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TITLE

Trait affectivity and response styles to positive affect: Negative affectivity relates to dampening and positive affectivity relates to enhancing

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Negative affectivity relates to dampening and positive affectivity relates to enhancing

Abstract

Although there is ample research linking trait affect with response styles for negative affect, research on the link between trait affect and response styles for *positive* affect is scarce. The first aim of this study was to examine whether trait positive affect (trait PA) and trait negative affect (trait NA) predict cognitive response styles for positive affect. The second aim of this study was to examine whether such associations may be unidirectional or bidirectional. In three separate longitudinal datasets (N = 371, N = 1552, N = 183), we assessed trait PA, trait NA, dampening, and enhancing and examined cross-sectional and prospective relations among these constructs in children and young adolescents. Cross-sectionally, we found a robust relation between trait NA and dampening, whereas trait PA was unrelated to dampening. In terms of directionality, higher trait NA predicted more subsequent dampening in two of the three samples. For trait PA and enhancing, the longitudinal results pointed to a reciprocal positive relationship. The results support models of trait affect as a predictor of cognitive response styles to affect and extended these models by showing that a reciprocal relationship from the response style (i.e., enhancing) to trait affect should also be considered.

Keywords. response styles; dampening; enhancing; affectivity

1. Introduction

Regulatory responses to positive affect or to positive events are of great interest due to their potential role in psychopathology (Carl, Soskin, Kerns, & Barlow, 2013; Dunn, 2012; Gilbert, 2012). Several types of responses to positive affect or to positive events have been described in the literature. Two broad types are enhancing and dampening responses. 'Enhancing' responses – which are assumed to increase positive affect – are labelled as maximising (e.g., Gentzler, Kerns, & Keener, 2010; Gentzler, Morey, Palmer, & Yuen Yi, 2013), positive rumination (Feldman, Joormann, & Johnson, 2008), capitalizing (Langston, 1994) or savouring (e.g., Bryant, 2003; Nelis, Quoidbach, Hansenne, & Mikolajczak, 2011). For instance, positive rumination (Feldman et al., 2008) refers to focusing on positive self-qualities, on goal pursuit or on the positive emotional state. However, responses to positive affect (or to positive events) can also be characterized by downgrading reactions. Parrott (1993), for example, stated that people may also try to inhibit their good moods and that this has been neglected in research until then. Downgrading reactions to positive affect or events are now commonly referred as dampening (e.g., Feldman et al., 2008; Wood, Heimpel, & Michela, 2003) or minimising (e.g., Gentzler et al., 2010). Downgrading strategies include reducing the significance of the positive feelings or the positive event, directing attention to less fortunate aspects of life, focusing on negative aspects of the positive situation, and making external attributions.

Cognitive-affective models of depression suggest that trait emotionality contributes to the development of maladaptive cognitive response styles which may in turn be involved in the development, maintenance, and/or recurrence of, for example, depression (e.g., Hyde, Mezulis, & Abramson, 2008). The two aspects of trait emotionality that are of interest for the present paper are trait positive affectivity (trait PA) and trait negative affectivity (trait NA). Trait PA is a component of temperament that is defined as "individual differences in the tendency to experience positive emotions and feeling states" (e.g., Stanton & Watson, 2014, p.556). More specifically, "PA reflects the extent to which a person feels a zest for life and is most clearly defined by such expressions of energy and pleasurable engagement as *active, delighted, interested, enthusiastic,* and *proud;* the absence of PA is best captured by terms that reflect fatigue and languor (e.g., *tired* or *sluggish)"* (Clark & Watson, 1991, p.321). Trait NA refers to the tendency to experience negative feelings or "the extent to which a person is feeling upset or unpleasantly engaged rather than peaceful and encompasses various aversive states including *upset, angry, guilty, afraid, sad, scornful disgusted,* and *worried*" (Clark & Watson, 1991, p.321).

In accord with cognitive-affective models, several studies found evidence that individual differences in trait NA predict the cognitive strategies that individuals employ to manage negative affect and negative life events (e.g., Arger, Sánchez, Simonson, & Mezulis, 2012; Verstraeten, Vasey, Raes, & Bijttebier, 2009). In these studies, trait NA predicted a maladaptive cognitive style towards negative affect and negative events, for instance, depressive rumination/brooding, and a negative inferential style (i.e., making negative inferences about the causes and consequences of negative events). Recently, this research was extended to trait affectivity as a temperamental basis of response styles to positive affect (e.g., enhancing and dampening). We first consider trait PA and enhancing, that is: Are individuals who have a lower tendency to experience positive emotions (i.e., low trait PA) also less likely to employ enhancing responses when faced with positive emotions or events? The pattern of results in previous research is in the direction of a positive association between trait PA and enhancing. For example, trait PA was cross-sectionally and longitudinally related to enhancing in young adults (Harding, Hudson, & Mezulis, 2014; Raes, Daems, Feldman, Johnson, & Van Gucht, 2009). Individuals who have a pleasurable engagement with the environment may want to intensify their experiences via enhancing responses. As an exception on the previous evidence on a PA-enhancing association, Gentzler, Ramsey, Yuen Yi, Palmer, and Morey (2014) found that a component related to trait PA, surgency (including high intensity pleasure) did not predict enhancing responses to a positive events.

