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The role of Dependency and Self-Criticism in the relationship between postpartum depression and anger

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Abstract

This study explored the role of the personality dimensions of Dependency and Self-Criticism in the relationship between postpartum depression and anger. Self-reported state and trait anger, anger directed towards the self and others, and the control of anger were compared between inpatient postpartum depressed mothers ($n = 55$) and non-depressed mothers in the postpartum period ($n = 244$), and associations between Dependency and Self-Criticism, anger, and anger regulation were investigated. Postpartum depression was associated with elevated levels of state and trait anger and anger directed towards the self. However, the relationship between depression and anger was influenced by Dependency and Self-Criticism. Dependency was associated with state anger in non-depressed mothers; and highly dependent mothers directed their anger significantly more towards the self and less towards others. Self-Criticism was associated with high levels of trait anger, low control of anger, and high levels of anger towards the self and others. Hence, these personality factors should be taken into account in both research and treatment of anger in depression.

Keywords: Postpartum depression; Anger; Dependency; Self-Criticism; Personality

1. Introduction

Estimates of the prevalence of postpartum depression in the general population range between 11% and 20% (Goodman, 2004a; de Tychey et al., 2005). Hence, for a considerable number of young mothers,[1] the postpartum period is not a positive and happy experience, but a period of considerable mental pain and anguish. In addition, many mothers suffer from subclinical feelings of depression (the so-called "baby-blues") (Matthey, Barnett, Howie, & Kavanagh, 2003; Stuart, Couser, Schilder, O'Hara & Gorman, 1998; for a review see Beck, 2002). Another potentially important emotion that may characterize the "dark side" of the postpartum period, namely anger, has received relatively little research attention. Yet, both clinical descriptions and empirical studies indicate that postpartum depression is associated with elevated levels of anger and anger attacks (Beck, 1996, 2002; Hagen, 1999; Mammen, Shear, Jennings, & Popper, 1997; Weinberg & Tronick, 1998). Beck (1996), for example, found that 'uncontrollable anger' was an important recurring theme in a study of mothers with postpartum depression. These feelings may be associated with considerable concerns and worries, as many mothers in the postpartum period may find it hard to admit that they have feelings of aggression and ambivalence towards their child (Hoffman, 2003).

Yet, because high levels of parental anger can have detrimental effects on child behaviour and development (Cummings & Davies, 1994), recognizing and treating problems of anger and anger regulation in postpartum period may be vital in the prevention and treatment of postpartum depression (Mammen et al., 1997, 1999).

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[1] Without ignoring the growing body of research addressing paternal postpartum depression (e.g. Goodman, 2004b; Paulson, Dauber, & Leiferman, 2006; Ramchandani, Stein, Evans, O'Connor, & the ALSPAC study team, 2005), this study focuses on postpartum depression in women.

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Studies concerning the role of anger in major depression in general may shed more light on the role of anger in postpartum depression. These studies suggest that anger is an important symptom that is present in about 30–40% of patients with Major Depressive Disorder (MDD) (Benazzi, 2003; Fava & Rosenbaum, 1999). Some researchers have argued that problems concerning anger expression and regulation may play an etiological role in the development of MDD (Gilbert, Gilbert, & Irons, 2004), and have suggested that MDD is linked to arrested/suppressed anger. For example, traditional psychoanalytic assumptions have linked depression with the turning of anger against the self. A review by Fisher and Greenberg (1996), however, found that less than half of the studies reviewed (i.e., 44%) reported that depression is associated with the turning of anger against the self, while 24% of these studies contradicted this hypothesis, and 32% yielded inconsistent results.

One explanation for these conflicting findings is that depression is a heterogeneous condition with respect to etiology and pathogenesis (Luyten, Blatt, Van Houdenhove, & Corveleyn, 2006), and thus that the relationship between depression and anger is not similar for all depressed patients. In this context, Blatt and colleagues have proposed two specific personality dimensions as vulnerabilities for depression, namely Dependency and Self-Criticism (e.g., Blatt, 2004), which may explain heterogeneity in the relationship between postpartum depression and anger. Dependency refers to a cognitive–affective personality style that is characterized by strong needs to be loved and taken care of, in combination with exaggerated fears for loss and abandonment. Self-Criticism implies a strong emphasis on control, self-definition, and autonomy, in combination with fears of disapproval and loss of autonomy and control. Studies have shown that Dependency is inversely related to postpartum depression, probably because having a child satisfies these mothers' strong needs for caring, while Self-Criticism is strongly associated with postpartum depression (e.g., Besser & Priel, 2003; Besser, Priel, Flett, & Wiznizer, 2007; Priel & Besser, 1999, 2000; for a review see Besser, Vliegen, Luyten, & Blatt, in press). However, as far as we know, the role of both personality dimensions in the relationship between postpartum depression and anger has not yet been addressed.

