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A PSYCHOMETRIC EVALUATION OF THE DUTCH VERSION OF THE RESPONSES TO POSITIVE AFFECT QUESTIONNAIRE

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In 698 respondents selected from the community, the authors examined the psychometric properties of the Dutch version of the Responses to Positive Affect questionnaire (RPA; Feldman, Joormann, & Johnson, 2008) which measures ruminative and dampening thoughts in response to positive affect. In a first sample (n = 170), exploratory factor analyses largely replicated the 3-factor model obtained by Feldman et al. (2008) with the following factors: Dampening, Self-focused positive rumination, and Emotion-focused positive rumination. The 3-factor model revealed in the first sample was confirmed using confirmatory factor analyses in a second independent sample of 528 respondents. All subscales showed adequate internal consistency and evidence of convergent and incremental validity with concurrent measures of depressive rumination, depressive symptoms, trait hypomania, and positive and negative affect. Results underscore the value of assessing responses to positive as well as negative affect in the study of mood disorders.

The way people cognitively respond to negative mood contributes to the severity and duration of the particular mood state. For example, ruminative thinking in response to sadness – referring to repetitive thinking in an abstract-evaluative manner about oneself and one's sad or depressed feelings – has been found to prolong and deepen sad and depressed mood in experimental studies and predicts the maintenance of clinical depression and the onset of new episodes of depression in naturalistic prospective studies (for recent reviews, see Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Smith & Alloy, 2009; Watkins, 2008). Taken together, the literature on depressive rumination suggests that the responses to affective states, rather than the affective state itself may be of greater importance in the development, maintenance and recurrence of emotional disorders.

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However, research on responses to affect has been mainly directed towards responses to *negative* affect and the relationship with associated mood disorders (i.e., depression) and has mostly ignored responses to *positive* affect and their consequences for mood disorders. However, responses to positive affect, as noted by Feldman, Joormann, and Johnson (2008, p. 507) might be equally important in research on emotion regulation and associated mood states and disorders (see also Martin & Tesser, 1996; Parrott, 1993; Rottenberg, Kasch, Gross, & Gotlib, 2002; Wood, Heimpel, & Michela, 2003). For example, the way people vulnerable to depression respond to positive affect (e.g., dampening or avoiding positive affect) may have incremental validity in explaining depression onset, maintenance and recurrence above and beyond their responses to negative affect. In addition, our understanding of affective disorders such as mania and bipolar disorder may also benefit from considering certain types of responses to positive affect (e.g., increased responsivity with recurrent positive thoughts).

Upon a review of research findings suggesting that responses to positive affect as well as negative affect, may indeed have implications for both depression and mania, Feldman et al. (2008) developed a self-report questionnaire to assess peoples' responses to positive affect, the Responses to Positive Affect questionnaire (RPA). The RPA was designed to be a parallel measure to the Ruminative Responses Scale (RRS; Nolen-Hoeksema & Morrow, 1991), the most widely used measure to assess depressive rumination which consists of 22 items, all describing responses to depressed mood focusing on the self, depressive symptoms, and possible causes and implications of these symptoms. The RPA assesses three processes related to the regulation of positive affect, which have been supported in factor analyses. The three factor-analytically derived subscales include: *Dampening* (e.g., 'remind yourself these feelings won't last', or 'think "my streak of luck is going to end soon"') and two Positive rumination subscales, *Self-focused positive rumination* (e.g., 'think "I am achieving everything"', or 'think "I am getting everything done"'), and *Emotion-focused positive rumination* (e.g., 'think about how happy you feel', or 'savour this moment').

Initial psychometric results show adequate reliability and validity for the subscales (e.g., Feldman et al., 2008; Johnson, McKenzie, & McMurrich, 2008). For example, undergraduate respondents who endorse using more dampening strategies and less emotion-focused positive rumination experience more concurrent depressive symptoms, over and above the variance accounted for by negative rumination (i.e., brooding on negative affective states) (Feldman et al., 2008). On the other hand, undergraduates with high levels of manic vulnerability (as well as high levels of mania symptoms) exhibited more emotion- and self-focused positive rumination (Feldman et al., 2008). These correlational patterns, using dimensional criterion meas-

ures, are largely replicated among people diagnosed with bipolar disorder (BPD), major depressive disorder (MDD) or no mood disorder (Johnson et al., 2008). Additionally, a clinical diagnosis of mania is found to be related to higher levels of emotion-focused positive rumination (Johnson et al., 2008).