In spite of the fact that dampening is also a response style to positive affect and events, studies so far provide mixed findings on the relation between trait PA and dampening. Trait PA did not predict dampening of positive events during the next seven weeks in a sample of young adults (Harding et al., 2014) and the surgency part of temperament (including high intensity pleasure) did not predict dampening of positive events during the next days in a sample of young adolescents (Gentzler et al., 2014). As an exception on the previous findings, trait PA did negatively predict dampening of positive events in young adults in Hudson, Harding, and Mezulis (2015) when trait NA was controlled for. Cross-sectionally, trait PA was also negatively related to a concurrent measure of dampening in a student sample (Raes et al., 2009), but the relationship seemed to be driven by the shared relation with depressive symptoms (Raes et al., 2009).

It may also be important to examine the relation between trait NA and dampening. For instance, it might be that trait NA does not only facilitate maladaptive cognitive response styles for negative affect and events (e.g., brooding, a negative inferential style; e.g., Arger et al., 2012), but also maladaptive response styles for positive affect and events. Trait NA has indeed been positively related to dampening. At a cross-sectional level, the tendency to dampen in daily life was positively related to state and trait NA in students (Olofsson, Boersma, Engh &, Wurm, 2014; Raes et al., 2009). This was replicated longitudinally, such that NA predicted more dampening in students (Harding et al., 2014; Hudson et al., 2015). In young adolescents, again, trait NA predicted dampening responses to positive events (Gentzler et al., 2014).

In the scarce previous longitudinal research on trait PA/NA and response styles to positive affect and events, researchers have typically considered a unidirectional relation from trait affectivity (PA/NA) to response styles. This follows the vulnerability model that temperament (e.g., PA and NA) is a vulnerability factor that predicts subsequent psychopathology (e.g., via its influence on response styles to affect and events). However, relations in the opposite direction could also exist (e.g., Klimstra, Akse, Hale, Raaijmakers, & Meeus, 2010), suggesting a scar model in which psychopathology or proximal predictors of psychopathology (e.g., response styles) may feedback on and change temperament (e.g., Tackett, 2006). Within this scope, it is important to note that temperament and what we call 'traits' here are not static (Caspi, Roberts, & Shiner, 2005; Roberts & DelVecchio, 2000). Temperament rather displays both stability and change over time. The stability of temperament and traits increases across the life, being moderately stable during adolescence (e.g., Ganiban, Saudino, Ulbricht, Neiderhiser, & Reiss, 2008; Roberts & DelVecchio, 2000). Next, temperament can, to some extent, be predicted or influenced by other factors, for instance by the amount of stressful events (Laceulle, van Aken, Ormel, & Nederhof, 2015). Accordingly, trait PA and NA aspects of temperament may be influenced by individuals' response styles to affect. For instance, it could be expected that individuals who regularly respond to state positive emotions or positive events by high dampening or low enhancing may reduce their general or trait level of PA over time.

In sum, early theory suggested that trait PA would be associated with response styles for positive affect and events, while trait NA would be more associated with response styles for negative affect and events. However, a remarkable observation from the review of previous research is that trait PA is consistently associated with enhancing but only inconsistently associated with dampening. By contrast, trait NA seems to be associated with dampening responses to positive affect and events. However, there is limited research on the relation between trait PA/NA and response styles to positive affect and events, and research in children and young adolescents is particularly scarce. To our knowledge, in children and adolescents, only 'surgency' as a PA-related construct has been examined longitudinally in this context (Gentzler et al., 2014). Also, we are aware of only one longitudinal study that included both trait PA and NA together with dampening and enhancing as response styles (Harding et al., 2014).

Therefore, the aim of the present study was to investigate the relation of trait PA and trait NA with response styles to positive affect in children and young adolescents. We were interested in cross-sectional as well as longitudinal associations to investigate both unidirectional and bidirectional associations. We investigated unique relations between trait affectivity (PA and NA) and response styles (dampening and enhancing) by controlling for the other trait affect (i.e., NA and PA respectively) in all analyses. To this respect, we analysed three separate datasets (N = 371, N = 1552, and N = 183) that were available and that included baseline and follow-up assessments of trait PA, trait NA, dampening, and enhancing. In all samples, the cognitive response styles concerned dampening and positive rumination (i.e., a type of enhancing) from Feldman and colleagues' (2008) tradition. We supplemented previous longitudinal studies with longer interval periods of approximately 12 months (Sample 1), 13 months (Sample 2), and 7 months (Sample 3) .

Based on previous research, we hypothesised that trait NA would be related to concurrent measures of dampening and would predict prospective measures of dampening in the three samples. For the relation between trait PA and dampening, we predicted no (strong) relationship. We predicted that trait PA would be both cross-sectionally and longitudinally related to enhancing. We had no clear predictions with regard to trait NA and enhancing.

