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Judging emotions as good or bad: Individual differences, links with emotional responses, and implications for psychological health

By

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Abstract

Judging emotions as good or bad: Individual differences, links with emotional responses, and implications for psychological health

By

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Doctor of Philosophy in Psychology

University of California, Berkeley

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People are not impassive bystanders to their emotional experiences. Instead, people tend to judge their emotions as good or bad. In this research, I examined individual differences in emotion judgments and their implications for emotional responses and psychological health. In Study 1 ($N = 1,136$), I developed a questionnaire to assess four types of habitual emotion judgments. The four types of emotion judgments differed according to the valence of the emotion being judged (positive or negative) and the valence of the judgment (positive or negative). In Study 2 (81 participants and 2,999 observations), I examined the relationship between habitual emotion judgments and emotion judgments in daily life. Emotion judgments were common in daily life and were predicted by habitual emotion judgments. In Study 3 (same participants as in Study 1), I examined cross-sectional associations between habitual emotion judgments and psychological health. Positive judgments of positive emotions were associated with greater psychological health and negative judgments of negative emotions were associated with poorer psychological health, above and beyond other types of emotion judgments and key confounds. In Study 4 (111 participants and 835 observations), I examined prospective links between habitual emotion judgments and psychological health over one month and the mediating role of net emotions (emotions that linger after an emotional event has passed). Negative judgments of negative emotions were associated with worse psychological health one month later, and this relationship was partially mediated by daily net emotions. In sum, individuals differ in the types of emotion judgments that they tend to make and these individual differences appear to powerfully shape daily emotional responses and in turn, psychological health.

Judging emotions as good or bad: Individual differences, links with emotional responses, and implications for psychological health

Everyone experiences emotions such as joy and anxiety. However, people may fundamentally differ in whether they judge their emotions as predominately good or bad (i.e., emotion judgments). For example, feeling anxious about an upcoming job interview (the initial emotion), one person might think that their anxiety is bad or harmful for their interview performance. In contrast, another person might think that their anxiety is good and beneficial for their interview performance. These emotion judgments may give rise to positive or negative emotional responses to one's own emotions (i.e., meta emotions). In turn, initial and meta emotions may jointly shape the emotional response after the emotional event has passed (i.e., net emotions). Because net emotions can linger long after an emotional event (Leger, Charles, & Almeida, 2018), repeated instances of net emotions may accumulate to influence psychological health, even more strongly than the initial emotional response. In this dissertation, I examine individual differences in emotion judgments and their implications for emotional responses and psychological health.

Given that emotion judgments might shape people's psychological health, it is important that we better understand them. While some research has examined aspects of and constructs related to emotion judgments (e.g., emotion preferences and affect valuation) (Aldao, Nolen-Hoeksema, & Schweizer, 2010; Chim, Hogan, Fung, & Tsai, 2017; Crum, Akinola, Martin, & Fath, 2017; Tamir, Schwartz, Oishi, & Kim, 2017), we do not yet have a comprehensive and systematic examination of emotion judgments and their implications for emotional responses and psychological health. The present research aimed to provide such an examination. First, I developed a self-report measure of habitual emotion judgments. I expected people to differ in the types of judgments they tended to make and to make similar emotion judgments across time. Next, I examined associations between habitual emotion judgments and emotion judgments in daily life. I expected emotion judgments to be somewhat common in daily life and to be predicted by habitual emotion judgments. Finally, I examined cross-sectional and prospective associations between emotion judgments and psychological health. I predicted habitual emotion judgments would be associated with psychological health systematically and in predictable ways, and these associations could be explained by net emotions. I describe my conceptual framework in greater detail below, as well as review existing empirical evidence for links between emotion judgments, emotional responses, and psychological health.

Definition of Emotion Judgments and Relations to Existing Constructs

I define emotion judgments as valenced thoughts and feelings in response to one's own anticipated or actual emotional experiences. I conceptualize different types of emotion judgments according to the valence of the judgment itself (positive versus negative) and according to the valence of the emotion being judged (positive versus negative). Positive judgments involve believing that one's emotions are good, appropriate, useful, and beneficial. In contrast, negative judgments involve believing that one's emotions are bad, inappropriate, and harmful. Here, I define positive emotions as those that are generally pleasant (e.g., joy, excitement, and contentment) and negative emotions as those that are generally unpleasant (e.g., sadness, anxiety, and anger). Based on empirical evidence suggesting that positive and negative emotions occur independently, rather than along a single continuum (Larsen, McGraw, & Cacioppo, 2001), I assessed four distinct quadrants of emotion judgments. People can make positive judgments about positive emotions (e.g., "my feelings of joy are good for me"), negative judgments about

positive emotions (e.g., “my feelings of excitement are inappropriate”), positive judgments about negative emotions (e.g., “my feelings of anxiety will boost my performance”), and negative judgments about negative emotions (e.g., “my feelings of sadness are bad for me”).