Based on Blatt's (2004) theoretical framework, one would expect that Dependent and Self-Critical individuals experience, express and regulate anger in different ways. Dependent individuals are described as sensitive to frustration, and would react to frustrations with rage, but they typically also would inhibit their anger, particularly towards significant others, for fear of losing their love and support. In addition, they may control anger by turning their anger towards the self. Self-Critical individuals, in contrast, are described as competitive, hostile, and ambivalent towards others. They would have difficulty controlling anger and would typically express their anger towards others. At the same time, however, because of their high personal standards, they can also be expected to turn anger towards the self in the form of harsh Self-Criticism.

The present study therefore aims at further exploring the relationship between the personality dimensions of Dependency and Self-Criticism and anger in the postpartum period in a sample of postpartum depressed mothers and a control sample of non-depressed mothers in the postpartum period. The first hypothesis of this study was that, in line with both traditional psychodynamic theory (e.g., Fisher & Greenberg, 1996) and recent evolutionary accounts (Gilbert et al., 2004), depressed mothers would show significantly higher levels of state and trait anger, and significantly higher levels of anger control and anger turned towards the self, compared to non-depressed mothers. Our second hypothesis was that dependent and self critical mothers show differential patterns in experiencing and regulating anger in both the postpartum depressed and non-depressed mothers. Both Dependency and Self-Criticism were expected to be positively associated with both state and trait anger, because Dependency has been linked to high sensitivity to frustrations and Self-Criticism to competitiveness and hostility. Third, congruent with Blatt (2004) theoretical descriptions, we expected that Dependency would be positively related to the control of anger and the turning of anger towards the self, and negatively to the expression of anger towards others. Finally, we expected that Self-Criticism would be positively related to anger towards others, not or negatively to anger control, and positively to the turning of anger towards the self.

2. Participants and methods

2.1. Participants

Participants were 55 young mothers, meeting DSM-IV criteria for major depressive disorder with postpartum onset, who were hospitalized in two mother-infant units (Bethaniënhuis Zoersel, Belgium, and St. Camillus Gent, Belgium), and 244 non-depressed young community mothers who had recently given birth. Exclusion criteria for the postpartum depressed group were schizophrenia or other psychotic disorders, bipolar disorders or post traumatic stress disorders, severe somatic pathology, and acute suicidal risk. Exclusion criteria for the non-depressed mothers were a current mood or other psychiatric disorder, and a history of psychiatric disorder.

A MANOVA revealed a significant multivariate effect for group (Wilks' $\Lambda = .71, F(5,293) = 24.30; p < .0001$). Mothers in the depressed sample had significantly less years of education than mothers in the non-depressed group ($M = 13.04$ yrs, SD = 2.96 and $M = 15.27$ yrs, SD = 2.29, $t = 5.25, p < .001$). The children in the depressed sample were significantly younger than those in the non-depressed sample ($M = 4.20$ months, SD = 2.64 and $M = 7.87$ months, SD = 2.72, $t = 9.08$, $p < .001$). The mean maternal age was very similar in both samples ($M = 29.73$ yrs, SD = 4.68 and $M = 830.19$ yrs, SD = 83.90, $t = 8.77$ ns) as well as the mean period of pregnancy ($M = 38.95$ wks, SD = 82.03 and $M = 839.14$ wks, SD = 81.65, $t = 0.68$ ns). There was a small,

but significant, difference in birth weight, with the newborns of depressed mothers weighing less than those of non-depressed mothers ($M = 3.258$ kilos, $SD = 0.497$ and $M = 3.442$ kilos, $SD = 0.529$, $t = 2.36$, $p < .05$). Because there were differences in age and birth weight of the child, and years of maternal education, we controlled for these variables in further analyses.