2. Method

2.1 Participants

The three samples were community samples in which youth were recruited via schools located in the Dutch-speaking part of Belgium. Children for whom parents did not give permission to participate were not included. *Sample 1* (*N* = 371 at T1) includes fifth to seventh graders from nine schools; see also Bastin, Bijttebier, Raes, & Vasey (2014) for two of the four waves. *Sample 2* (*N* = 1552 at T1) includes fifth to ninth graders in seven schools. In *Sample 3* (*N* = 183 at T1; see also Verstraeten, Vasey, Raes, & Bijttebier (2012) for the first wave), fifth graders from six schools took part. For demographic information, see Table 1.

Participants were also addressed for a follow-up assessment (see Procedure). For *Sample 1*, 58 participants did not complete the 12-month follow-up assessment, leaving a sample of 313 (84.3%) at T2. For *Sample 2*, 364 participants did not complete the 13-month follow-up assessment, leaving a sample of 1188 adolescents (76.5%) at T2. For *Sample 3*, drop-out was low. Fourteen participants did not complete the 7-month follow-up assessment, leaving a sample of 169 adolescents (92.3%) at T2.

For *Sample 1,* the group that dropped out at follow-up did not significantly differ from the group that was present at follow-up on gender, $\chi2$ (1) = 0.66, *p* = .42, and on baseline measures of trait NA, *t*(365) = 1.04, *p* = .30, dampening, *t*(368) = 1.81, *p* = .07, and enhancing, *t*(369) = 0.21, *p* = .83. However, the group that was not present at follow-up reported significantly lower levels of trait PA, *t*(365) = 2.31, *p* = .02 and was significantly older, *t*(369) = 2.24, *p* = .03. For *Sample 2*, the group that was present at T2 did not significantly differ from the group that was not present at T2 on gender, $\chi2$ (1) = 3.33, *p* = .07, and T1 enhancing, *t*(1550) = 0.13, *p* = .89. However, the group that dropped out was significantly older, *t*(1540) =

6.29, $p < .001$, had significant higher levels of T1 dampening, $t(1550) = 3.81$, $p < .001$, and trait NA, $t(571.41) = 3.23$, $p = .001$ (t adjusted for unequal variances between groups); and reported lower levels of trait PA, $t(1543) = 2.58$, $p = .01$. For *Sample 3*, the drop-out was too small to conduct relevant tests for group differences.

2.2 Measures

2.2.1 The Responses to Positive Affect questionnaire for Children (RPA-C; Bijttebier, Raes, Vasey, & Feldman, 2012). The RPA-C is a slightly adapted child version of the adult RPA (Feldman et al., 2008; Raes et al., 2009). The RPA measures response styles to positive affect and consists of 17 items with a scale ranging from 1 (*almost never*) to 4 (*almost always*). In the Dutch versions, one item is not included in the scoring of the dampening subscale (Bijttebier et al., 2012; Raes et al., 2009; Verstraeten et al., 2012). The scale is divided into dampening and positive rumination. Dampening refers to mental strategies that downgrade the intensity and duration of positive affect by, for instance, minimising the significance of the positive affect (e.g., "I don't deserve this"; "these happy feelings won't last") or by directing attention to less fortunate aspects of life (e.g., "thinking about things that could go wrong or that have not gone well"). Positive rumination, a type of enhancing, refers to strategies in which individuals focus on the self, on positive self-qualities, on goal pursuit or on the positive emotional state (e.g., "It makes me think that I am achieving a lot in my life", "you notice how you feel full of energy").

2.2.2 The Positive and Negative Affect Scales (PANAS; Watson, Clark, & Tellegen, 1988; Engelen, De Peuter, Victoir, Van Diest, & Van den Bergh, 2006). Temperament in terms of positive and negative affectivity was assessed using the 10 positive and 10 negative affective words of the PANAS (e.g., distressed, enthusiastic). The PANAS assesses high-activation positive and negative states. The instructions of the PANAS vary according to its state or trait version. We used the trait version with a general time frame. That is, participants had to indicate how often they feel as described in their daily life. A five-point scale ranges from *very slightly* to *extremely*. Scale scores for positive and negative affect range from 10 to 50. We used the Flemish version reported by Engelen et al. (2006). The PANAS was developed for adults but can be used in children and adolescents (Lonigan, Phillips, & Hooe, 2003).

2.2.3 The Children's Depression Inventory (CDI; Kovacs, 2003; Timbremont, Braet, & Roelofs, 2008). The CDI measures severity of depressive symptomatology by means of 27 three-choice statements. Participants were asked to indicate which of the three statements best described how they felt during the past two weeks. Items were coded from 0 to 2, leading to a total score ranging from 0 to 54. Higher scores indicate more (pronounced) depressive symptoms. The Dutch version by Timbremont et al. (2008) was used.

Cronbach's alpha's for all measures were acceptable, Cronbach's alphas >= .77; see Table 2.