Emotion judgments are related to several existing constructs. Table 1 shows how the existing constructs map onto the four quadrants of emotion judgments. Positive judgments of positive emotions are related to preferences for positive emotions (Tamir et al., 2017), positive attitudes about positive emotions (Harmon-Jones, Harmon-Jones, Amodio, & Gable, 2011), valuing positive emotions (Tsai, Knutson, & Fung, 2006), and savoring positive emotions (i.e., sustaining and enhancing positive emotions; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). Relatively less research has examined constructs related to negative judgments of positive emotions. The most closely related construct to negative judgments of positive emotions is fear of happiness, a set of negative beliefs about happiness (Joshanloo, 2013).

Positive judgments of negative emotions are related to preferences for negative emotions (Tamir et al., 2017), positive attitudes about negative emotions (Harmon-Jones et al., 2011), valuing negative emotions (Tsai et al., 2006), and positive stress mindsets (i.e., beliefs that stress will boost performance; Crum, Salovey, & Achor, 2013; Jamieson, Nock, & Mendes, 2012). Finally, the most empirical attention has been given to negative judgments of negative emotions. Negative judgments of negative emotions are closely related to low emotional acceptance, which is frequently assessed using a reverse-scored scale that measures people’s negative judgments of their negative thoughts and feelings (Baer et al., 2006). Negative judgments of negative emotions are also related to negative stress mindsets (i.e., beliefs that stress will hinder performance; Crum et al., 2013) and rumination (i.e., repetitive negative focus on negative emotions; Nolen-Hoeksema, 1991).

On the one hand, emotion judgments are more specific than these constructs, because they refer to responses to one’s own emotions rather than emotions in general. On the other hand, emotion judgments are more general than these constructs, because they encompass both affective and cognitive responses. Research on these related topics has begun to answer important questions about the links between emotion judgments, emotional responses, and psychological health. However, because these constructs are not integrated within a systematic and comprehensive framework, several open questions remain. For example, some quadrants have been studied more than others and the unique effects of one quadrant above and beyond the others is unknown. Moreover, little is known about the mechanisms that link emotion judgments to psychological health. In the following section, I describe a theoretical model of the associations between emotion judgments, emotional responses, and psychological health. Then, I review existing empirical evidence for these associations.

Theoretical Model of Emotion Judgments, Emotional Responses, and Psychological Health

People’s emotion judgments should powerfully influence the trajectory of their emotional responses, and in turn, their psychological health. To understand how emotion judgments might influence the trajectory of an emotional response, I distinguish between three aspects of an emotional response: initial emotions, meta emotions, and net emotions (see Figure 1). First, a person experiences (an) initial emotion(s) in response to an emotional event. Returning to the example of a job interview, one might feel anxious (initial emotion) in response to the upcoming interview (emotional event). This initial emotional response is driven by what the extended process model of emotion regulation refers to as a “first-level valuation system” (i.e., the evaluative system that generates an emotional response; Gross, 2015). Next, if one judges the initial emotional response as predominately positive or negative, one may experience meta

emotions. This meta emotional response is driven by what the extended process model of emotion regulation refers to as a “second-level valuation system” (i.e., the evaluative system that take an emotional response as its input; Gross, 2015). In other words, the initial emotion is the stimulus that triggers meta emotions, as shaped by emotion judgments. For example, one might think that one’s anxiety (initial emotion) will hinder one’s interview performance (emotion judgment) and feel frustrated (meta emotion) as a result. Finally, initial emotions and meta emotions both contribute to net emotions. Net emotions refer to the lingering emotions that one experiences at the end of the emotional event. For example, one might continue to feel a mixture of anxiety and frustration (net emotions) after the interview is over.

The precise weighing of initial emotions and meta emotions in net emotions is an open empirical question. For example, meta emotions may be more powerful than initial emotions in influencing the emotional trajectory or initial and meta emotions may equally contribute to net emotions. However, predictions can be made about how the valence of initial and meta emotions will contribute to net emotions on average. When initial emotions and meta emotions have the same valence, they should lead to congruent net emotions. In other words, positive initial emotions and positive meta emotions should result in positive net emotions, whereas negative initial emotions and negative meta emotions should result in negative net emotions. In contrast, when initial emotions and meta emotions have the opposite valence, they may lead to dampened, neutral, or mixed net emotions. In other words, positive initial emotions and negative meta emotions should lead to net emotions that range from slightly negative to neutral to slightly positive. Likewise, negative initial emotions and positive meta emotions should lead to net emotions that range from slightly negative to neutral to slightly positive. Moreover, the precise weighing of initial emotions and meta emotions in net emotions may differ between people.

People who tend to make specific types of emotion judgments will be more likely to experience particular net emotions, which over time, accumulate to influence psychological health. The downstream effect of emotion judgments on net emotions is critical, because net emotions can linger long after the emotional event is over and are most strongly related to psychological health (Leger et al., 2018; Linden, Earle, Gerin, & Christenfeld, 1997; Panaite, Salomon, Jin, & Rottenberg, 2015).