The present study presents the first psychometric findings with the Dutch translation of the RPA, which was developed using back translation procedure. The main aims were (1) to examine the replicability of the 3-factor structure previously identified for the original English RPA; and (2) to examine the reliability (internal consistency) and convergent and incremental validity of the Dutch RPA's subscales with criterion measures of depressive rumination, depressive symptoms, trait hypomania, and positive and negative affect. With respect to the second aim, we were especially interested to see whether the correlational patterns obtained with the original RPA (Feldman et al., 2008; Johnson et al., 2008) could be replicated using the Dutch RPA and different criterion measures. Consistent with previous findings, we hypothesised dampening responses to be positively related to depressive symptoms and positive ruminative responses (especially self-focused positive rumination) to be positively related to trait hypomania.

Method

Participants

Sample 1 consisted of 170 respondents, with a mean age of 20.66 years (*SD* = 6.34; range: 18-58; 79% female; age and gender missing for one participant). Most (86%) were first-year Belgian Psychology students at the Lessius Hogeschool Antwerp (*N* = 108) and the Katholieke Universiteit Leuven (*N* = 39) who participated in return for course credit. The remaining 14% were recruited friends and acquaintances of the second author (KD; *N* = 23), who participated without compensation. Sample 2 consisted of 528 respondents; all recruited using snowball sampling via e-mail (see Procedure for more details). The mean age for Sample 2 was 29.38 years (*SD* = 11.24; range: 18-76; 64.6% female). All respondents from Sample 2 participated without compensation.

Measures

Responses to Positive Affect questionnaire (RPA)

The RPA (Feldman et al., 2008) questionnaire assesses responses to positive affective states and consists of 17 items. Items are rated on a 4-point scale, ranging from 1 (*almost never*) to 4 (*almost always*). The measure con-

sists of three factor-analytically derived subscales: Dampening, Self-focused positive rumination, and Emotion-focused positive rumination. Initial psychometric results with the original English version show adequate reliability and validity for the subscales (e.g., Feldman et al., 2008). Discriminant validity has been supported in that the scale is uniquely related to risk for hypomania after controlling for other measures of impulsivity and responses to positive affect (Johnson & Jones, 2009).

The English RPA was translated into Dutch by the first two authors (FR and KD) and the last author (DVG). Next, a native English speaker who had no knowledge of the original English version of the RPA, translated the Dutch translation back into English to ensure that the Dutch version would resemble the original RPA as closely as possible. Finally, this back translation was checked and approved by the original author of the RPA (third author on this paper, GF).

Beck Depression Inventory-II (BDI-II)

The BDI-II (Beck, Steer, & Brown, 1996) is a widely used 21-item self-rating measure for severity of depressive symptoms. The Dutch version by Van der Does was used, for which adequate reliability is reported (Van der Does, 2002). Cronbach's alpha in the present study was .89.

Ruminative Response Scales (RRS)

The RRS (Nolen-Hoeksema, Larson, & Grayson, 1999) is composed of 22 items measuring ruminative responses to depressed mood. Each item is rated on a 4-point scale (*almost never* to *almost always*) for the extent to which it reflects a respondent's thoughts or actions when feeling sad, down or depressed. The Dutch translation by Raes, Hermans, and Eelen (2003; also see Schoofs, Hermans, & Raes, 2010) was used, for which adequate reliability and good validity is reported. Using the RRS, Treynor, Gonzalez, and Nolen-Hoeksema (2003) identified two distinct rumination components, labelled *Brooding* (referring to self-critical moody pondering; five items; e.g., 'I think "Why do I always react this way?"') and *Reflection* (capturing emotionally neutral pondering; five items; e.g., 'I analyse recent events to try to understand why I am depressed'). Recent studies suggest that Brooding represents the more maladaptive component of depressive rumination; Reflection, on the other hand, appears a more adaptive form of rumination (Burwell & Shirk, 2007; Crane, Barnhofer, & Williams, 2007; Treynor et al., 2003). Cronbach's alpha's for the Brooding and Reflection subscale in the present study were .82 and .73, respectively.