2.3 Procedure

Children received an invitation letter describing the study and giving parents the opportunity to decline for participation. Pupils completed a questionnaire booklet during collective sessions at school. The booklet included the scales described above and other questionnaires not of interest for the present research questions. *Sample 1* concerns a four-wave study with 3-month follow-up intervals; see also Bastin et al. (2014) for more details on the first two waves. We chose to investigate the longest interval from the first to the last wave (mean interval of 12 months). Thus, "T2" in the present paper does actually refer to the fourth assessment in Sample 1. *Sample 2* concerns two waves so far with a mean interval of 13 months. *Sample 3* (see also Verstraeten et al. (2012) for the first wave) is a two-wave study with an interval of about seven months.

3. Results

Descriptive information for the variables at baseline (T1) and follow-up (T2) for the three samples are presented in Table 2.

3.1 Cross-sectional analyses

All cross-sectional analyses were conducted in IBM SPSS Statistics 22. With regard to missing item scores, an adjusted total score was calculated if at least 85% of the items of the (sub)scale were completed. The main cross-sectional analyses include Pearson correlations and regression analyses for each sample. We report the bivariate correlations between trait NA/PA and dampening/enhancing. In the regression analyses, dampening and enhancing are predicted by both trait NA and PA, also controlling for age and gender. These cross-sectional results are presented in Table 3.

Across the three samples, trait PA was not significantly associated with dampening, though trait NA was positively correlated with dampening in all three samples with medium to large effect sizes. This was also the case after controlling for trait PA, age, and gender. For enhancing, the pattern of results was different. More trait PA was related to more enhancing in all samples, also after taking trait NA, age, and gender into account. The results are less consistent for the relation between trait NA and enhancing. After control for trait PA, age, and gender, trait NA was negatively associated with enhancing in Sample 1, unrelated to enhancing in Sample 2, and a small positive correlation between trait NA and enhancing emerged in Sample 3. Clearly, trait PA and NA were differentially associated with enhancing across the three samples, *Steiger's Z* > 2.21; the same holds for dampening, *Steiger's Z* > 4.52.

For the remaining associations in Sample 1, Sample 2, and Sample 3 respectively, the correlation between trait PA and NA was –.14, –.08, –.07; the correlation between dampening and enhancing was .12, .20, .47.

3.2 Prospective analyses: cross-lagged models

The prospective analyses were conducted in Mplus version 7 (Muthén & Muthén, 1998-2012). All missing data were dealt with the method of full information maximum likelihood. Therefore, all participants who were present at T1 were included in the longitudinal analyses, even if they were not present at the T2. Cross-lagged models with trait PA, trait NA, dampening, and enhancing at the two time points were evaluated. We were not able to test complex models in Sample 3 due to sample size. To reduce complexity for Sample 3, enhancing was not included in that model. Dampening was kept because of the clinical interest in dampening (to maintain comparison between the three samples, we report differences in conclusions for Sample 1 and 2 when enhancing was also not included there, see further; but there were no different conclusions for our main questions). We controlled for the effect of gender and age on the baseline measures of dampening, enhancing, PA, and NA. We tested an unconstrained model including the cross-lagged paths as well as the stability paths and within-time correlations. Model fit was assessed using the following indices: the comparative fit index (CFI; Bentler, 1990; Hu & Bentler, 1999), the root mean square error of approximation (RMSEA; Browne & Cudeck, 1993), the standardised root mean square residual (SRMR), and the Chi-square test of model fit (χ^2). For an acceptable model fit, the chi-square index should be as small as possible (and the ratio between χ^2 and degrees of freedom preferably < 3); the RMSEA should be less than .08; the CFI should exceed .90 and preferably exceed .95; and the SRMR should be less than .10 (Kline, 2006).

In *Sample 1*, model fit was good; $\chi^2(8) = 15.42$, $p = .05$; RMSEA = .05, CFI = .99; SRMR = .03. Within-time correlations, stability coefficients and significant cross-lagged paths are represented in Figure 1. Over time, trait PA and NA were unrelated to dampening. However, more trait PA predicted more enhancing at T2. The opposite relationship did also emerge such that enhancing at T1 positively predicted PA as measured at T2. Conclusions for the cross-lagged paths remained the same when gender or age was not controlled for. If enhancing was not included in the model, the only difference was that trait NA did negatively predict trait PA ($\beta = –.13$, $p = .02$).

For *Sample 2*, model fit was good as well; $\chi^2(9) = 41.05$, $p < .001$; RMSEA = .05, CFI = .99; SRMR = .02. Within-time correlations, stability coefficients and significant cross-lagged paths are represented in Figure 2. Because of the large sample size, alpha was set at .01. Higher trait NA as measured at baseline predicted more dampening and less enhancing at T2. Comparable to the cross-sectional correlations, trait PA only significantly predicted enhancing, not dampening. There was also a reciprocal relationship such that enhancing at T1 positively predicted trait PA as measured at T2. Conclusions remained the same when gender or age was not controlled for. If enhancing was not included in the model, the conclusions on dampening remained the same, but trait PA at T1 significantly predicted trait NA at T2, $\beta = –.06$, $p = .009$.