Empirical Evidence for Links between Emotion Judgments, Emotional Responses, and Psychological Health

Although no research to date has examined the effects of all four types of emotion judgments, several lines of research – based on constructs related to emotion judgments – speak to the hypothesis that emotion judgments influence emotional responses and psychological health. First, research on affect valuation has shown that valuing particular positive emotions increases enjoyment of those emotions (Chim, Hogan, Fung, & Tsai, 2017). Moreover, experiencing positive emotions that one prefers to feel has been associated with better psychological health (Tamir et al., 2017). Finally, savoring one’s positive emotions has been associated with greater positive emotions and better psychological health (Livingstone & Srivastava, 2012). Taken together, this research provides evidence that positive judgments of positive emotions result in more positive emotional responses and better psychological health.

Very little research has examined associations between negative judgments of positive emotions, emotional responses, and psychological health. One notable exception is research on fear of happiness, a set of beliefs that happiness may lead to negative consequences (Joshanloo, 2012). Fear of happiness has been negatively associated with life satisfaction (Joshanloo, 2012). However, it is unclear whether this association is primarily driven by a negative association

between fear of happiness and psychological health or by differences in the interpretation of life satisfaction items by individuals high in fear of happiness. Moreover, the relationship between fear of happiness and actual happiness experience has been shown to depend on personality (Agbo & Ngwu, 2017). This complicated picture highlights the need for more research to better understand negative judgments of positive emotions and their associations with emotional responses and psychological health.

Some research suggests that positive judgments of negative emotions may be beneficial. For example, experiencing negative emotions that one prefers to feel has been associated with better psychological health (Tamir et al., 2017). Given that negative emotions are generally associated with worse psychological health (Brown, Chorpita, & Barlow, 1988), this striking finding supports the powerful influence of people's judgments of their emotions. Research on stress mindsets has also begun to examine the effects of positive judgments of negative emotions. People who were reminded of the benefits of a stress response (a generally negative emotional state) exhibited more adaptive physiological responses and more positive emotions during and after a stressful speech task (Crum, Akinola, Martin, & Fath, 2017; Jamieson et al., 2012; Jamieson, Nock, & Mendes, 2013). This supports the notion that positive judgments of negative emotions lead to more positive emotional responses. In addition to experimental manipulations of stress mindsets, research has shown that individuals differ in their tendency to view stress responses positively or negatively (Crum, Salovey, & Achor, 2013), supporting the idea that individuals differ in their tendency to make positive versus negative judgments about negative emotions. Although research on stress mindsets begins to inform the understanding of positive judgments of negative emotions, it is limited to stress rather than negative emotions more generally. Research on attitudes toward negative emotions has shown distinct patterns for specific negative emotions (Harmon-Jones et al., 2011), such that positive attitudes toward anger were associated with greater anger experience, but positive attitudes toward fear and disgust were associated with less anger experience. More research is needed to better understand the effects of positive judgments of negative emotions on emotional responses and psychological health.

The most empirical attention has been given to negative judgments of negative emotions. Research on rumination has shown that a repetitive negative focus on negative emotions is strongly associated with multiple forms of psychopathology (Aldao et al., 2010). Moreover, research on emotional acceptance has shown that people who tend to accept their negative emotions non-judgmentally (a tendency potentially related to lack of negative judgments of negative emotions) have better psychological health (for a meta-analysis, see Aldao, Nolen-Hoeksema, & Schweizer, 2010). Habitual acceptance of negative emotions has also been associated with lower negative emotions in response to standardized laboratory stimuli (Campbell-Sills, Barlow, Brown, & Hoffman, 2006; Dunn, Billotti, Murphy, & Dalgleish, 2009; Feldner, Zvolensky, Eifert, & Spira, 2003; Huffziger & Kuehner, 2009; Ford, Lam, John, & Mauss, 2018; Levitt, Brown, Orsillow, & Barlow, 2004; Shallcross, Troy, Bolland, & Mauss, 2010; Wolgast, Lundh, & Viborg, 2011) and daily stressors (Ciesla, Reilly, Dickson, Emanuel, & Updegraff, 2012; Ford et al., 2018). Experimental studies in which participants are instructed to use emotional acceptance have additionally provided causal evidence for the role of emotional acceptance in reducing negative emotions (Feldner, et al., 2003; Campbell-Sills et al., 2006; Huffziger & Kuehner, 2009; Levitt et al., 2004; Dan-Glauser & Gross, 2015).

A handful of studies have begun to examine the mechanisms that link emotional acceptance with psychological health. First, two studies have shown that reductions in negative

emotions mediate the relationship between emotional acceptance and psychological health (Ford et al., 2018; Ostafin, Brooks, & Laitem, 2014). Initial evidence also suggests that habitual emotional acceptance is associated with fewer negative meta emotions, and that negative meta emotions are associated with lower psychological health (Mitmansgruber, Beck, Höfer, & Schüßler, 2009). However, a mediation model was not tested. In sum, research on rumination and emotional acceptance provides initial support for my hypotheses concerning negative judgments of negative emotions.

Taken together, research on these related constructs provides initial support for the hypothesis that emotion judgments influence emotional responses and psychological health. These research areas have utilized both correlational methods to assess habitual tendencies and experimental methods to test for causal mechanisms. Despite the strengths of this research, several key questions remain.