2.2. Measurement instruments

The Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) consists of 66 items that are based on phenomenological experiences of depressed patients. Subjects have to rate each item on a 7-point Likert-type scale. Initial Principal Components Analyses (PCAs) with VARIMAX rotation in a sample of 660 students yielded three factors, i.e., Dependency, Self-Criticism, and Efficacy (Blatt et al., 1976). The Dutch version of the DEQ which was used in this study has similar psychometric characteristics as the original DEQ (Luyten, Corveleyn, & Blatt, 1997). In this study, only the Dependency and Self-Criticism subscales were used, and scores were calculated using the factor scores and loadings of the original DEQ (Blatt et al., 1976).

The Beck Depression Inventory (BDI; Beck & Steer, 1993) measures 21 symptoms of depression. Psychometric characteristics of the Dutch version of the BDI are similar to the original version (Schotte, Maes, Cluydts, De Doncker, & Cosyns, 1997). Estimates of internal consistency (Cronbach's alpha) in this study were .91 and .81, for the postpartum depressed and non-depressed sample respectively.

The State-Trait Anger Expression Inventory (STAXI; Spielberger, 1996) consists of 44 items, each scored on a 4-point Likert-type scale, measuring state anger, trait anger, anger directed towards the self (anger-in), the expression of anger towards other people or objects (anger out), and the control of anger (anger-control). Translation of the STAXI state and trait anger scales was based on the Dutch version of the State-Trait Anger Scale (STAS; Van der Ploeg, Defares & Spielberger, 1982). The anger-in, anger-out and anger-control scales were translated using the commission approach consisting of one of the authors and two research assistants (Hambleton, 1994). Estimates of internal consistency (Cronbach's alpha) in the depressed and non-depressed sample respectively were .92/.91 for state anger, .92/.85 for trait anger, .68/.63 for anger-in, .70/.69 for anger-out, and .88/.85 for anger-control.

2.3. Procedure

This study was part of a larger study on psychosocial factors in postpartum depression. After written informed consent, all participants received a booklet containing questionnaires including the DEQ, the BDI and the STAXI, with the instruction to complete the booklet and return it within two weeks. For the postpartum sample, all DSM diagnoses were made by the ward psychiatrist two weeks after admission. If the ward psychiatrist together with the staff decided a mother met inclusion criteria of the study, mothers were asked by a nurse to participate in the study. None of the mothers refused to participate. The participating non-depressed mothers were all volunteers, contacted in their homes by undergraduate students attending a psychology course at a large Belgian university (response rate 96%). The study was carried out between April 2003 and April 2005, and was approved by the Ethics Committee of the University of Leuven (Belgium). Participation was voluntarily and full anonymity was guaranteed.

2.4. Data analytic strategy

A MANOVA was used to investigate group differences in demographical variables. Zero order correlations between the study variables were calculated for both samples separately, to explore the relationship between these variables. MANCOVA was used to investigate group differences in severity of depression, personality, and anger and anger regulation, controlling for demographical variables.

Next, five series of Hierarchical Multiple Regression Analyses (HMRAs) were run to investigate the unique contribution of each personality variable to state and trait anger, anger turned against the self and towards others, as well as anger control (Cohen & Cohen, 1975). First, we entered maternal education, child age and weight at birth as control variables. In a second block, we entered severity of depression. In order to control for the number of regression analyses and thus the probability of Type II error, we did not run separate regression analyses for depressed versus non-depressed mothers, but included group (postpartum depressed versus normal controls) as a dummy variable in a third block. In a fourth block, we entered. Dependency and Self-Criticism. In a subsequent block, we entered the interaction between both personality dimensions and group. All analyses were done using SAS 9.1 (SAS Institute Inc. 2004).

3. Results

3.1. Group differences in personality, depressive symptomatology, anger, and anger regulation

A MANCOVA revealed a significant multivariate effect for group (Wilks' $\Lambda = .54$, $F(8, 283) = 29.57$; $p < .0001$) (see Table 1). Postpartum depressed mothers had significantly higher levels of both Dependency and Self-Criticism. Depressed mothers also exhibited significantly higher levels of depressive symptoms, and state as well as trait anger, even controlling for birth weight and age of the child, and maternal level of education. Concerning the regulation of anger, depressed mothers reported higher levels of anger-in compared to non-depressed mothers, but did not

Table 1
Means and standard deviations for personality, severity of depression, anger, and anger regulation