For *Sample 3*, again, model fit was good; $\chi^2(6) = 4.03$, $p = .67$; RMSEA = .00, CFI = 1.00; SRMR = .02. Within-time correlations, stability coefficients and significant cross-lagged paths are represented in Figure 3. Comparable to the results from Sample 2, higher trait NA at baseline was related to more dampening at T2. Conclusions remained the same when gender or age were not controlled for.

4. Discussion

The aim of the present study was to investigate the relationship of general or 'trait' levels of PA and NA with response styles to positive affect (i.e., dampening and enhancing) in children and adolescents. The research questions were addressed cross-sectionally as well as longitudinally in three samples, and we considered both unidirectional and bidirectional effects.

We found that trait PA was unrelated to concurrent and prospective measures of dampening across our three samples. Thus, a lower tendency to experience positive emotions did not put individuals at risk to use more dampening strategies or vice versa. Low trait PA did predict, however, lower prospective level of participants' tendency to engage in positive affect via enhancing strategies (Sample 1 and 2). Enhancing tendencies did also reciprocally predict trait PA. To our knowledge, this is the first study to show that it is enhancing rather than dampening that is both cross-sectionally and longitudinally related to trait PA in children and adolescents. This fits with longitudinal data in an undergraduate sample in which baseline PA did not predict dampening of positive events during the next seven weeks, but PA did positively predict enhancing (Harding et al., 2014). However, we should note that baseline PA was predictive for later dampening in another study that used a comparable design as Harding et al. (2014) (Hudson et al., 2015).

Although trait PA was unrelated to dampening, trait NA was positively related to concurrent measures of dampening across the three samples. The longitudinal results from Sample 2 and 3 revealed that this relation between trait NA and dampening might be especially in the direction from trait NA to dampening . Thus, trait NA does not only predict a rather maladaptive type of rumination in the context of negative emotions (i.e., brooding; e.g., Arger et al., 2012), but also predicts a downgrading response style in the context of positive emotions. Individuals high on trait NA might have a general focus on negative aspects of the self and their life, such that not only negative inferences about stressful events are made (e.g., Mezulis, Hyde, & Abramson, 2006), but also about positive events. That is, dampening thoughts do clearly have a negative content, e.g., "These feelings won't last", "It was not a big deal", "I remind myself of the things in my life that are not okay". Dampening is *negative* thinking, and as such, it should not come as a surprise that trait *negative* affectivity is linked to it.

We note that, whereas the three samples revealed the same conclusions for dampening at a cross-sectional level, this was not the case longitudinally. Data from Sample 2 and 3 revealed a longitudinal association from trait NA to dampening, whereas such an association was not found in Sample 1. We have no explanation at hand for this inconsistency. The size of Sample 1 seems not to be an apparent clarification given that Sample 1 was twice as large as Sample 3 and given that the size of the association between trait NA and dampening was much lower in Sample 1 (path coefficient of .02, $p = .70$) compared to the significant path coefficients of .14 and .26 in the other two samples. Speculatively, the inconsistent result might point to the role of potential moderators.

Our findings support cognitive-affective models in which trait affect is seen as a predictor of response styles to affect (e.g., Hyde et al., 2008). More specifically, these models that were initially situated in the context of trait NA and response styles to negative affect could be extended to trait PA as a predictor for enhancing responses to positive affect, and trait NA as a predictor of dampening responses to positive affect and events. Our results also revealed that a reciprocal relationship from response styles to trait affect should be considered. Namely, more enhancing predicted higher levels of trait PA in our samples. The latter finding also suggests that a training in these enhancing strategies might be beneficial in terms of increasing positive affect.

The present findings question to some extent the suggestion that increased dampening of positive affect in depression (Werner-Seidler, Banks, Dunn, & Moulds, 2013) is a potential cause of reduced positive affect and related symptoms of anhedonia (e.g., Raes et al., 2014). To leave no doubt, we did not assess anhedonia. Though, in light of the present results, further research at the level of anhedonia symptoms (e.g., reduced consummatory pleasure, reduced pleasure from anticipation) is recommended to disentangle whether anhedonia would also be more clearly related to low enhancing than to high dampening. Within this context, dampening was indeed more clearly related to general depressive symptoms than to symptoms of low positive affect uniquely in a community sample (Nelis, Holmes, & Raes, 2015). However, Werner-Seidler et al. (2013) found evidence for a unique relation between dampening and anhedonic symptoms in a heterogeneous sample of currently, recovered, and never-depressed individuals.