Key Open Questions

The present research is the first to comprehensively and systematically examine emotion judgments and their associations with emotional responses and psychological health. Previous studies have measured or manipulated only one or two types of emotion judgments at once. Thus, prior research does not provide a comprehensive account yet and cannot speak to the unique effects of specific types of emotion judgments on emotional responses or psychological health, above and beyond the other types of emotion judgments. It is possible that emotion judgments may be correlated with each other. Thus, it is important to control for other types of emotion judgments to identify which types of emotion judgments are driving the observed effects. Furthermore, no previous research has assessed initial emotions, meta emotions, and net emotions within a single study. The present research addresses these gaps by assessing all four types of emotion judgments (Studies 1-4) and by examining initial, meta, and net emotions within a single study (Study 4).

Finally, the current understanding of how emotion judgments might influence psychological health is limited. The majority of research linking one or more types of emotion judgments to psychological health has been cross-sectional (see Aldao et al., 2010) and a limited number of studies have examined mechanisms that explain this link (e.g., Ford et al., 2018). The present research addresses these questions by assessing both cross-sectional (Study 3) and short-term longitudinal (Study 4) associations between emotion judgments and psychological health and by examining potential mechanisms linking the two (Study 4).

Study 1: Development of the Emotion Judgments Questionnaire

The first goal of the present research was to understand individual differences in tendencies to make particular types of emotion judgments. Thus, In Study 1, I developed the Emotion Judgments Questionnaire (EJQ) to measure habitual emotion judgments. In Aim 1, I examined the factor structure of the EJQ. I expected to find a four-factor structure of positive judgments of positive emotions, negative judgments of positive emotions, positive judgments of negative emotions, and negative judgments of negative emotions.

In Aim 2, I examined the psychometric properties of the EJQ, including descriptive statistics, internal consistency, test-retest correlations, intercorrelations, and group differences. I expected habitual emotion judgments to be moderately stable across an approximately 10-week period. However, given that habitual emotion judgments reflect people's habitual tendencies to engage in specific processes, rather than broad personality traits, I expected test-retest correlations to be smaller than that of broad traits (e.g., Big Five personality). Regarding intercorrelations among different types of habitual emotion judgments, at least three possibilities

exist. First, the four types of habitual emotion judgments may be largely distinct from each other with small intercorrelations. Second, people may tend to make predominately positive or predominately negative judgments regardless of the valence of the emotions being judged. In this case, positive judgments across emotion valence categories and negative judgments across emotion valence categories should be positively correlated with each other. Third, people may tend to judge emotions as predominately positive or negative *within* emotion valence categories. In this case, positive and negative judgments within each emotion valence category should be inversely correlated with each other.

In Aim 3, I assessed the convergent and discriminant validity of the EJQ. First, I examined associations between emotion judgments and the most similar existing constructs: emotional acceptance, ideal affect, and emotion preferences. I expected emotion judgments to be moderately correlated, but not identical to, each of these constructs. I expected the largest correlation to be between emotional acceptance and negative judgments of negative emotions. I expected that emotion judgments may be associated with the degree to which one wants to feel specific types of emotions (i.e., ideal affect and emotion preferences). Specifically, I expected that ideally wanting to feel positive emotions and preferring positive emotions would be associated with more positive judgments and less negative judgments of positive emotions. Conversely, I expected that ideally wanting to feel negative emotions and preferring negative emotions would be associated with more positive judgments and less negative judgments of negative emotions.

Next, I examined the extent to which emotion judgments were related to broader constructs. To examine associations between emotion judgments and broader personality dimensions, I assessed the Big Five personality traits (Soto & John, 2017). Extraversion and neuroticism were of particular interest, because these traits are characterized by the experience of positive and negative emotions respectively. Lastly, because emotion judgments refer to one's own emotions, I examined the extent to which emotion judgments were associated with more general attitudes about the self by assessing the correlation between emotion judgments and trait self-esteem. I expected emotion judgments to be related to, but distinct from, self-esteem.

Finally, I assessed the extent to which emotion judgments were associated with trait and state positive and negative emotions. Because emotion judgments are theorized to influence emotional responses, I expected moderate correlations between emotion judgments and trait and state emotions. Larger correlations between emotion judgments and state emotions compared to trait emotions would suggest unwanted contamination of responses to the EJQ by current emotions. Thus, I predicted that correlations between emotion judgments and state emotions would be similar in magnitude to correlations between emotion judgments and trait emotions.

Method

Participants

I collected data from three samples to address Study 1 aims (see Table 2 for sample characteristics): Sample A (collected from Amazon's Mechanical Turk; final $N = 593$), Sample B (collected from Amazon's Mechanical Turk; final $N = 286$) and Sample C (collected from an undergraduate psychology participant pool; final $N = 257$).

Emotion Judgments Questionnaire

My collaborators and I wrote 62 items to assess four types of emotion judgments. The four types of emotion judgments differed according to the valence of the judgment itself and the valence of the emotion being judged: positive judgments of positive emotions, negative judgments of positive emotions, positive judgments of negative emotions, and negative

judgments of negative emotions. In all items, the target of the emotion judgment referred to one's own emotions rather than the emotions of other people or emotions in general (e.g., "my positive/negative emotions" and "When I experience positive/negative emotions"). In addition to writing new items, I adapted 16 items from the Nonjudgment facet of the Five Facet Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006).