General Behaviour Inventory (GBI)

The GBI (Depue, Krauss, Spoont, & Arbisi, 1989) measures unipolar

and bipolar affective conditions on trait or lifetime basis. It consists of 73 items, divided over three sets. A first set of 45 items assesses symptomatic behaviours associated with depression. A second set of 21 items assesses symptomatic behaviours associated with hypomania/mania. A third and final set of seven biphasic items describes fluctuation between both depressive and hypomanic behaviours. Each item is rated on a 4-point intensity scale, where 1 = *never or hardly ever*, 2 = *sometimes*, 3 = *often*, and 4 = *very often*. The four response alternatives are weighted 0, 0, 1, and 1 (Depue et al., 1989). Adequate validity and reliability is reported for the original English GBI (Depue et al., 1989) as well as for the Dutch version (Reichart, van der Ende, Wals, Hillegers, Ormel, Nolen, & Verhulst, 2004) of which the hypomania subscale was used in the present study. Cronbach's alpha in the present study was .88.

Positive and Negative Affect Schedule Scales (PANAS Scales)

Ten positive (PA or Positive Affect) and ten negative (NA or Negative Affect) mood descriptors were rated on a 5-point scale (*very slightly or not at all* to *very much*) for the extent to which they are experienced in general (Watson, Clark, & Tellegen, 1988). The PANAS Scales have good reliability and validity (Watson et al., 1988). We used the Flemish version as described by Engelen, De Peuter, Victoir, Van Diest, and Van den Bergh (2006). Cronbach's alphas in the present sample were .83 and .80 for the NA and PA scales, respectively.

Procedure

Participants of Sample 1, using a paper and pencil procedure, received a booklet containing the following questionnaires in fixed order: PANAS, RPA, GBI, BDI-II, and RRS. Participants were tested individually and were allowed to fill out the questionnaires at their own pace, with a maximum of one hour.

As for Sample 2, the first author (FR) sent an e-mail to potential participants (acquaintances and colleagues), requesting participation in a study on a voluntary basis, and circulation of this invitational e-mail (snowball principle-emailing). The e-mail provided the address of a website; when accessing the particular link, participants were first asked to provide their age and sex, after which they could fill out the presented RPA. Respondents in Sample 2 thus only filled out the RPA, whereas those in Sample 1 filled out other criterion measures in light of the validation of the Dutch RPA as well.

The study was approved by the Ethical Committee of the Faculty of Psychology and Educational Sciences, Katholieke Universiteit Leuven.

Data-analysis

First, the internal structure of the Dutch RPA was investigated using exploratory factor analyses in Sample 1. Next, the fit of the factor structure identified in Sample 1 was examined in Sample 2 by performing confirmatory factor analyses (CFA) using the Lisrel 8.71® (Jöreskog & Sörbom, 2004). Following recommendations by, for example, Flora and Curran (2004) (robust) Diagonally Weighted Least Squares estimation method (DWLS) based on polychoric input matrices was used, since RPA items are rated on a 4-point Likert scale (ordinal data).

The fit of CFA models was assessed using the Satorra-Bentler scaled χ^2 statistic (SBS- χ^2), the root mean square error of approximation (RMSEA), the standardised root mean square residual (SRMR), the comparative fit index (CFI), and the non-normed fit index (NNFI). The SBS- χ^2 was used given the ordinal character of the data and the violation of distributional assumptions (Satorra & Bentler, 2001). Following the guidelines of Schermelleh-Engel, Moosbrugger, and Müller (2003) a χ^2/df ratio of 3 or less or 2 or less is taken as indicative of acceptable or good model fit, respectively. Conventionally, RMSEA ≤ .06, SRMR ≤ .08, and CFI and NNFI ≥ .95 are taken as cut-off criteria for an adequate fit (Hu & Bentler, 1998). For model comparisons, we report the models' Consistent Akaike Information Criterion (CAIC) value since models were not hierarchically nested (see Schermelleh-Engel et al., 2003). Lower CAIC values indicate better fit. Internal consistencies of the subscales were investigated using Cronbach's alpha (Samples 1 and 2). Finally, convergent and incremental validity were investigated using (partial) correlations and hierarchical multiple regression analyses, respectively.

