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Running head: Social expectancies and selective attention

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Perceived social pressure not to experience negative emotion is linked to selective attention for negative information.

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Abstract

Social norms and values may be important predictors of how people engage with and regulate their negative emotional experiences. Previous research has shown that social expectancies (the perceived social pressure not to feel negative emotion) exacerbate feelings of sadness. In the current research we examined whether social expectancies may be linked to how people process emotional information. Using a modified classical flanker task involving emotional rather than non-emotional stimuli, we found that, for those who experienced low-levels of negative emotion, social expectancies were linked to the selective avoidance of negative emotional information. Those who experienced high-levels of negative emotion did not show a selective avoidance of negative emotional information. The findings suggest that, for people who experience many negative emotions, social expectancies may lead to discrepancies between how they think they ought to feel and the kind of emotional information they pay attention to.

Keywords: Social Appraisal, Social Expectancies, Emotion Norms, Selective Attention, Negativity Bias, Depression.

Perceived social pressure not to experience negative emotion is linked to selective attention for negative information.

Emotions are fundamentally social phenomena. As such emotional experiences are heavily influenced by the opinions and responses of others within the social environment (Fischer, Rotteveel, Evers, & Manstead, 2004; Manstead & Fischer, 2001). One source of social influence may be whether particular emotions are considered culturally appropriate, normative, or valuable (Boiger, & Mesquita, 2012). Recent research has begun to focus on whether socially valuing some emotions more than others has implications for people's own emotional experiences. This work has highlighted that when people feel it is culturally inappropriate to feel sad (we refer to this as a *social expectancy*), this perception has the effect of increasing people's feelings of sadness, with downstream consequences for well-being in terms of life satisfaction and depressive symptoms (Bastian, Kuppens, Hornsey, Park, Koval, & Uchida, 2012). This effect of social expectancies is particularly strong in Western cultures (cf. Tsai, Knutson, & Fung, 2006), where the norm to be happy is more pronounced. Social expectancies tend to exacerbate the very emotions (non-normative, negative emotions) that people think they should avoid, and have more pronounced implications for those who tend to experience higher levels of negative emotion (Bastian et al., 2014; 2015). In the current paper we examine the information processing correlates of social expectancies, and whether the felt social pressure not to experience negative emotion may be associated with how people process emotional information. Specifically, is the felt social pressure not to experience negative emotion associated with a tendency to selectively avoid negative emotional information?

Social expectancies and selective attention

Emotions are increasingly viewed as fundamentally social phenomena that are best understood within the social context (Frijda & Mesquita, 1994). Research on social

expectancies (Bastian et al., 2012) has shown that how people actually feel may differ from how they think they are expected to feel and that this discrepancy leads to unconstructive, negative, self-focused thinking (Moberly & Watkins, 2008). These social expectations may be constantly reinforced through salient cultural reminders of the value of happiness and costs of sadness (cf. Ehrenreich, 2009). As such, social expectancies set up emotional goals that are hard to abandon, which in turn reinforces unconstructive, negative, self-focused thinking.

While previous research has highlighted that social expectancies may serve to increase negative affect (Bastian et al., 2012) it is less clear whether this perceived social pressure may be associated with how people process emotional information. Specifically, would the felt social pressure not to experience negative emotions be associated with selective avoidance of negative emotional information? There is good reason to expect this may be the case. If people perceive that negative emotions are socially devalued and undesirable, then this perception should be associated with a tendency to avoid information or content that may trigger these emotional states. Avoiding negative emotional information would ensure that people are less likely to experience these undesirable emotions. Based on this reasoning, we predict that social expectancies should be associated with a selective avoidance of negative emotional content. We also predict that the tendency to experience negative affect may determine whether or not people actually do. Previous work examining selective attention in depression suggests that depressed individuals have difficulty disengaging their attention from negative emotional information (Donaldson, Lam, & Mathews, 2007; Koster et al., 2011). This indicates that for people who experience high levels of negative emotion it is harder to selectively avoid negative information, especially once it has captured attention.