Negative judgment items included rejecting, disapproving, or being critical of one's emotions, and believing that one's emotions are bad, inappropriate, or harmful. Positive judgment items included approving of one's emotions, and believing that one's emotions are good, appropriate, useful, and beneficial. I took care to write judgment items that were similar for positive and negative emotions, with one exception. To reduce floor and ceiling effects, I varied the use of qualifiers, such as "often" and "sometimes," such that the two same-valence types of emotion judgments (positive judgments of positive emotions and negative judgments of negative emotions) included more frequent qualifiers (e.g., often, usually) and the two counter-valence emotion judgments (negative judgments of positive emotions and positive judgments of negative emotions) included more infrequent qualifiers (e.g., sometimes). I included 19 reverse-scored items to assess the absence of each of the four types of emotion judgments (e.g., "I rarely approve of my negative emotions.").

Data Collection Procedure

In all three samples, participants completed the EJQ and additional self-report questionnaires online using Qualtrics survey software. A subsample ($N = 69$) of participants in Sample C also completed the EJQ during the psychology department's prescreening survey at the beginning of the semester. This earlier timepoint was used to assess test-retest reliability of the four emotion judgment factors. The lag between the first and second administration of the EJQ ranged from 8 to 11 weeks ($M_{lag} = 9.6$ weeks, $SD_{lag} = 0.68$ weeks). Two attention checks were included in each survey and participants who failed one or more attention checks were excluded prior to analyses (Sample A $N = 106$ excluded; Sample B $N = 23$ excluded; Sample C $N = 82$ excluded). Amazon's Mechanical Turk (MTurk) participants (Samples A and B) received monetary compensation for their time. Undergraduate participants (Sample C) received partial course credit for their time.

Additional Measures

Convergent and discriminant validity measures. To assess emotional acceptance, I used the Nonjudgment facet of the FFMQ (Baer et al., 2006). The nonjudgment facet includes five items that assess the extent to which people judge their negative emotions and thoughts. The items are reverse scored such that a higher score reflects greater emotional acceptance. To assess ideal affect, I used the ideal affect subscales of the Affect Valuation Index (Tsai et al., 2006). Specifically, I computed the extent to which participants would ideally like to feel high arousal positive emotions (HAP), low arousal positive emotions (LAP), high arousal negative emotions (LAN), and low arousal negative emotions (LAN). To assess emotion preferences, I asked participants to rate the extent to which they prefer to feel each of two positive (contentment, excitement) and three negative emotions (anxiety, sadness, anger; Tamir et al., 2017).

To assess extraversion and neuroticism, I used the 30-item version of the BFI-2 (Soto & John, 2017). The 30-item version includes six items per subscale. I assessed self-esteem using the single item self-esteem scale (Robins, Hendin, Trzesniewski, 2001).

To assess trait emotions, I asked participants to rate the extent to which they *typically* feel each of several positive emotions and several negative emotions. I computed a positive emotion and a negative emotion composite. To assess state emotions, I asked participants to rate the

extent to which they were *currently* feeling each of several positive emotions and several negative emotions. I computed a positive emotion and a negative emotion composite.

Results and Discussion

Aim 1: Factor Structure of the EJQ

To examine the factor structure of the EJQ, I used a combination of exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) using data from Sample A ($N = 593$). All analyses were conducted in R version 3.3.0. First, I included all 62 emotion judgment items in an EFA. Parallel analysis was conducted using the `psych()` package in R. Parallel analysis compares the scree of factors of the observed data to the scree of factors from a random data set of the same size as the original. Both parallel analysis and a visual inspection of the scree plot suggested a four-factor solution. However, the resulting four factors were largely uninterpretable. Because I had *a priori* concerns about the interpretability of the reverse-scored emotion judgment items, I repeated the EFA after dropping all of the reverse scored items. An interpretable four-factor solution emerged that largely resembled the hypothesized four factor structure.

Next, I included all straight-keyed emotion judgment items in a CFA with the hypothesized four-factor structure. I allowed the four factors to correlate. Next, I used Lagrange multiplier statistics to drop items one-by-one to balance two goals: 1) improving model fit by dropping items with high cross-loadings on other factors, and 2) retaining at least six items per factor. The resulting 24-item scale demonstrated excellent model fit, $CFI = .95$, $TFI = .95$, $RMSEA = .05$, $SRMR = .06$. Next, I included just these 24 items (see Table 3 for items) in an EFA. I extracted four factors using oblimin rotation (see Table 3 for factor loadings). The resulting factor loadings supported the hypothesized four factors that were modeled in the CFA.

One potential risk of my reliance on Lagrange multiplier statistics to select scale items is the possibility of overfitting the model to the data. To test this possibility, I collected two new samples (Sample B and Sample C) using the 24 items selected from Sample A. I included all 24 items in a CFA with the hypothesized factor structure. The four-factor model demonstrated good model fit in Sample B, $CFI = .94$, $TFI = .93$, $RMSEA = .06$, $SRMR = .07$, and in Sample C, $CFI = .92$, $TFI = .92$, $RMSEA = .06$, $SRMR = .07$. Thus, the four-factor structure of the 24-item scale derived from Sample A replicated in two independent samples ($Ns = 286$ and 257).

