avoidance × gender	0.57 [−1.87, 3.01]	1.23	0.46	.64
Self esteem × gender	−0.09 [−0.58, 0.39]	0.25	−0.38	.70
Avoidance × self esteem × gender	−0.36 [−0.80, 0.06]	0.21	−1.70	.09

$R^2 = .20$ ($p < .001$).

(ii) *The Experiences in Close Relationships Questionnaire-Revised* (ECR-R; Fraley, Waller, & Brennan, 2000) is a 36 item self-report measure of adult attachment. Respondents use a 7-point Likert-type scale ranging from 1(disagree strongly) to 7 (agree strongly) to rate how well each statement reflects their own views on relationships. Scores on two continuous orthogonal items are available: anxiety (18 items) and avoidance (18 items). Higher scores on these dimensions reflect higher attachment-related anxiety and avoidance respectively, while low scores reflect secure attachment. In this study the Cronbach's alpha coefficient for the overall scale was .96 (.95 and .93 respectively for the anxiety and avoidance sub-scales).

(iii) *Rosenberg Self Esteem Scale* (Rosenberg, 1965). This scale comprises ten statements about the self. Participants are asked to rate on a four-point Likert-type scale how much each statement reflects their view of themselves. Higher scores represent higher global self esteem. In this study, the Cronbach's alpha coefficient was .87.

3. Results

3.1. Descriptive statistics and correlations

Table 1 displays the descriptive statistics and correlation matrix. Males had significantly higher self esteem than females; $t(170) = 2.92$, $p = .004$. The mean self esteem for males was 22.00 (SD = 5.14); the mean for females was 19.20 (SD = 4.41). There were no other gender differences.

Dampening scores demonstrate moderate positive associations with anxiety ($r = .38$, $p < .001$) and avoidance ($r = .33$, $p < .001$). Savouring scores were negatively associated with avoidance ($r = -.43$, $p < .001$) and anxiety ($r = -.16$, $p = .04$). Self esteem was negatively correlated with dampening ($r = -.32$, $p < .001$) and positively with savouring ($r = .21$, $p = .006$). These results indicate that low self esteem and attachment insecurity are associated with dampening of positive emotion and are negatively associated with savouring of positive emotion. Self esteem was negatively correlated with both anxiety ($r = -.57$, $p < .001$) and avoidance ($r = -.44$, $p < .001$).

3.2. Moderating moderation analyses

Moderating moderation analyses were used to assess the hypotheses that the two attachment dimensions would be independently associated with dampening and savouring scores and to explore the 3-way interaction between the self esteem and gender on the attachment variables. As the attachment dimension were assessed independently, four moderating moderation analyses explored (i) anxiety, self esteem and gender as predictors of dampening, (ii) avoidance, self esteem and gender as predictors of dampening and (iii) anxiety, self esteem and gender as predictors of savouring, (iv) avoidance, self esteem and gender as predictors of dampening. The results of these are presented in Tables 2–5. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity and homoscedasticity. Three outliers were removed leaving a total

of 171 participants. All analyses were conducted using the Process macro for SPSS (version 2.12.1; Hayes, 2013). In all analyses, independent variables and interaction terms were centred. Gender was coded dichotomously as 0 and 1.

3.2.1. Anxiety as a predictor of dampening scores

Moderating moderation analysis explored the relationship between anxiety and dampening with self esteem and gender as moderators (see Table 2). Dampening scores were regressed onto anxiety, self esteem, gender and the following interaction terms: anxiety × self esteem, anxiety × gender, self esteem × gender and anxiety × self esteem × gender. The model was significant ($F(7,163) = 3.74$, $p < .001$) and explained 23% of the variance in dampening scores. Anxiety was an independent predictor of dampening scores ($b = .9$, $p = 0.02$) and there was a significant two-way interaction between anxiety and self esteem ($b = -.10$, $p = 0.03$).

Further inspection of the conditional effect of anxiety on dampening scores indicates a significant moderating effect of self esteem at low values of self esteem ($b = 1.22$, 95% CI [0.59, 1.86], $t = 3.80$, $p = .001$) and at medium values of self esteem ($b = 0.79$, 95% CI [0.28, 1.30], $t = 3.05$, $p = .003$). At high levels of self esteem there was no moderating effect ($b = 0.36$, 95% CI [−0.31, 1.03], $p = 0.30$). As shown in Fig. 1, individuals with low self esteem and high anxiety have the highest dampening scores. With low levels of anxiety dampening scores were similar at low, medium and high levels of self esteem. At high levels of high self esteem there is less of an effect of anxiety on dampening scores thus individuals with high self esteem are less likely to dampen positive emotion even at relatively high levels of anxiety.

3.2.2. Avoidance as a predictor of dampening scores

Dampening scores were regressed onto avoidance, self esteem and gender and four interaction variables: avoidance × self esteem, avoidance × gender, self esteem × gender and avoidance × self esteem × gender. A significant model emerged, explaining 19% of the variance in dampening scores $F(7,163) = 3.51$, $p < .000$). Avoidance was demonstrated to be an independent predictor of dampening ($b = 0.80$, $p = 0.01$) as was self esteem ($b = -0.16$, $p = 0.01$). There were no significant two-way or three-way interaction effects.

3.2.3. Anxiety as a predictor of savouring scores

Savouring scores were regressed onto anxiety, self esteem and gender and the four interaction terms outlined above in Section 3.2.1. The model was significant ($F(7,163) = 2.16$, $p = 0.04$), however no independent variable or interaction term emerged as an independent predictor of savouring.