We believe this analysis would provide important new insights into the effects of social expectancies (see Bastian et al., 2012). Specifically, it suggests that for those who experience a discrepancy between how they think they ought to feel (high social expectancies)

and how they do feel (high negative emotion) they are less able to selectively avoid negative emotion inducing information. As such, for these individuals, selective attention to negative information may serve to exacerbate the discrepancy between how they think they ought to feel and how they actually do feel. Our reasoning is consistent with other work showing that attempts to control, suppress or avoid thoughts or emotions tend to have negative implications – increasing rather than decreasing the experience of these cognitive and emotional states (Wegner, Erber, & Zanakos, 1993). Indeed, it is for this reason that suppressing or avoiding emotions has been linked to a range of negative outcomes (Gross & John, 2003; Hayes, Strohshahl, Wilson, et. al., 2004). In our case, we suggest that is especially those who already tend to experience many social devalued emotions that are least able to selectively avoid negative emotion inducing information, serving to further reinforce unwanted emotional states.

The current study

In the current study we examined whether the perceived social pressure not to experience or express negative emotion is linked to selective avoidance of negative information, and whether this is moderated by the tendency to experience negative emotion. To investigate this possibility we employed the flanker task, which has been created to measure selective attention to both negative and positive information (Pe, Vandekerckhove, Kuppens, 2013), and examined how its performance is predicted by perceived social expectancies and levels of experienced emotion, as measured by both retrospective self-report (in terms of negative affect and depression) and online experience sampling. We reasoned that the interaction effect of social expectancies and negative emotion should be most evident in the context of negative (rather than positive) targets. This is for two reasons. First, any tendency to avoid negative information should be most evident when negative material has already captured attention (i.e., the negative stimulus is the focus of attention at the onset of

the trial) as opposed to when it serves as a distractor in a context where positive information has captured attention (i.e., the positive stimulus is the focus of attention at the onset of the trial). Second, previous research suggests that those who experience high levels of negative emotion have difficulty disengaging from negative information once it captures their attention (Donaldson, Lam, & Mathews, 2007; Koster et al., 2011).

We also compared the effects of social expectancies to those of personal expectancies. Personal standards or goals regarding our own emotional experiences have been shown to have consequences for how people experience and respond to their emotional states. (Mitmansgruber, Beck, Hofer, & Schubler, 2009). We predicted that social expectancies would be more strongly associated with selective avoidance of negative emotional information than people's own personal expectations not to experience negative emotion. This is because previous work has demonstrated that social expectancies are more powerful predictors of emotional functioning and well-being than personal expectancies, and are also likely to produce a stronger influence over how people process emotional information (Bastian et al., 2012).

Method

Participants

We report how we determined our sample size and all data exclusions. Data were collected as part of a larger study and therefore we only report those of relevance to the findings here. On the basis of previous findings from studies combining cognitive tasks and ESM data, we aimed to recruit 200 first year university or college students in Belgium in order to detect effect sizes starting around .20 (with alpha set at .05 and power equal to .80). Participants were screened prior to participation using the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) to ensure that the study included individuals representing a broad range of psychological well-being levels. An initial pool of 647 students

(66.3% female) completed the online CES-D pre-screening. Using a stratified sampling approach (Ingram & Siegle, 2009), we recruited 181 participants with a broad range of CES-D pre-screening scores ($Range = 0-39$) comparable to the general population (for more detail, see e.g., Koval et al., in press). An additional 21 participants were recruited after the study had already begun and therefore did not complete the CES-D pre-screening.¹ All participants provided informed consent before participation.

Participants were reimbursed up to 60€ for completing all measures.² Two participants were excluded due to poor compliance with the experience sampling protocol (i.e., < 50% response rate). This left a final sample of 200 participants (110 female) ranging in age from 17 to 24 years ($M = 18.32$; $SD = 0.96$). The study was approved by the Review Board for Medical Ethics from the KU Leuven (S54567).

Materials

Social and Personal Expectancies: Social expectancies were measured using an adapted version of the items used in Bastian et al. (2012). Participants were asked to focus on four specific emotions (sadness, depression, stress, anxiety) and then to indicate their personal and social expectancies regarding these negative emotions. Example reminders of the focal emotion states were presented at the end of each item: personal expectancies (5-items: e.g., *It is very important to me not to feel negative emotion (e.g., anxious, depressed); I shouldn't feel negative emotion (e.g., anxious, depressed)*, $\alpha = .64$) and their social expectancies regarding each emotion (5-items: e.g., *It is important that others don't see me as a negative person (e.g., anxious, depressed); Other people expect me not to feel negative emotion (e.g., anxious, depressed)*, $\alpha = .55^3$). All responses were made on a scale from 1 (*strongly disagree*) to 9 (*strongly agree*). Responses were combined for all emotions for each measure.