Aim 2: Psychometric Properties of the EJQ

Descriptive statistics of the four emotion judgment factors are shown in Table 4. Factor means suggested that people engage in same-valence emotion judgments more than counter-valence emotion judgments. However, there did not appear to be any floor or ceiling effects ($2.73 < \text{means} < 5.90$). Furthermore, standard deviations suggested that the magnitude of individual differences were similar for all four types of emotion judgments, $1.00 < SDs < 1.49$. All four emotion judgment factors were approximately normally distributed, skewness $< |1.15|$, had good to excellent internal consistency, and Cronbach's alphas $> .81$.

Test-retest correlations were moderate across approximately 10 weeks, $.45 < rs < .62$. These retest correlations were smaller than what has been observed for broad traits, like the Big Five, but were large enough to suggest that habitual emotion judgments reflect stable tendencies. Moreover, mean levels of emotion judgments did not differ between the first and second test administration, $ps > .16$, suggesting that repeated administration did not influence average response patterns.

Intercorrelations among the four emotion judgment factors are shown in Table 5. Intercorrelations supported the idea that people tend to judge emotions as predominately positive

or negative *within* emotion valence categories. Positive and negative judgments were inversely correlated within emotion valence categories and ranged from moderate, $r = .35$, to large, $r = .65$. Thus, positive and negative emotion judgments are related, but sufficiently distinct to be considered separate factors.

Age, gender, and ethnicity differences are shown in Table 6. I examined associations between age and habitual emotion judgments in Samples A and B only due to the restricted age range in Sample C. Age was positively associated with positive judgments of positive emotions, Sample A: $r = .17, p < .001$; Sample B: $r = .24, p < .001$. In Sample A, age was negatively associated with negative judgments of positive emotions, $r = -.20, p < .001$. In Sample B, age was marginally associated with negative judgments of positive emotions, $r = -.11, p = .06$. Age was not associated with positive or negative judgments of negative emotions in either sample, $ps > .09$.

I examined gender differences in habitual emotion judgments in all three samples. Women (compared to men) reported greater positive judgments of positive emotions, Sample A: $d = .28, p < .001$; Sample B: $d = .39, p = .001$; Sample C: $d = .39, p = .004$, and lesser negative judgments of positive emotions, Sample A: $d = .31, p < .001$; Sample B: $d = .37, p < .001, p = .004$; Sample C: $d = .46, p = .001$. In Samples A and B, women and men did not differ in positive or negative judgments of negative emotions, $ps > .56$. However, in Sample C, women (compared to men) reported lesser positive judgments of negative emotions, $d = .26, p = .046$, and greater negative judgments of negative emotions, $d = .37, p = .006$.

I examined differences in habitual emotion judgments between the two largest ethnic groups in Sample C: Asian Americans and European Americans. I did not examine ethnicity differences in Samples A and B due to limited ethnic diversity within the sample. Asian Americans (compared to European Americans) reported marginally lesser positive judgments of positive emotion, $d = .28, p = .06$, and greater negative judgments of positive emotions, $d = .64, p < .001$. Asian Americans and European Americans did not differ in positive or negative judgments of negative emotions, $ps > .63$.

Aim 3: Convergent and Discriminant Validity of EJQ

Associations between the four types of emotion judgments and potentially related constructs are shown in Table 7. Overall, these associations show that the four types of emotion judgments converge with, but are not redundant with, related constructs. In line with my prediction, the largest correlation was between negative judgments of negative emotions and emotional acceptance, $r = -.61$. Preferences for positive emotions were associated with more positive and less negative judgments of positive emotions, but were not associated with judgments of negative emotions. Surprisingly, preferences for negative emotions were associated with less positive and more negative judgments of position emotions, but were minimally associated with judgments of negative emotions. Counter to my predictions, judgments of positive emotions were only modestly correlated with ideal affect and judgments of negative emotions were not related to ideal affect.

Emotion judgments were differentially related to extraversion and neuroticism, such that people higher in extraversion tended to judge all emotions more positively and people higher in neuroticism tended to judge all emotions more negatively. Emotion judgments were also modestly correlated with self-esteem, such that people with higher self-esteem tended to judge all emotions more positively and less negatively.

In line with my predictions, emotion judgments were modestly correlated with both state and trait emotions. Higher positive state and trait emotions were associated with more positive

and less negative judgments of both positive and negative emotions. Higher negative state and trait emotions were associated with less positive and more negative judgments of both positive and negative emotions. The magnitude of these associations was comparable for state and trait emotions.