Results

Exploratory factor analysis (Sample 1)

Exploratory principal axis factor analysis with oblique rotation was performed and resulted in four factors with eigenvalues > 1, explaining 56.80% of the total variance. This 4-factor solution was difficult to interpret in a meaningful way. Moreover, the scree-plot suggested three rather than four factors. Therefore, we repeated the same analysis with three factors specified. The emerging three factors were well interpretable and highly similar to the 3-factor solution obtained with the original English RPA (see Table 1).

Table 1
Pattern matrix and item-total (subscole) correlations

RPA item	Factors			
	I	II	III	r^a
Factor I: Self-focus				
(Eigenvalue = 3.90; 22.92% variance explained)				
SF1. Think "I am getting everything done" (rpa3)	.77	.01	.01	.77
SF2. Think about how you feel up to doing everything (rpa4)	.76	.13	.07	.76
SF3. Think "I am achieving everything" (rpa13)	.73	.04	.05	.74
SF4. Think "I am living up to my potential" (rpa5)	.54	–.06	.05	.57
Factor II: Dampening				
(Eigenvalue = 3.18; 18.72% variance explained)				
D1. Think "My streak of luck is going to end soon" (rpa15)	.08	.87	–.28	.83
D2. Remind yourself these feelings won't last (rpa10)	.11	.76	–.08	.73
D3. Think about things that could go wrong (rpa9)	–.18	.64	.06	.67
D4. Think "I don't deserve this" (rpa14)	–.00	.56	–.24	.54
D5. Think about things that have not gone well for you (rpa17)	–.12	.51	.15	.55
D6. Think "This is too good to be true" (rpa6)	.07	.48	.22	.49
D7. Think "People will think I'm bragging" (rpa11)	–.05	.47	.14	.47
Factor III: Emotion-focus				
(Eigenvalue = 1.47; 8.66% variance explained)				
EF1. Think about how happy you feel (rpa7)	.01	.01	.65	.65
EF2. Think about how proud you are of yourself (rpa16)	.13	.05	.60	.65
EF3. Think how strong you feel (rpa8)	.23	.03	.56	.64
EF4. Savour this moment (rpa2)	.11	–.10	.45	.48
EF5. Notice how you feel full of energy (rpa1)	.18	–.19	.38	.43
Think about how hard it is to concentrate (rpa12)	–.08	.13	.18	

Two of the three factors reflected forms of positive rumination, just as in the original version. The first consisted of items reflecting rumination on aspects of self and pursuit of personally relevant goals (Factor I: Self-focus). The other consisted of items representing rumination on mood and feelings (Factor III: Emotion-focus). The resulting subscales for both factors largely contain the same items as the original English subscales, except for an item 'switch'. Item 4 ('Think about how you feel up to doing everything'), which belonged to the Emotion-focus subscale in the English RPA questionnaire now clearly belonged to the Self-focus subscale in the Dutch RPA questionnaire. Item 16 ('Think about how proud you are of yourself'), which belonged to the Self-focus subscale of the English RPA questionnaire now fits best to the Emotion-focus subscale in the Dutch RPA questionnaire. Both changes make sense, in that 'feeling proud' relates to a subscale containing items that represent thinking about how one feels when one is in a positive mood. Likewise, thinking about how one feels 'up to doing everything' nicely fits in a subscale containing items that reflect thinking about oneself in the context of goal pursuit.

A third factor consisted of items reflecting thoughts that may dampen positive moods (Factor II: Dampening). The resulting subscale contains all items from the original English Dampening subscale, except for Item 12 ('Think about how hard it is to concentrate'), which had no loading greater than .18 on any of the three factors. Thus, all but one item were retained in the Dutch RPA questionnaire. All factor loadings and item-total correlations, excluding Item 12, were above .38. Comparable to the English RPA subscales the pattern of subscale and factor intercorrelation (Table 2) suggests that the two positive rumination subscales (Factors I and III) are moderately correlated whereas the dampening subscale is largely independent of the positive rumination scales. Also, the internal consistency for each scale was satisfactory, with Cronbach's alphas .80, .80, and .72 for Factors I-III, respectively).