Depression. Participants responded to the Center for Epidemiological Studies Depression scale (CES-D: $\alpha = .88$; Radloff, 1977). The CES-D asks participants to rate how

frequently they have experienced a range of depressive symptoms (e.g., “I had crying spells”) over the past week on a four-point scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time).

Negative Affect. Participants completed the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988; positive affect: $\alpha = .81$; negative affect: $\alpha = .84$) reporting their current mood on a rating scale from 1 (*very slightly or not at all*) to 5 (*extremely*).

Experience Sampling Protocol (ESM). Motorola Defy plus Smartphones were programmed to beep 10 times each day for 7 days between 10 a.m. and 10 p.m. according to a stratified random interval scheme (dividing the period into ten equal intervals and programming one random beep in each interval). The average interval between two consecutive beeps was 71.7 min ($SD = 29.2$). Compliance with the ESM protocol was good: individual participants responded to between 55 and 100 per cent of all scheduled beeps ($M = 87.27\%$ $SD = 9.05\%$). At each beep, participants reported, among other items, how angry, sad, stressed, anxious, and depressed they felt at that moment using a slider scale ranging from 0 (*not at all*) to 100 (*very much*). These five items were averaged to form a measure of negative emotion (NE). Following Shrout and Lane (2011), we estimated the NE scale to have a within-person reliability of .78 and a between-person reliability of .99. The ESM questionnaire contained 24 items in total (including several items not relevant to the current study) and took approximately 1-2 min to complete.

Emotional flanker task. We used the same emotional flanker task as described in Pe et al. (2013). Stimuli were 14 affective words (five negative, $M=2.28$, $SD=0.84$; four neutral, $M=5.71$, $SD=0.18$; and five positive, $M=7.66$, $SD=0.81$) taken from the Affective Norms of English Words list (Bradley & Lang, 1999) and were translated to Dutch. The words were selected to be exactly four letters long and monosyllabic. Valenced words were matched for

arousal ratings. The task was comprised of one practice block of 20 trials (not scored) and 120 actual trials separated into four blocks. Each trial began with a blank screen of 1000 ms. This was then followed by a fixation cross displayed on the center of the screen for 500 ms. The fixation cross was then replaced by a target word with two flankers (distracters) located above and below the target word, which remained on the screen until the participant responded. The trials differed in target valence (negative and positive) and flanker condition (congruent, neutral, and incongruent). A congruent condition is a trial, in which the flankers are of the same valence and elicit a similar response to the target word; an incongruent condition refers to a trial, in which flankers are of the opposite valence and elicit an opposite response to the target word; and a neutral condition refers to a trial, in which the flankers are of neutral valence and do not elicit either response. Following Friedman and Miyake's (2004) procedure, these trial types were randomized, with the constraint that there were no negative priming trials and that no same condition occurred on more than three successive trials. Participants indicated, as quickly and accurately as possible, whether or not the target word was positively or negatively valenced. Using the computer keyboard, participants pressed "1" if the answer was "positive" and "2" if the answer was "negative." To measure selective attention to negative stimuli, we computed the differences between the incongruent and neutral flanker conditions (interference effect), and the neutral and congruent flanker conditions (facilitation effect) for the negative target conditions (NTC). To measure selective attention to positive stimuli, we computed interference effect and facilitation effect scores, but for the positive target conditions (PTC).

Procedure

On the first day of the study, participants first responded to the depression, negative affect, and social and personal expectancy questionnaires, followed by the emotional flanker task, among other measures not relevant for the present purpose. Next, they received a

smartphone along with instructions for its use and responded to prompts programmed to occur throughout the following eight days during their normal, daily life. Afterwards, they returned the smartphone, were paid for participation, and debriefed.

Results

Data preprocessing

For both the PTC and NTC, we calculated reaction time (RT) scores for interference and facilitation effects. We applied the data preparation procedure of Friedman and Miyake (2004) for RT measures (see Supplementary materials).