Study 2: Emotion Judgments in Daily Life

Study 1 showed that individuals differed substantially and reliably in their habitual tendencies to make particular emotion judgments. Next, I was interested in whether habitual emotion judgments are associated with emotion judgments in daily life. How common are emotion judgments in daily life? Are individual differences in daily emotion judgments somewhat stable and can they be predicted by habitual emotion judgments? To address these questions, I collected experience-sampling data from a new sample of 121 community participants (Sample D; see Table 2 for sample characteristics; final $N = 81$ participants and 2,999 observations after exclusions). A community sample is particularly important for examining the commonness of emotion judgments in daily life, because community participants (compared to MTurk workers and psychology undergraduate students) are less accustomed to answering survey questions that require introspection. Therefore, community participants provide a more rigorous test of the hypothesis that emotion judgments are common in daily life.

In this new sample, I examined the frequency of emotion judgments in daily life (Aim 1), the temporal stability of emotion judgments in daily life (Aim 2), and associations between habitual and daily emotion judgments (Aim 3). I predicted that emotion judgments would be at least somewhat common in daily life. Moreover, I expected emotion judgments to be moderately stable. However, like with test-retest of habitual emotion judgments, I did not expect daily emotion judgments to be as stable as broad traits. Finally, I expected habitual emotion judgments to predict daily emotion judgments.

To reduce the total number of survey items in the experience-sampling surveys, I assessed daily emotion judgments on a unidimensional scale from completely negative judgments to completely positive judgments, with neutral judgment (or the absence of judgment) at the midpoint of the scale. Opposite-valence habitual emotion judgments were moderately correlated with one another in Study 1 ($-.65 < rs < -.51$ for judgments of positive emotions and $-.51 < rs < -.34$ for judgments of negative emotions). This suggests that a unidimensional scale is appropriate to provide an initial approximation of the frequency and stability of emotion judgments in daily life. However, to provide a better parallel to the observed structure of habitual emotion judgments, future research should assesses all four quadrants of emotion judgments separately in daily life.

Method

Participants

Participants (Sample D; see Table 2 for sample characteristics) were recruited using fliers posted in public places in the San Francisco Bay Area, as well as Craigslist ads posted in several major U.S. cities.

Data Collection Procedure

Data collection took place in two phases for Study 2. First, participants completed an online entrance survey using Qualtrics survey software. The entrance survey included the EJQ, as well as other measures of psychological health and personality. The next day, participants began seven consecutive days of experience sampling. Each day, participants received seven survey links between 10 a.m. and 10 p.m. Participants who completed fewer than 10 out of the 49 experience-sampling surveys were excluded prior to analyses due to low compliance ($N =$

17). I included one attention check in the entrance survey and participants who failed the attention check were excluded prior to analyses ($N = 13$). In addition, I included one attention check per day in the experience-sampling surveys. If participants failed just one daily attention check, data from that day were excluded prior to analyses, but the rest of the participants' data were retained. If participants failed two or more daily attention checks, all of the participant's data were excluded prior to analyses ($N = 10$). Participants received monetary compensation for their time.

Measures

Habitual emotion judgments. I assessed habitual emotion judgments using the 24-item EJQ described in Study 1.

Experience-sampling measures. In each experience-sampling survey, participants were instructed to consider the time period since the last survey and to think of the most emotional event that happened to them during that time. Participants were encouraged to select an event, even if it seemed minor to them. Participants were able to think of an event on 66% of measurement occasions. To reduce the total number of survey items in the experience-sampling surveys, I assessed daily emotion judgments on a unidimensional scale from completely negative judgments to completely positive judgments, with neutral judgment (or the absence of judgment) at the midpoint of the scale. Participants were asked to indicate the extent to which they thought their feelings were "completely inappropriate" (1) to "completely appropriate" (7) and "extremely harmful" (1) to "extremely beneficial" (7). The two measures were moderately correlated ($r = .51$). Thus, I averaged together the two items to form a single daily emotion judgment composite.

Results and Discussion

Aim 1: Frequency of emotion judgments in daily life

All analyses were conducted in R version 3.3.0. On 11.9% of measurement occasions, participants reported making negative emotion judgments (i.e., at least slightly inappropriate and/or slightly harmful). On 72.8% of measurement occasions, participants reported making positive emotion judgments (i.e., at least slightly appropriate and/or slightly beneficial). On 15.3% of measurement occasions, participants did not report making emotion judgments (i.e., neither inappropriate nor appropriate and neither harmful nor beneficial).

In sum, emotion judgments occurred somewhat frequently in daily life. This suggests that habitual emotion judgments reflect actual daily processes, rather than abstract ideas about emotions. Moreover, positive emotion judgments were relatively more frequent than negative emotion judgments. One potential explanation for this finding is that participants experienced more positive emotions ($M = 3.79$, $SD = 1.81$) than negative emotions ($M = 2.23$, $SD = 1.40$) and people tend to make more same-valence emotions judgments than counter-valence emotion judgments.

Aim 2: Stability of between-person differences in emotion judgments

To examine the stability of emotion judgments in daily life, I calculated the intraclass correlation coefficient (ICC) from intercept-only multilevel models predicting daily emotion judgments. The ICC compares the between-person variance in daily emotion judgments (differences in the average level of emotion judgments across measurement occasions) to the total variance in daily emotion judgments (between-person variance as well as variance within-people between measurement occasions). Thirty-nine percent of the variance in daily emotion judgments occurred between-people. In sum, between-person differences in daily emotion

judgments were somewhat stable, but individuals also varied in their emotion judgments across measurement occasions.