Table 2
Descriptive statistics and scale intercorrelations for Sample 1

	M	**SD**	**range**	**1**	**2**	**3**
Self-focus	8.96	2.55	4–14	(.80)	–.19	.35
Dampening	12.08	3.70	7–23	–.12	(.80)	.09
Emotion-focus	13.94	2.66	6–20	.44***	.00	(.72)

Note. N = 170. Cronbach's alphas of the subscales are found on the diagonal. Correlation coefficients for scale values (unweighted sums of items loading on factor) appear below the diagonal and factor correlations appear above the diagonal.
***$p < .001$.

Table 3
Fit indices for the various RPA factor models for Sample 2

Model description	SBS-χ^2	df	SBS-χ^2/df	RMSEA[a]	SRMR	CFI	NNFI	CAIC
Models in full sample								
1-factor model	1958.68***	104	18.83	.18 (.18–.19)	.19	.62	.56	1102.40
2-factor model	411.80***	103	4.00	.075 (.068–.083)	.085	.94	.93	417.58
3-factor model (3E)	400.04***	101	3.96	.075 (.067–.083)	.082	.94	.93	416.54
3-factor model (3D)	292.35***	101	2.89	.060 (.052–.068)	.075	.96	.95	321.32
Model 3D across gender								
Men (3D)	148.51***	101	1.47	.050 (.032–.067)	.082	.98	.97	
Women (3D)	217.52***	101	2.15	.058 (.048–.069)	.082	.96	.95	
Invariance across gender	401.38***	237	1.69	.051 (.043–.060)	.97	.97		

Note. SBS-χ^2 = Santorra-Bentler scaled χ^2; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual; CFI = Comparative Fit Index; NNFI = Non-Normed Fit Index; CAIC = Consistent Akaike Information Criterion; 3E = 3-factor model reported by Feldman et al. (2008) for the original English version; 3D = 3-factor model obtained with Dutch RPA questionnaire in Sample 1 following exploratory factor analyses.

[a] with 90% confidence interval (between brackets)

***$p < .001$.

Confirmatory factor analysis (Sample 2)

We first tested the fit of a 1-factor model in which all 17 items load on a single latent 'Positive Affect Rumination' factor. This model showed a very poor fit to the data, as indicated by an extremely high SBS-χ^2 value, RMSEA > .08, SRMR > .06 and both CFI and NNFI < .90 (see Table 3).

Next, a 2-factor model was evaluated consisting of the factors 'Dampening' (i.e., the eight items from the Dampening factor as identified by Feldman et al., 2008) and 'Positive Rumination' (i.e., all nine items belonging to the Emotion-focused and Self-focused subscales as identified by Feldman et al. (2008) but now loading on a single positive rumination factor). The model modification resulted in a lower CAIC value, but the other fit indices were still indicative of a sub-optimal fit; also, the SBS-χ^2/df ratio was still above 3. The same held for the 3-factor model obtained by Feldman et al. (2008) for the original English RPA, consisting of the following three factors and items: 'Dampening' (eight items), 'Emotion-focused positive rumination' (five items) and 'Self-focused positive rumination' (four items). Finally, we tested the 3-factor model as identified in Sample 1 (with 1 item dropped from the original RPA and one item switch between the two positive rumination subscales). For this model, all fit indices, including RMSEA ≤ .06, SRMR ≤ .08, and CFI and NNFI ≥ .95 were now indicative of a good fit. Also note that the SBS-χ^2/df ratio now was smaller than 3. This 3-factor model also represented a better fit to the data than the previous 3-factor model tested (and than all other models tested for that matter), as it had the lowest Model CAIC value of all models tested.

The last model was also tested in men and women separately (see Table 3). For both genders, the fit indices indicated that this 3-factor model fit the data reasonably well. Furthermore, the fit of the model across both genders (using multi-group analyses testing for strict invariance; Steenkamp & Baumgartner, 1998) was good, indicating that this 3-factor model appears invariant across gender. Strict invariance means that factor loadings, factor covariances and variances, as well as error variances were fixed as equal across groups (i.e., no parameters were set to differ across gender).