Flanker effect

To examine the relations between selective attention and social expectancy, we calculated interference and facilitation effects for both the NTC and PTC (see Supplementary materials for analyses examining the occurrence of these flanker effects). Interference effect by positive distracters in the NTC is computed as the difference between RTs in the incongruent NTC and neutral NTC. Facilitation effect by negative distracters in the NTC is computed as the difference between RTs in the congruent NTC and neutral NTC. These two measures are complementary, such that less interference by positive distracters and more facilitation by negative distracters imply higher selective attention to negative stimuli.

Interference effect by negative distracters in the PTC is computed as the difference between RTs in the incongruent PTC and neutral PTC. Facilitation effect by positive distracters in the PTC is computed as the difference between RTs in the congruent PTC and neutral PTC. These two measures are also complementary such that less interference by negative distracters and more facilitation by positive distracters imply higher selective attention to positive stimuli

Main Analyses

Correlations between the variables can be seen in Table 1. Social expectancies were

not significantly correlated with any other measures other than personal expectancies. It is noteworthy that the failure to find a significant relationship between social expectancies and depression or negative emotion is inconsistent with previous findings (see Bastian et al., 2012). We discuss why this may be the case below. Personal expectancies were associated with less negative emotion (PANAS), increased interference of positive distractors and reduced facilitation of negative distractors for negative targets. Depression showed the opposite pattern of relationships.

Next, we used regression analyses to examine our focal hypothesis: whether social expectancies interact with a tendency to experience high levels of negative emotion to predict avoidance of negative information⁴. We ran separate regression models for social expectancies and each measure of negative affect (CESD, PANAS, ESM) and their interaction. These are reported in full in the Supplementary Materials (see Table 1, Supplementary materials) and show a similar pattern of results across all three indicators. In order to simplify these analyses we conducted a principle components factor analysis for our three measures of experienced negative emotion. This revealed a single factor solution explaining 62.84% of the variance and with all three measures loading above .76 on this factor. Using the factor score from this analysis we ran a regression model focusing on the interaction of social expectancies and overall negative affect. This revealed the predicted interaction for interference of positive distractors ($\beta = -.16, p < .05$) and facilitation of negative distractors ($\beta = .16, p < .05$) (see Figure 1) for negative targets. Simple slope analyses focusing on interference of positive distractors for negative targets, revealed that under low levels of social expectancies, there was no association between negative emotions and interference of positive distractors for negative targets, $b = .61, SE = 4.70, p = .90$. However, under high levels of social expectancies, higher negative emotion was significantly related to decreased interference by positive distractors on negative targets, $b = -14.50, SE = 4.60, p < .01$ (see Figure

1). Broken down the other way, social expectancies were only significantly related to interference of positive distractors for negative targets for those who experienced low levels of negative affect, $b=11.57$, $SE=5.01$, $p=.02$, but not for those who experienced high levels of negative affect $b=-3.54$, $SE=4.31$, $p=.41$.

For the facilitation of negative distractors for negative targets, results revealed that under low levels of social expectancies, there was no association between negative emotions and interference of positive distractors for negative targets, $b=-1.68$, $SE=4.23$, $p=.69$.

However, under high levels of social expectancies, high negative emotion was associated with increased facilitation by negative distractors on negative targets, $b=12.15$, $SE=4.14$, $p<.01$ (see Figure 2). Examined the other way, our effect of social expectancies was only evident for those who experience low levels of negative affect, $b=-9.59$, $SE=4.51$, $p=.03$, but not for those who experienced high levels of negative affect, $b=4.24$, $SE=3.88$, $p=.28$.

We also ran regression models focusing on the effect of negative distractors on positive targets, finding no significant interactions of social expectancies and negative emotion (CESD, PANAS, ESM, or their factor score) in predicting responses to positive targets. In addition we ran the regression models focusing on personal expectancies (see Supplementary Materials). This revealed no consistent patterns of results.