	Means		Standard deviations		t-Value[a]
	Depressed mothers ($N = 55$)	Normal controls ($N = 244$)	Depressed mothers ($N = 55$)	Normal controls ($N = 244$)	
DEQ-Dep	.32	−.30	1.01	.91	−3.46***
DEQ-SC	.30	−1.13	1.22	.84	−8.95***
BDI	24.62	6.60	12.66	4.93	−14.48***
STAXI-state	15.82	10.74	6.94	2.03	−7.88***
STAXI-trait	19.55	15.70	7.09	3.99	−4.48***
STAXI-in	17.09	14.22	4.44	3.16	−4.58***
STAXI-out	15.14	15.23	4.12	3.18	−0.27 ns
STAXI-con	22.29	23.31	5.93	4.17	0.73 ns

* $p < .05$, ** $p < .01$, *** $p < .001$.
[a] t-Values are controlled for birth weight, age of the child, and level of education.

differ from normal controls on anger-out and anger-control.

3.2. Zero-order correlations among personality, anger, and anger regulation

As Table 2 shows, correlations between Dependency, Self-Criticism, and anger and the regulation of anger were similar in the postpartum depressed and normal controls (t-test for independent correlations; all z's < 1.96, $p > .05$).

In both samples, contrary to expectations, DEQ Dependency was not significantly correlated with trait or state anger. With regard to the regulation of anger, however, Dependency was positively related to the turning of anger towards the self, and not or even slightly negatively related to anger directed towards others. Contrary to our hypothesis, Dependency was not related to self-reported control of anger. DEQ Self-Criticism was, as expected, positively related to both state and trait anger, as well as to anger-in and anger-out, and was negatively related to anger-control.

3.3. Personality and anger: regression analyses

3.3.1. Personality and state anger

Maternal education was the only demographic variable that significantly contributed to the variance in scores of state anger (see Table 3). Severity of Depression, entered in a second block, explained another 27% ($p < .001$) of the variance in state anger. Group, entered as a dummy variable, did not contribute to the variance in state anger. Dependency and Self-Criticism added 4% ($p < .001$) to the explained variance, with Dependency being negatively ($\beta = -.12$, $p < .05$), and Self-Criticism positively related to state anger ($\beta = .21$, $p < .001$).

In the final step, adding another 2% ($p < .01$) to the explained variance, the interaction between Dependency and group was significant ($\beta = -.34$, $p < .001$). Plotting the interaction showed that Dependency was positively related to state anger in the non-depressed mothers, while Dependency was unrelated to state anger in the depressed mothers (see Fig. 1).

3.3.2. Personality and trait anger

Maternal education contributed 3% ($p < .01$) to the variance in scores on trait anger (see Table 3). Severity of depression, entered in a second block, explained another 18% ($p < .001$). Group was not significantly associated with trait anger. Dependency and Self-Criticism added 17% ($p < .001$) to the explained variance. Self-Criticism was significantly positively associated with trait anger ($\beta = .54$, $p < .001$), whereas Dependency was not related to trait anger ($\beta = -.07$ ns). Finally, the interaction between Self Criticism and group was significant. Plotting the interac-

Table 2
Zero order correlations between personality, severity of depression and anger

	1	2	3	4	5	6	7	8
1. Dependency	–	.13*	.25***	−.01 ns	.04 ns	.19**	−.13*	−.05 ns
2. Self-Criticism	.15 ns	–	.48***	.33***	.50***	.43***	.24***	−.28***
3. BDI	.53***	.53***	–	.28***	.40***	.27***	.16**	−.25***
4. STAXI-state	−.02 ns	.36**	.39***	–	.44***	.19**	.26***	-.30***
5. STAXI-trait	.04 ns	.61***	.34**	.55***	–	.34***	.56***	−.55***
6. STAXI-anger in	.28*	.42***	.44***	.52***	.36**	–	.02 ns	−.05 ns
7. STAXI-anger out	−.06 ns	.46***	.15 ns	.37**	.68***	.14 ns	–	−.42***
8. STAXI-anger con	−.06 ns	−.41**	−.15 ns	−.25*	−.63***	−.18 ns	−.57***	–

Correlations above the diagonal are for the non-depressed mothers ($N = 244$), below the diagonal for the postpartum depressed mothers ($N = 55$).
* $p < .05$.
** $p < .01$.
*** $p < .0018$ (Bonferroni correction).