In light of the present results, it is also relevant to discuss the *immediate impact* of dampening on *state* positive and negative affect. It is often assumed that dampening thoughts reduce the accompanying positive feelings (e.g., enthusiasm). The reduced intensity and duration of positive mood (at the state level) is included in the definition of dampening by Feldman et al. (2008) (e.g., "… mental strategies to reduce the intensity and duration of the positive mood state"; Feldman et al., 2008, p. 509). This assumption might need further (experimental) investigation. That is, would dampening rather decrease state positive affect, increase state negative affect, or both? To this respect, Gentzler et al. (2013) found that retrospective assessment of dampening thoughts following a positive event did indeed not influence positive feelings during retrieval of that event, although enhancing thoughts increased positive feelings for that event. There was no information on negative affect in this latter study, but from other research we know that processing positive events can indeed increase state negative feelings of anxiety if verbal comparisons between the positive information and the own reality are made (confer dampening; Holmes, Lang, & Shah, 2009). The discrepancy between the present positive feelings and unattained goals or negative life circumstances can highlight worries and shortcomings and can lead to dampening thoughts such as "this positive experience will not solve my problems". Possibly, by bringing the attention to current problems, dampening of positive affect could increase state negative affect.

We suggest for future research to investigate interactions with positive and negative life events. For instance, low trait PA might be related to greater dampening (or vice versa) depending on the amount or frequency of positive uplifts or life events. We would also recommend to add state measures of positive and negative affect (e.g., via experience sampling) to examine whether enhancing might reduce the level of trait PA via reductions in state positive affect. For completeness, we would also suggest to consider associations between response styles and other types of positive affect as well. That is, we assessed trait PA with the PANAS for which high trait PA is characterised by a positive valence as well as an aroused state, therefore, ‘positive activation’ has also been used for PA as measured with the PANAS (Watson, Wiese, Vaidya, & Tellegen, 1999). It was the intention of Watson and Tellegen (1985) to not include less aroused pleasant states (e.g., at ease) or “pure pleasantness” (e.g., happy) in their positive affect scale. According to their model, the former would be a marker of low negative affect and the latter a marker of both high positive affect and low negative affect. However, it has been suggested that those states may better represent the broad positive emotion spectrum (Egloff, 1998; Engelen et al., 2006).

To end, we note that our study had the major strength of addressing the research questions in three separate samples. Although Sample 3 was limited by its small sample size, the found longitudinal association between trait NA and dampening at T2 resembles the positive association found in the large Sample 2.

In sum, present research in three adolescent samples highlights a robust relation between trait NA and dampening, whereas trait PA was unrelated to dampening. In terms of directionality, it is higher NA that seems to predict more dampening (rather than the opposite). For trait PA and enhancing, the results were pointing to a reciprocal positive relationship.

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Conflict of Interest

Sabine Nelis, Margot Bastin, Filip Raes, Amy Mezulis, and Patricia Bijttebier declare that they have no conflict of interest.

Informed Consent

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation and informed consent was obtained from each participant.

Animal Rights

No animal studies were carried out by the authors for this article.

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Table 1

Descriptive information for age, gender, and depressive symptoms per sample

	N	**Age**	**Age**	**Gender**	**CDI**
		M (SD)	***MinMax***	***% girls***	***M (SD)***
Sample 1	371	11.73 (1.10)	9.42–15.00	63.3	9.76 (6.91)
Sample 2	1552	12.93 (1.46)	9.67-17.58	53.4	9.23 (6.47)
Sample 3	183	10.83 (0.40)	9.83-12.17	53.0	8.13 (6.02)

Note. CDI = Child Depression Inventory

Table 2

Descriptive information for the main variables for each sample

		Sample 1	**Sample 2**	**Sample 3**
Dampening T1	***M (SD)***	14.10 (4.15)	13.43 (4.16)	13.14 (4.23)
	Cronbach's α	.79	.78	.79
Enhancing T1	***M (SD)***	23.37 (5.51)	21.67 (5.45)	20.18 (5.47)
	Cronbach's α	.87	.86	.85
Positive Affect T1	***M (SD)***	33.06 (6.62)	32.20 (6.72)	31.49 (6.71)
	Cronbach's α	.81	.81	.82
Negative Affect T1	***M (SD)***	20.31 (5.82)	21.03 (6.72)	21.08 (7.10)
	Cronbach's α	.79	.84	.84
		T2 = T1 + 12 months	*T2 = T1 + 13 months*	*T2 = T1 + 7 months*
Dampening T2	***M (SD)***	12.18 (3.91)	13.52 (4.75)	11.79 (4.11)
	Cronbach's α	.81	.83	.81
Enhancing T2	***M (SD)***	21.78 (6.19)	23.37 (5.54)	18.61 (5.16)
	Cronbach's α	.91	.86	.85
Positive Affect T2	***M (SD)***	33.51 (6.39)	33.97 (6.50)	31.67 (5.88)
	Cronbach's α	.82	.81	.77
Negative Affect T2	***M (SD)***	19.94 (6.46)	21.13 (6.83)	19.47 (6.42)
	Cronbach's α	.86	.85	.83

Note. Dampening = Dampening responses to positive affect, subscale of the Responses to Positive Affect questionnaire – Child version (RPA-C); Enhancing = positive rumination subscale of the Responses to Positive Affect questionnaire – Child version (RPA-C); Positive Affect and Negative Affect were measured with the Positive and Negative Affect Scales (PANAS) – trait version.
All descriptives are without estimation of missing data.