Descriptive statistics and subscale intercorrelations for Sample 2 are presented in Table 4.

Table 4
Descriptive statistics and scale intercorrelations for Sample 2

	M	SD	range	1	2	3
Self-focus	9.33	2.56	4–16	.81		
Dampening	11.27	3.23	7–26	–.07	.77	
Emotion-focus	13.52	2.38	5–20	.45	.05	.63

Note. $N = 528$. Cronbach's alphas of the subscales are found on the diagonal. Correlation coefficients for scale values appear below the diagonal.
***$p < .001$.

Convergent validity (Sample 1)

Table 5 displays descriptive statistics and correlational results for the RPA and the criterion measures. The total sample demonstrated a mean BDI-II score of 8.59, indicating a normal or minimal level of depressive symptoms. BDI-II scores ranged between 0 and 48, with ten respondents (6.25%) obtaining a score above the conventional cut-off score of 19 indicating a clinical level of depression.

Higher scores on the *Dampening* subscale were significantly associated with greater depressive rumination (especially brooding), greater current symptoms of depression, higher trait hypomania, higher negative affect, and lower positive affect. Higher scores on the *Self-focus* subscale were significantly associated with lower negative affect, and higher positive affect. Higher scores on the *Emotion-focus* subscale were significantly associated with less current symptoms of depression, lower negative affect, and higher positive affect.

Following Feldman et al. (2008), the above correlations were repeated with concurrent depressive symptoms partialled to exclude the possibility of "symptom contamination" as an alternative explanation for the above findings (see Table 5). In terms of the associations between the RPA subscales and depressive rumination, the picture remained more or less the same with a significant association between Dampening and Brooding, and between Self-focus and Reflection. In terms of the RPA subscales' associations with trait hypomania, the picture changed markedly. First of all, the association between Dampening and trait hypomania disappeared when depression scores are partialled. This suggests that the significant zero-order correlation between these two variables can be explained as a case of symptom contamination ("depression symptoms" as a confounding third variable). On the other hand, after partialling out depression scores, the association between Self-focus and trait hypomania became significant. The emergence of this positive association is most likely illustrating

Table 5
Correlations of RPA subscales and criterion variables

Variable	*M (SD)*	Dampening	Self-focus	Emotion-focus	Dampening	Self-focus	Emotion-focus
			r			*pr* controlling for BDI	
Brooding (RRS)[a]	9.83 (3.41)	.37***	.03	–.05	.16*	.11	.05
Reflection (RRS)[a]	8.51 (2.84)	.14	.15	.06	.00	.19*	.12
Depression (BDI)[a]	8.59 (7.15)	.52***	–.14	–.19*	---	---	---
Hypomania (GBI)[b]	2.72 (3.06)	.26***	.13	.07	.07	.22**	.14
PANAS-NA[b]	18.28 (5.27)	.44***	–.19*	–.16*	.29***	–.14	–.09
PANAS-PA[b]	34.47 (5.01)	–.19*	.25***	.48***	–.01	.21**	.46***

Note. Correlations between brackets are partial correlations controlling for BDI and the three other PANAS-scales. RRS = Ruminative Response Scale; BDI = Beck Depression Inventory; GBI = General Behaviour Inventory; RPA = Responses to Positive Affect questionnaire; PANAS = Positive and Negative Affect Schedules Scales.
[a]$N = 160$. [b]$N = 169$.
*$p < .05$. **$p < .01$. ***$p < .001$.

a case of suppression.[1] When the RPA subscales' correlations with the PANAS Scales (NA and PA) were controlled for depression scores, Dampening remained significantly associated with NA, whereas the other two RPA subscales maintained their significant relationship with PA.

Incremental validity (Sample 1)

To test whether the RPA subscales explained a significant amount of variability in depressive symptoms (BDI scores) and trait hypomania (GBI) above and beyond the established construct of depressive rumination, two identical hierarchical multiple regression analyses with BDI-scores and GBI-scores as the criterion variables were performed. In each of the analyses, we included Brooding and Reflection (both subscales of the RRS) in Step 1. In Step 2 we entered simultaneously the three RPA subscales. In predicting depressive symptoms (see Table 6), Brooding uniquely predicted depressive symptoms above and beyond Reflection, the latter not significantly associated with depressive symptoms once Brooding scores were partialled. More important, in Step 2, the RPA predicted 17% of the variability in depressive symptoms above and beyond depressive rumination, with Dampening and Emotion-focus being a significant positive and negative predictor, respectively.