3.2.4. Avoidance as predictor of savouring scores

In the final moderating moderation analysis, savouring was regressed onto avoidance, self esteem, gender and the four interaction terms outlined in Section 3.2.2. A significant model emerged ($F(7,163) = 8.15$, $p < 0.00$). The sole independent predictor of savouring strategies was avoidance ($b = -2.61$, $p < 0.00$).

Table 6
Correlation coefficients between savouring strategies and attachment.

	Behavioural display	Capitalising	Being present	Positive mental time travel
ECR – Anxiety	−.08	−.14	−.22[*]	−.11
ECR – Avoidance	−.36[*]	−.39[*]	−.36[*]	−.36[*]

[*] $p < 0.01$.

Table 7
Correlation coefficients between dampening strategies and attachment.

	Distraction	Fault finding	Suppression	Negative mental time travel
ECR – Anxiety	.21[*]	.36[*]	.14	.42[**]
ECR – Avoidance	.28[*]	.29[**]	.14	.25[**]

[*] $p < 0.05$.
[**] $p < 0.01$.

3.2.5. Summary of moderation analyses

The moderation analyses support the hypotheses that anxiety and avoidance are independently associated with dampening and savouring. Dampening scores were independently predicted by avoidance and self esteem scores. Anxiety did not emerge as an independent predictor of dampening, however the interaction between anxiety and self esteem predicted dampening. Thus lower self esteem in interaction with higher anxiety predicts the dampening of positive emotions. Avoidance was the sole independent predictor of savouring strategies, indicating that the higher individuals score on avoidance, the less likely they are to deploy savouring strategies to enhance positive emotion. There were no other main effects.

3.3. Attachment dimensions and individual strategies

The ERP-R allows the endorsement of up to eight strategies in relation to each vignette, thus providing an indication of the means by which savouring or dampening of positive emotion is achieved by individuals. Table 6 indicates that attachment anxiety was significantly and positively associated with all four dampening strategies however the largest associations were with negative mental time travel ($r = .42$, $p < .001$) and fault finding ($r = .36$, $p < .001$). Avoidance showed small to moderate associations with all dampening strategies with the exception of suppression. Table 7 presents correlation coefficients between the anxiety and avoidance dimensions and the four subscales that comprise savouring. Positive correlations indicate adaptive regulation of positive emotion. Avoidance shows moderate negative correlations with all savouring strategies.

4. Discussion

The results of this study support the hypothesis that attachment dimensions are independently associated with specific patterns of regulation of positive emotion. Attachment avoidance independently predicted savouring and, alongside self esteem, predicted dampening. Avoidance is thus associated with the use of strategies to minimize positive emotion and non-engagement with common means of enhancing positive emotion, such as sharing positive experiences with others. Mikulincer and Shaver (2007) suggest that avoidant individuals inhibit emotional states that are incongruent with their goal of keeping their attachment system deactivated. The results presented here suggest that avoidant individuals may also experience positive emotion as destabilizing.

Anxiety was not independently related to savouring, nor did it independently predict dampening, however there was a main effect of the interaction between anxiety and self esteem. Thus individuals with low self esteem and high attachment anxiety are most prone to dampening positive emotions, thereby effectively bypassing the potential benefits noted through the experiencing of positive emotions (Gross, 2007). These finding also extend the results of previous studies indicating that self esteem is associated with dampening (Wood et al., 2003) and demonstrate the complex relationship between self esteem and attachment in relation to dampening.

Inspection of the correlations between attachment dimensions and specific dampening and savouring strategies affords further insight into how positive emotions are dampened or savoured. The most notable association with attachment anxiety is the strategy of negative mental time travel, which mainly focused on negative mental projections of future events. Previous research has demonstrated the association between attachment anxiety and negative rumination, which generally involves allowing past negative events/thoughts to intrude into the present (Lanciano et al., 2012). This study indicates that attachment anxiety is also related to negative thinking about imaginary future events.

A further point of interest is that although avoidance has been previously associated with suppression, particularly in relation to negative emotion (Mikulincer & Shaver, 2007), there was no significant correlation in this study. ER can be both implicit and explicit (Gyurak, Gross, & Etkin, 2011) and how participants report their conscious ER responses may not be representative of how they respond in real life situations. Investigation of the relationship between attachment and the implicit and explicit regulation of positive emotion will require more experimental work.

4.1. Limitations, strengths and implications

This study is subject to the usual qualification that correlational data cannot elucidate causal pathways. A further limitation of this type of research is the general assumption that ER strategies are habitual. John and Eng (2014) note, however, that individuals regulate emotions flexibly and spontaneously. Applied research in different contexts is therefore warranted for the further explication of how attachment relates to the regulation of positive emotion. The limitations of this study are, however, attenuated by the fact that this study not only confirms that attachment dimensions are associated with different patterns of regulation of positive emotion but also provides insight into the strategies associated with the ysregulation of positive emotion. This will enable future research to test out more specific hypotheses in relation to how insecurely attached individuals regulate positive emotions and thereby extend the current knowledge base on attachment and emotion regulation. Given the known associations between positive emotion and well being (e.g., Quoidbach et al., 2010) this type of research also has the potential to inform interventions to promote well being. For example, for individuals high in attachment avoidance a cost-effective intervention may be focused on the explicit teaching of savouring strategies.

In summary, the current study demonstrates that attachment insecurity is associated with the maladaptive regulation of positive emotion and furthermore that attachment dimensions are associated with distinct regulatory patterns. Given the current focus on the role of positive emotion in well being, further exploration of the role of attachment in the regulation of positive emotion is warranted.

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