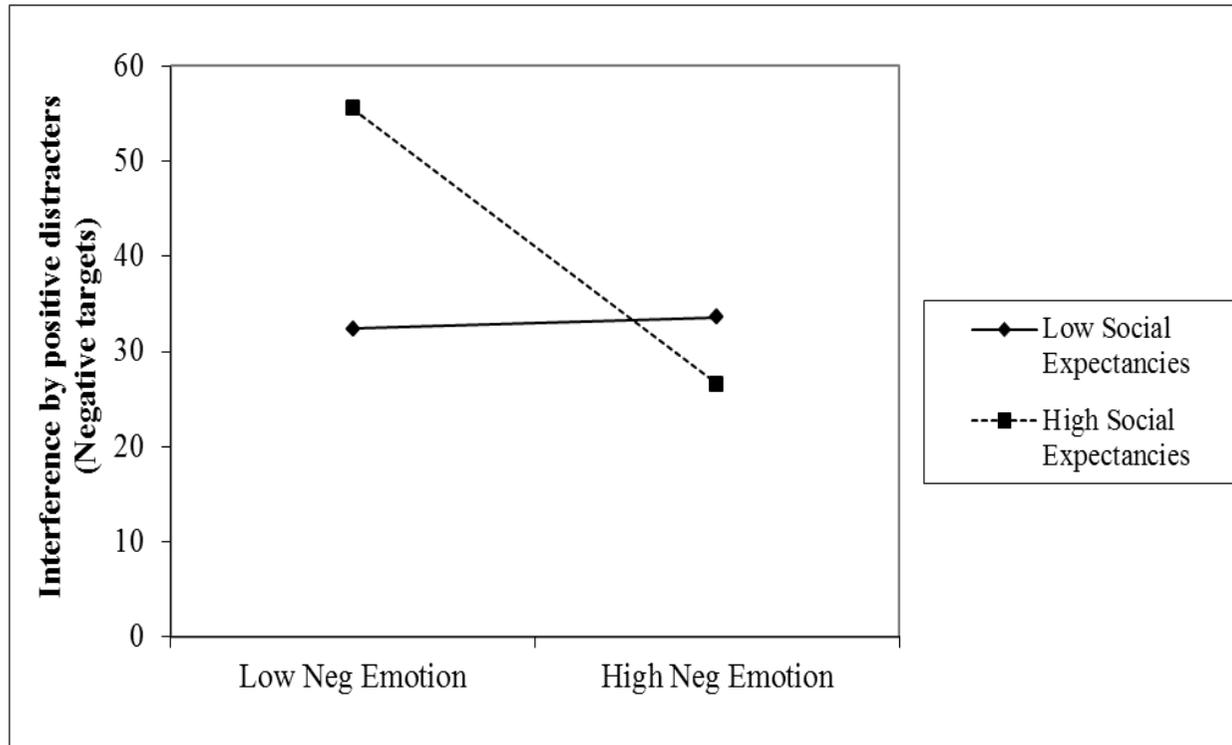
Table 1: Means and correlations among all measures