Table 6
Summary of hierarchical regression analysis for RPA subscales and brooding and reflection predicting depression symptoms (BDI)

Variable	*B*	*SE*	*ß*	*t*	*ΔR²*
Step 1					
Constant	–1.53	1.78		–0.86	0.23***
Brooding (RRS)	0.97	0.17	0.46	5.64***	
Reflection (RRS)	0.07	0.21	0.03	0.36	
Step 2					
Constant	–1.04	3.07		–0.34	0.17***
Brooding (RRS)	0.60	0.16	0.28	3.64***	
Reflection (RRS)	0.21	0.19	0.08	1.11	
Dampening (RPA)	0.77	0.13	0.40	5.81***	
Self-focus (RPA)	–0.15	0.20	–0.05	–0.74	
Emotion-focus (RPA)	–0.42	0.19	–0.16	–2.23*	

Note. BDI = Beck Depression Inventory; RRS = Ruminative Response Scale; RPA = Responses to Positive Affect questionnaire.
*$p < .05$. ***$p < .001$.

[1] Depressive symptoms are positively correlated with trait hypomania, when RPA Self-focus scores are partialled, $pr = .35$, $p < .001$. The relationship between depressive symptoms and RPA Self-focus scores, when trait hypomania scores are partialled, is negative, $pr = -.21$, $p < .01$. Thus, the positive association between RPA Self-focus scores and trait hypomania is masked ("suppressed") in the zero-order case by the fact that depressive symptoms are related with Self-focus scores and trait hypomania in the opposite direction

In predicting trait hypomania (see Table 7), the RPA accounted for 3% of the variance in mania above and beyond depressive rumination. The predictive association between Self-focus and mania just fell short of significance ($p < .07$). When the Self-focus RPA subscale was entered alone in the second step, without the other two RPA subscales, it significantly positively predicted mania above and beyond depressive rumination, $\beta = 0.15$, $t(155) = 2.03$, $p < .05$ (not shown in Table 7).

Table 7
Summary of hierarchical regression analysis for RPA subscales and brooding and reflection predicting hypomania (GBI)

Variable	*B*	*SE*	*β*	*t*	*ΔR²*
Step 1					
Constant	–0.91	0.78		–1.16	0.15***
Brooding (RRS)	0.31	0.08	0.36	4.16***	
Reflection (RRS)	0.06	0.09	0.05	0.63	
Step 2					
Constant	–3.54	1.50		–2.36*	0.03
Brooding (RRS)	0.28	0.08	0.32	3.51***	
Reflection (RRS)	0.04	0.09	0.03	1.11	
Dampening (RPA)	0.09	0.07	0.11	1.43	
Self-focus (RPA)	0.18	0.10	0.15	1.83	
Emotion-focus (RPA)	0.03	0.09	0.02	0.29	

Note. GBI = General Behaviour Inventory; RRS = Ruminative Response Scale; RPA = Responses to Positive Affect questionnaire.
*$p < .05$. ***$p < .001$.

Discussion

The importance of studying mood regulation strategies has been amply demonstrated in the field of responses to negative affect states, for example, depressive rumination in relation to sad moods (see Nolen-Hoeksema et al., 2008; Smith & Alloy, 2009; Watkins, 2008). The study of responses to positive affect has received far less research attention.

Recently, Feldman et al. (2008) developed a self-report questionnaire to assess responses to positive mood states: The Responses to Positive Affect questionnaire (RPA). Findings with this scale suggest that the study of peoples' response styles to positive affect may – above and beyond what we already know about the impact of response styles to negative affect – significantly further our understanding of mood states and disorders such as depression, mania, and bipolar disorder (see Feldman et al., 2008; Johnson et al., 2008) as well as anxiety disorder symptoms (Eisner, Johnson, & Carver, 2009) and narcissistic traits (Fulford, Johnson, & Carver, 2008). The present

study evaluated the validity and reliability of the Dutch version of the RPA. More particularly, the two main aims of our study were (1) to investigate the replicability of the 3-factor structure of the original RPA, and (2) to examine the reliability and convergent and incremental validity of the Dutch RPA's subscales with a set of criterion measures. In what follows we will discuss, in turn, the results in relation to each of the study's main aims.