Table 3
Summary of hierarchical multiple regression analysis of anger: demographical variables, severity of depression and personality variables ($N = 299$)

	Predictor variable	*B*	*SE B*	*β*
Anger state[a]				
Step 1				
	Years education	−.09	.08	−.05 ns
Step 2				
	Severity of Depression	.20	.03	.50***
Step 4				
	Dependency	.77	.44	.18 ns
	Self-Criticism	.06	.41	.01 ns
Step 5				
	Dependency × group	−.82	.25	−.34***
	Self-Criticism × group	.35	.20	.19 ns
Anger trait[b]				
Step 1				
	Years education	−.09	.09	−.04 ns
Step 2				
	Severity of Depression	.06	.03	.14*
Step 4				
	Dependency	.24	.53	.05 ns
	Self-Criticism	1.30	.50	.28**
Step 5				
	Dependency × group	−.36	.30	−.14 ns
	Self-Criticism × group	.66	.24	.24*

Note. * $p < .05$; ** $p < .01$; *** $p < .001$.
[a] $R^2 = .06$ for Step1; $\Delta R^2 = .27$ for Step 2 ($ps < .001$); $\Delta R^2 = .04$ for step 4 ($ps < .01$); $\Delta R^2 = .02$ for Step 5 ($ps < .05$).
[b] $R^2 = .03$ for Step 1; $\Delta R^2 = .18$ for Step 2 ($ps < .001$); $\Delta R^2 = .17$ for step 4 ($ps < .01$); $\Delta R^2 = .01$ for Step 5 ($ps < .05$).

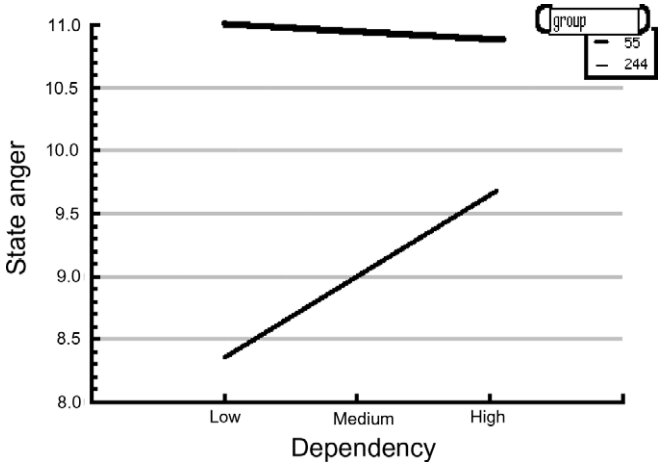

Fig. 1. Moderation of the effect of Dependency on state anger.

tion, showed that Self-Criticism was more strongly related to trait anger in the depressed as compared to the non-depressed group.

3.3.3. Personality factors and anger regulation

Demographic variables did not contribute to anger in, anger out nor to anger control (Table 4). Furthermore, concerning anger-in, severity of depression explained 19% ($p < .001$) of the variance. Group, entered in a third step, did not contribute to the explained variance. The personality variables explained an additional significant 10% ($p < .001$). Dependency was only slightly, but significantly, related to anger-in ($\beta = .13$, $p < .05$), while Self-Criticism was more strongly related to anger-in ($\beta = .39$, $p < .001$).

Table 4
Summary of hierarchical multiple regression analysis of anger: severity of depression and personality variables ($N = 299$)

	Predictor variable	*B*	*SE B*	ß
Anger-in[a]				
2				
	Severity of depression	.05	.03	.14 ns
4				
	Dependency	.48	.20	.13*
	Self-Criticism	1.30	.22	.39***
Anger-out[b]				
	Dependency	−.66	.20	−.19***
	Self-Criticism	.95	.18	.30***
Anger-control[c]				
2				
	Severity of depression	.01	.04	.02 ns
4				
	Dependency	.02	.29	.01 ns
	Self-Criticism	−1.43	.31	−.34***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.
[a] $R^2 = .19$ for Step2; $\Delta R^2 = .10$ for Step 4 ($ps < .001$).
[b] $R^2 = .10$ for Step 4.
[c] $R^2 = .04$ for Step 2, $\Delta R^2 = .06$ for Step 4 ($ps < .001$).

Concerning anger-out, neither severity of depression nor group, contributed to the explained variance.