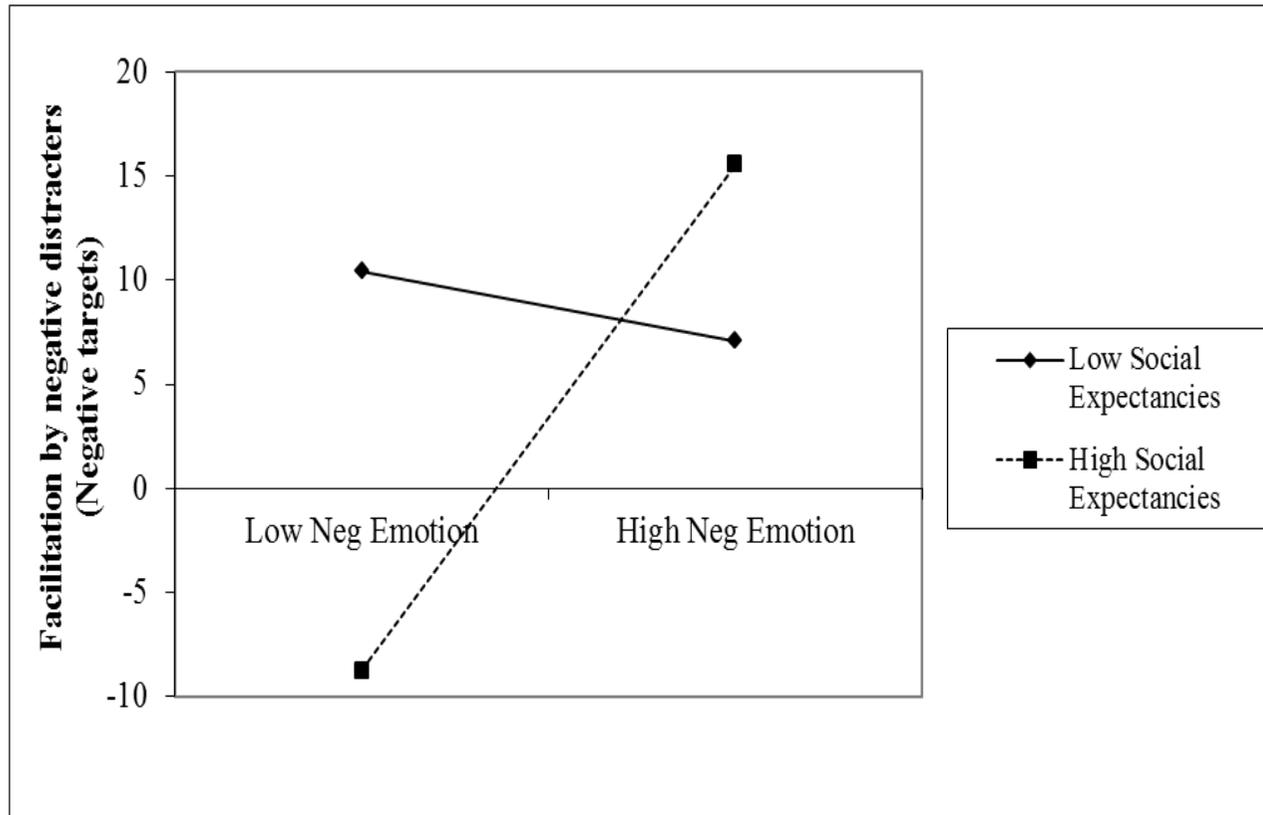
	Means (SDs)	Correlations								
		1.	2.	3.	4.	5.	7.	8.	9.	
1. Social Expectancies	5.68 (1.08)									
2. Personal Expectancies	5.52 (1.35)	.24**								
3. Depression – CESD	0.63 (0.39)	.09	-.10							
4. Negative Emotion – PANAS	1.98 (0.55)	.02	-.19**	.50***						
5. Daily Negative Emotion (ESM)	12.08 (8.40)	.01	-.10	.37***	.45***					
7. Interference effect (negative targets)	36.63 (46.43)	.06	.15*	-.14*	-.11	-.10				
8. Facilitation effect (negative targets)	6.42 (41.61)	-.03	-.20**	.16*	.06	.09	-.56***			
9. Interference effect (positive targets)	35.23 (41.61)	.02	-.13	-.04	-.01	.01	-.02	-.00		
10. Facilitation effect (positive targets)	-6.82 (39.25)	-.01	.15*	.08	.08	.05	.03	-.01	-.55***	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

Figure 1:

Graphs show relationship between negative emotions (factor score) and interference (left side) or facilitation (right side) by positive distracters on negative targets for individuals who experienced high (1SD above the mean; dashed line) and low (1SD below the mean; bold lines) levels of social expectancies.





Discussion

The felt social pressure *not* to experience or express negative emotion has been associated with a range of negative consequences, including increased negative emotion, depression and loneliness, and reduced satisfaction with life (Bastian et al., 2012; 2014; 2015). In the current study we demonstrate that social expectancies are associated with how people respond to emotional information. When people feel that society expects them *not* to experience negative emotion, they tend to selectively avoid negative emotional information. Critically, this tendency is only evident for people who experience low levels of negative emotion. For those who believe that they are expected *not* to experience negative emotion, but *do*, they do not show a selective avoidance of negative emotional information in their information processing, similar to those who do not feel any social pressure in this regard.

We understand this finding in the context of the negative well-being implications of social expectancies in general (Bastian et al., 2012). Moreover, it provides important insights into the processes by which social expectancies may lead to these negative outcomes. It is now well-established that attempts to avoid negative thoughts and feelings can have the ironic effect of amplifying those same thoughts and feelings (Gross & John, 2003; Hayes, Strosahl, Wilson, et. al., 2004; Wegner et al., 1993). In our study those who experience few negative emotions, and felt the social expectancy not to, selectively avoided negative emotional information to a relatively greater extent. Those who experienced many negative emotions, however, and also felt this same expectancy not to, exhibited a relative tendency to selectively attend to, rather than avoid, negative emotional information. For these individuals, it would appear that there is a greater discrepancy between how they think others expect them to feel and the kind of emotional content they attend to. Critically, we would also expect an increased failure of selective avoidance, and therefore even greater discrepancies, for those who

experience higher-levels of negative affect than the participants in the current study and who also endorse social expectancies. It is perhaps this discrepancy which underpins the negative well-being implications of social expectancies.