Table 3

Multiple regression analyses at T1: Associations between trait PA/NA and dampening/enhancing, controlling for gender and age; reported per sample

	Dampening			Enhancing		
	Sample 1	Sample 2	Sample 3	Sample 1	Sample 2	Sample 3
Gender	–.05	–.02	.21	–.09	–.02	.29*
Age	–.01	–.05*	–.03	–.07	–.07**	.06
Trait NA	.41*** (.41***)	.49*** (.48***)	.54*** (.53***)	–.14** (–.22***)	.01 (–.05)	.14* (.12)
Trait PA	–.02 (–.08)	.03 (–.01)	.09 (.09)	.52*** (.54***)	.57*** (.57***)	.33*** (.35***)

Note. β's are reported with bivariate correlations in parenthesis. *β's* indicate the regression coefficients when the predictors (except gender) and the dependent variable were standardised. Dampening = Dampening responses to positive affect, subscale of the Responses to Positive Affect questionnaire – Child version (RPA-C); Enhancing = positive rumination subscale of the Responses to Positive Affect questionnaire – Child version (RPA-C); Trait PA (positive affect) and trait NA (negative affect) were measured with the Positive and Negative Affect Scales (PANAS) – trait version. Gender = girls are coded as 1; boys are coded as 0. Age = age in months.

For Sample 1: N = 367; For Study 2: N = 1534; For Sample 3: N = 182
*p < .05, ** p < .01, *** p =< .001

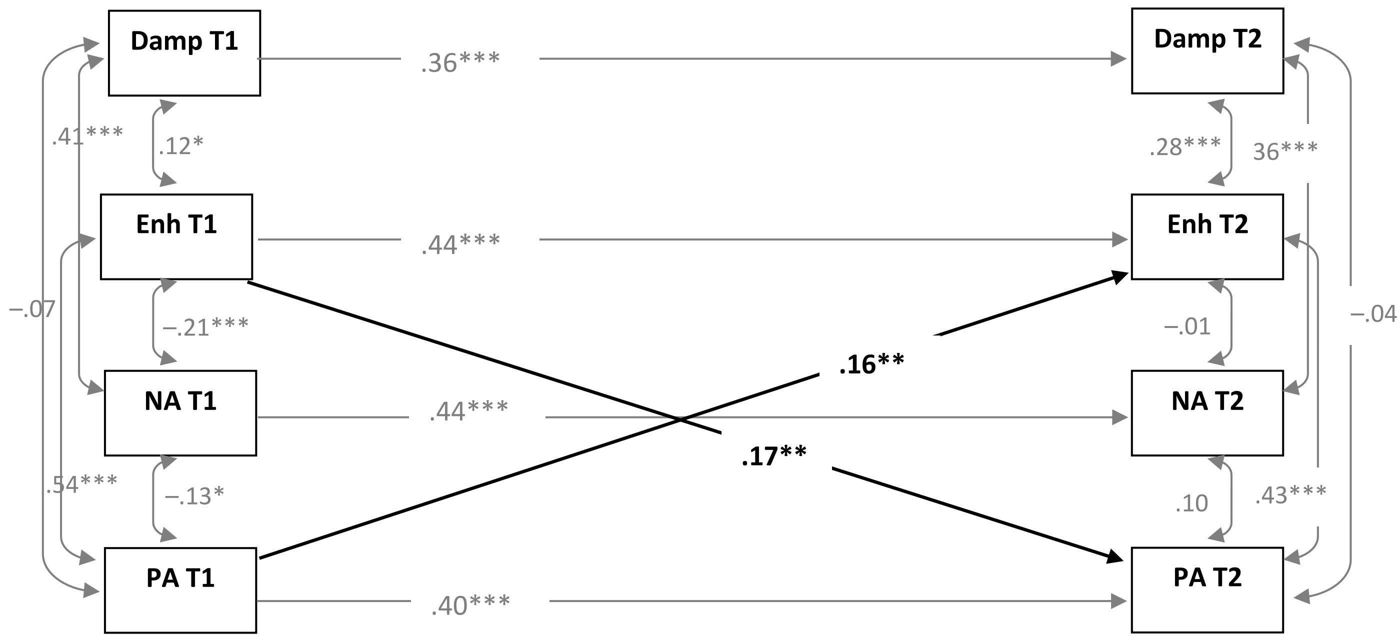

Figure 1. Cross-lagged model with standardised path coefficients for Sample 1. Non-significant cross-lagged associations are not presented for reasons of clarity.
T1 = Time 1, T2 = Time 2; **p* < .05, ** *p* < .01, *** *p* =< .001.