The personality variables explained a significant 10% of the variance in anger-out ($p < .001$). Dependency was negatively related to anger-out ($\beta = -.19$, $p < .001$), while Self-Criticism was positively related to anger-out ($\beta = .30$, $p < .001$).

Concerning anger-control, severity of depression explained 4% ($p < .001$) of the variance. Group, entered in a third step, did not contribute to the explained variance. The personality variables explained an additional significant 6% ($p < .001$). Dependency was not related to anger-control ($\beta = .01$, ns), while Self-Criticism was negatively related with controlling feelings of anger ($\beta = -.34$, $p < .001$).

In none of these analyses, was the interaction between personality and group significant.

4. Discussion and conclusions

Feelings of anger may play an important, but neglected, role in the postpartum period (Beck, 2002; Hoffman, 2003; Mammen et al., 1997). Results of this study suggest that postpartum depressed mothers, compared to normal controls, have elevated levels of state and trait anger and turn anger more towards the self. These findings are consistent with the traditional psychodynamic notion that depression is associated with the turning of anger towards the self (Fisher & Greenberg, 1996) and extends these findings to postpartum depression. However, there was considerable

variability and thus heterogeneity concerning anger and anger regulation. Further analyses suggest that the personality dimensions of Dependency and Self-Criticism may explain, in part, this heterogeneity.

Self-Critical mothers directed their anger towards others as well as towards themselves, and reported a lack of control concerning their angry feelings. These findings provide further insight into the processes involved in vulnerability to postpartum depression associated with Self-Criticism found in previous studies (Besser & Priel, 2003; Besser et al., 2007; Priel & Besser, 1999; Priel & Besser, 2000), suggesting that self-critical mothers not only typically have high levels of Self-Criticism (e.g., by turning of anger towards the self), but also much hostility towards others, which may negatively impact the level of social support, especially in intimate relationships.

These assumptions are congruent with studies by Besser and colleagues (Besser, Priel, & Wiznizer, 2002; Priel & Besser, 2000) reporting that Self-Criticism in postpartum depressed mothers was associated with the degeneration of social support over time, which in turn explained higher levels of postpartum depression. Hence, because of their hostility, self-critical mothers may drive others away from them, probably leading to social isolation, feelings of inadequacy, and hence further Self-Criticism.

Furthermore, against expectations, Dependency was positively related to state anger in the non-depressed mothers, but was unrelated to state anger in the depressed mothers. This seems to contradict theoretical descriptions concerning the low frustration tolerance and high irritability of dependent individuals. However, Dependency has also been associated with impression management (e.g., Ewart, Jorgensen, & Kolodner, 1998; Luyten et al., in press; Santor & Zuroff, 1997), and one may speculate whether dependent postpartum depressed mothers may deny or underreport angry feelings because of their fear to loose or destroy the relationship with their child. This explanation is supported by two other findings. First, Dependency was more strongly related with state anger in non-depressed mothers which had relatively low levels of state anger. However, as levels of state anger increase, dependent mothers may underreport and/or suppress these feelings.

Second, congruent with this, Dependency was associated with the turning of anger against the self, suggesting that dependent mothers either suppress (Gilbert et al., 2004) or turn anger towards the self (Blatt, 2004). This assumption is also congruent with the findings of Rosenblum, Mazet, and Bénony (1997), who found that a subgroup of postnatally depressed mothers could be described as 'dull and slow', and expressed complaints about 'not being able to feel'.

Possibly, dependent postpartum depressed mothers are no longer able 'to feel' their angry impulses. From a clinical point of view, while further research is needed to investigate these speculations, these findings nevertheless strongly suggest that more attention should be given to feelings of anger in postpartum depression. For example, mothers should be helped to recognize their feelings of anger, and how these feelings may interfere with the experience of competent motherhood and the development of their infant, due to either high self-critical tendencies, or dependent needs.

The findings of this study need to be interpreted in the context of two limitations. A first limitation of this study is the cross-sectional design, which limits the ability to draw causal conclusions. A second limitation concerns the fact that this study relied on self-report methods. As the results of this study suggest that personality, and Dependency in particular, might be associated with impression management, future studies should also use more objective assessments of anger and anger regulation (e.g., observation) in depression.

Third, as this study used an earlier version of the STAXI (Spielberger, 1996), results should be replicated using the most recent version (Spielberger, 1999) as well as other measures of anger and anger regulation.

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