Our findings are in-line with past work showing that when people feel different from how they think they are expected to feel this discrepancy can lead to unconstructive, negative, self-focused thinking (Moberly & Watkins, 2008). In the case of our study, those who endorse social expectancies believe that they are expected not to experience negative emotion. This may guide and direct attention away from negative information when people do not tend to experience high levels of negative emotion. Yet, when people *do* experience high levels of negative emotion and struggle to disengage from negative information, they are more likely to experience a greater discrepancy between how they feel and how they think they ought to feel. As we note, social expectancies may be especially insidious, in that they are constantly reinforced within cultures (cf. Ehrenreich, 2009). For those who experience negative emotion, but feel that they should not, negative information is harder to avoid, potentially reinforcing more negative feelings and creating greater discrepancies when how one ought to feel and how one does feel.

Our study had some limitations. First, we did not replicate the relationship between social expectancies and negative emotion (including depression) as found in previous work (Bastian et al., 2012). We did, however, find that our measure was associated with increased sensitivity to negative emotional information for those who experienced high levels of negative emotion (including depression). The failure to find a direct relationship between social expectancies and depression or negative emotion may be due to the low levels of depression in the Belgian sample. While our previous studies did not employ the PANAS or an ESM as a measure of negative emotion, they did employ the same measure of depression (CESD). In those previous studies depression was higher (Australian sample: $M=0.84$,

$SD=0.54$; Japanese sample: $M=0.91$, $SD=0.51$) compared to the current study ($M=0.63$, $SD=0.39$), and although the differences were small the lower levels of depression (and therefore negative emotion) in the current sample may have made it difficult to observe any direct relationships. A second limitation may be that our experience sampling measure of negative emotion was administered after the cognitive tasks and not prior to them, as were the other measures of emotion (PANAS, CES-D) Given that the pattern of associations is largely similar across all three measures we feel confident that our use of mean scores from experience sampling would be representative of mean scores had they been taken a week earlier.

There is now a growing body of work which demonstrates that people's own emotional functioning is not only a product of their own expectations, but more so the perceived expectations of others. This work is consistent with the increasingly popular notion that people's emotional experiences are nested within social contexts and that social norms act to guide and direct emotional experiences. Research on social expectancies extends this 'social' view of emotion to our understanding of emotional disturbance, and most specifically the notion of secondary disturbance (i.e., the process of experiencing more negative emotion in response to the experience of negative emotion). It demonstrates that how people respond to their own emotional states is partly determined by the social value placed on negative emotion. Our findings show that social expectancies are associated with selective avoidance of negative emotional information, a tendency that may have well-being implications for those who are less able to avoid such information and who in turn experience greater discrepancies between how they do feel and who they think they ought to feel.

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Notes

1. The CES-D was administered again during the study, and participants who did not complete the CES-D pre-screening did not differ from those who did in their CES-D scores ($p = .699$).
2. Data were collected during wave 1 of a three-wave longitudinal study. Participants received the maximum reimbursement for each wave if they completed all lab tasks and completed at least 80% of all ESM questionnaires. Participants could receive a 60€ bonus if they completed all three waves.
3. Internal reliability for both scales was acceptable although low. The measures used were shorter than in previous research where reliabilities were better (Bastian et al., 2012). Low internal reliability in this shorter version may be due to the diverse focus of each scale item, applied to four different types of negative emotion. In line with the perspective provided by McCrae, Kurtz, Yamagata, & Terracciano, (2011) that internal consistency is not a strong predictor of scale validity, we proceeded to use the entire measure.
4. Although we did not predict any interaction effects of social expectancies and positive emotion, we examined these data. This revealed that social expectancies did not interact with positive emotion to predict any of the dependent variables (β 's < .06, p 's $\geq .37$)

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