The 3-factor structure identified in our first sample using exploratory factor analysis largely replicated the 3-factor structure obtained by Feldman and colleagues (2008) using the original English RPA. The 3-factor structure obtained in our first sample was then confirmed in an independent sample using confirmatory factor analysis. It is noteworthy that the independent sample was recruited from the community and that the respondents completed the questionnaire in an internet-based format. This further extends the replicability of the factor structure obtained from student samples completing the measure in traditional paper-based questionnaires. The three factors of the Dutch RPA are very similar to the factors of the English RPA, and we labelled the corresponding subscales accordingly: Dampening, Self-focused positive rumination, and Emotion-focused positive rumination. The only differences are that one item of the English Dampening subscale is not retained in the Dutch version, and that one item pair is switched between the two positive rumination subscales. The reliability of the three Dutch RPA's subscales is adequate and comparable to the results obtained with the English RPA (Feldman et al., 2008; Johnson et al., 2008).

Although we used slightly different criterion measures than Feldman et al. (2008), we obtained roughly similar patterns in terms of the RPA's subscales convergent and incremental validity in relation to depressive and manic symptoms. First, as hypothesised, dampening responses were positively related to depressive symptoms and brooding, a particularly maladaptive form of depressive rumination. Positive rumination, on the other hand, was negatively associated with depressive symptoms, even after accounting for responses to negative affect (i.e., depressive rumination). In regression models, depressive symptoms were associated with more brooding responses to negative mood (RRS), and more dampening responses and less emotion-focused positive rumination to positive mood (RPA). Hence, these findings further underscore the importance of emotion regulation strategies to positive mood – in addition to responses to negative mood – in understanding and explaining depressive symptoms.

As predicted, positive rumination (especially self-focus) was positively related to trait hypomania. This relationship was masked in the zero-order case, but became significant once depression symptoms were partialled, suggesting that a tendency towards self-focused rumination among those with high hypomania may be suppressed when depressive symptoms are present. Also, self-focused positive rumination remained significantly associated with

trait hypomania once negative rumination scores were taken into account.

We also included measures of positive (PA) and negative affect (NA). When using partial correlations in which depressive symptoms were partialled, results showed that whereas dampening responses were uniquely and positively related to NA, Emotion-focused and Self-focused (positive rumination) responses were uniquely and positively related to PA.

An important limitation of the present study is its correlational nature which precludes any conclusions about causality. For example, we observed a significant correlation of depressive symptoms with more dampening responses and less (emotion-focused) positive rumination. However, we cannot conclude whether this shows that deficits in positive mood regulation lead to depressive symptoms or whether depressive symptoms lead to deficits in positive mood regulation (or both, in the case of a reciprocal mutually reinforcing relationship). As such, experimental and prospective follow-up studies are sorely needed to further pinpoint the precise role of positive mood regulation strategies in depression and mania and the direction of the relationships involved. Another limitation of the present study is the fact that it concerns respondents that were selected from the community via sub-optimal sampling methods (convenience sampling and snowball sampling) and that no information on, for example, socio-economic status and educational level was collected, and that no formal diagnoses were obtained. Taken together, these issues limit the scope of generalisation for the findings of the present study. However, it is reassuring that our results largely replicate earlier findings with the English RPA obtained in people diagnosed with bipolar disorder and major depressive disorder (Johnson et al., 2008). Nevertheless, the need for more clinical studies to examine the generalizability of the present findings should be clear.

Notwithstanding the above limitations, the present results do point to the implication of positive mood regulation in the phenomena of depression and mania. Whereas the literature on responses to mood in depression has been largely dominated by research into response styles to negative mood, the current results further suggest that it might be equally important to focus attention to positive mood regulation in the case of depression. In addition to depression research, research on response styles to positive mood may be equally informative with regard to the conceptualisation of mania and BPD, and to the development of better mania treatment and prevention programs (see also Johnson et al., 2008).

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