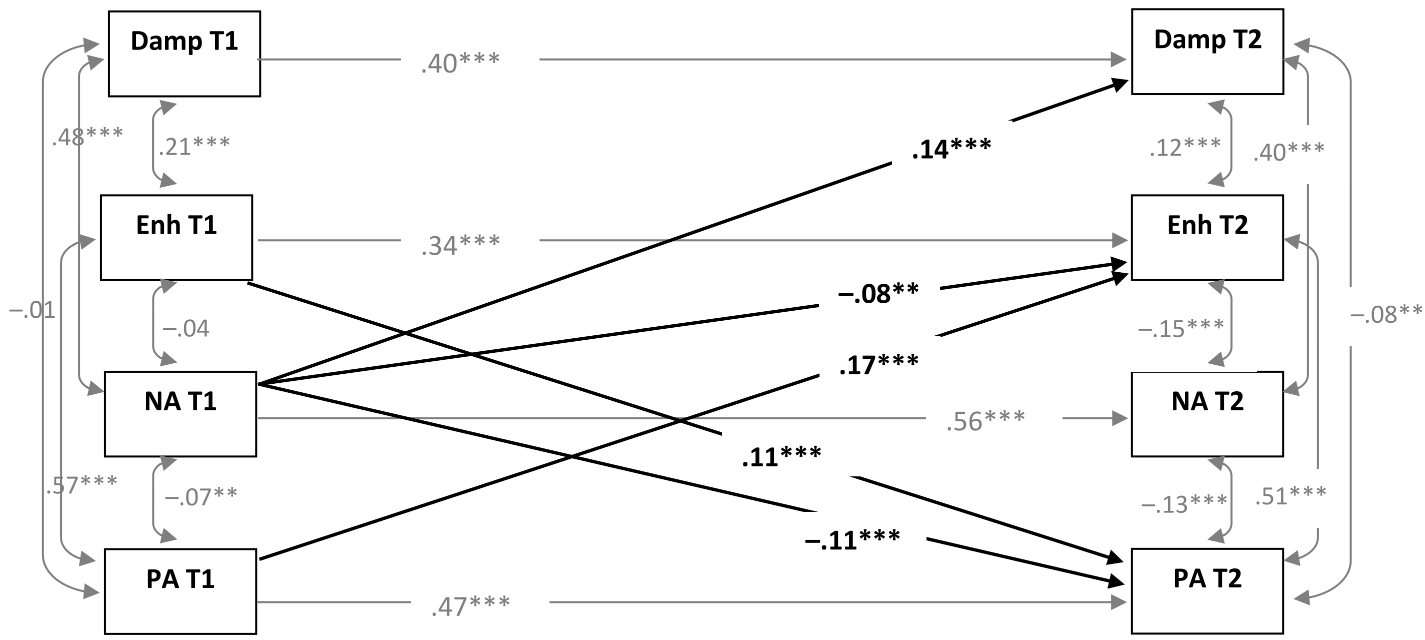

Figure 2. Cross-lagged model with standardised path coefficients for Sample 2. Non-significant cross-lagged associations are not presented for reasons of clarity. Alpha was set at .01 instead of .05 due to the large sample size.
T1 = Time 1, T2 = Time 2; ** *p* < .01, *** *p* =< .001.

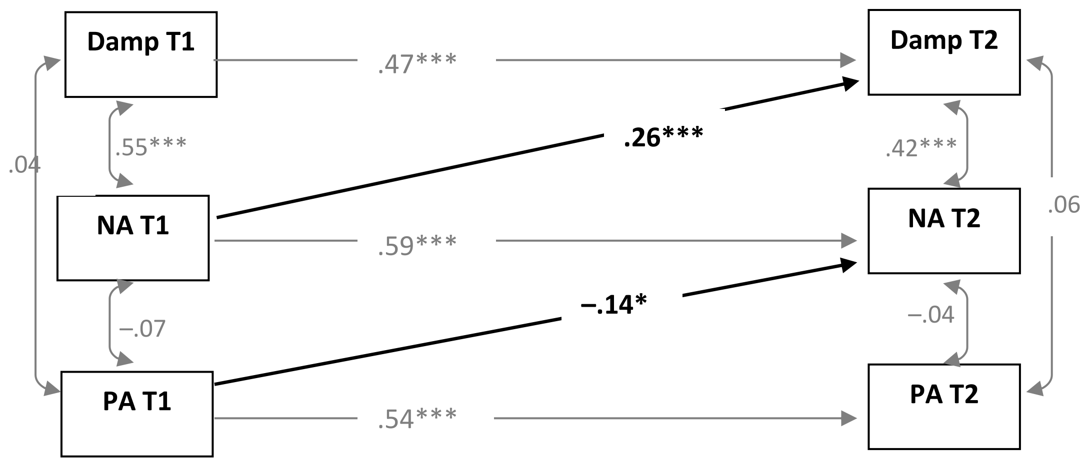

Figure 3. Cross-lagged model with standardised path coefficients for Sample 3. Non-significant cross-lagged associations are not presented for reasons of clarity.
T1 = Time 1, T2 = Time 2; * *p* < .05, *** *p* =< .001.