Aim 3: Associations between habitual and daily emotion judgments

To examine between-person associations between habitual emotion judgments and daily emotion judgments, I predicted daily emotion judgments from habitual emotion judgments in four separate random-intercept multilevel models. Habitual emotion judgments were grand-mean centered and entered as level 2 predictors. In line with my predictions, habitual emotion judgments were associated with congruent emotion judgments in daily life, with one exception. Habitual positive judgments of positive emotions were associated with more positive emotion judgments in daily life, $b = .34, p < .001$. Habitual negative judgments of positive emotions were associated with more negative emotion judgments in daily life, $b = -.27, p < .001$. Habitual positive judgments of negative emotions were not associated with emotion judgments in daily life, $b = .04, p = .61$. Habitual negative judgments of negative emotions were associated with more negative emotion judgments in daily life, $b = -.24, p = .002$. In sum, habitual emotion judgments, with the exception of positive judgments of negative emotions, were associated with emotion judgments in daily life in the expected directions.

Study 3: Cross-sectional Associations Between Emotion Judgments and Psychological Health

Given that individuals substantially and reliably differ in their tendency to make particular emotion judgments, and these habitual emotion judgments are associated with emotion judgments in daily life, my next question concerned associations between emotion judgments and psychological health. The first aim of Study 3 was to examine cross-sectional associations between each type of habitual emotion judgments and psychological health. First, I examined simple correlations between each of the emotion judgment factors and psychological health. Because the four types of emotion judgments were correlated with one another, I also examined unique associations between the four types of emotion judgments and psychological health, controlling for the other judgment types and controlling for key potential confounds (i.e., ideal affect, self-esteem, and state emotions).

Because same-valence emotion judgments (positive judgments of positive emotions and negative judgments of negative emotions) should result in more intense net emotions, I expected these two types of emotion judgments to have stronger effects on psychological health than opposite-valence emotions judgments (negative judgments of positive emotions and positive judgments of negative emotion; see theoretical model shown in Figure 1). Specifically, I predicted that positive judgments of positive emotions would be associated with better psychological health and negative judgments of negative emotions would be associated with worse psychological health.

The second aim of Study 3 was to test the possibility that judgments of particular discrete emotions matter more for psychological health than judgments of the dimensions of positive versus negative emotions. To test this, in Sample C, I asked participants to rate their positive and negative judgments of three positive emotions varying in arousal (contentment, joy, excitement) and of three negative emotions varying in arousal (sadness, anxiety, anger), using the same item stems as the original emotion judgment items. I predicted that the associations between emotion judgments and psychological health would be similar across discrete emotions.

Method

Participants

Participants in Study 3 were the same as in Samples B and C in Study 1 (see Table 2 for sample characteristics).

Data Collection Procedure

The data collection procedure in Study 3 was the same as in Study 1.

Measures

Habitual emotion judgments. I assessed habitual emotion judgments using the 24-item EJQ described in Study 1.

Psychological health. To capture multiple aspects of psychological health, I assessed two measures of ill-being (depression and anxiety symptoms) and two measures of well-being (psychological well-being and satisfaction with life). Depression was measured with the Beck Depression Inventory (Beck, Steer, & Brown, 1996). Anxiety was measured with the generalized anxiety subscale of the Anxiety Screening Questionnaire (Wittchen & Boyer, 1998). Psychological well-being was measured with the Ryff Psychological Wellbeing scale (Ryff & Keyes, 1995). Life satisfaction was measure with the Satisfaction with Life Scale (Diener, Emmons, Larsen, & Griffin, 1985). Because these four facets of psychological health were all moderately to highly correlated with each other, $.38 < |rs| < .74$, and because I was interested in the associations between emotion judgments and broadly-construed psychological health, I computed a single psychological health composite, with higher values indicating greater psychological health. All four psychological health variables were z-scored and ill-being measures were reverse-scored. I then computed the mean of the four z-scored variables. Results did not reliably differ for ill-being compared to well-being or for any of the four individual psychological health variables.

Discrete emotion judgments. The same item stems from the EJQ were also used to assess judgments of contentment, joy, excitement, sadness, anxiety, and anger respectively.

Results and Discussion

Aim 1: Associations with Psychological Health

All analyses were conducted in R version 3.3.0. Simple correlations between the four types of emotion judgments and psychological health are shown in Table 8. Positive judgments of positive emotions were associated with better psychological health: Sample B: $r = .33, p < .001$; and Sample C: $r = .31, p < .001$. Negative judgments of positive emotions were associated with poorer psychological health: Sample B: $r = -.29, p < .001$; Sample C: $r = -.26, p < .001$. Associations between positive judgments of negative emotions and psychological health were null or very small: Sample B: $r = .06, p = .34$; Sample C: $r = .16, p = .01$. Negative judgments of negative emotions were associated with poorer psychological health, Sample B: $r = -.25, p < .001$; Sample C: $r = -.25, p < .001$.

To examine the unique effects of the four types of emotion judgments on psychological health, I entered all four factors simultaneously into a multiple regression predicting psychological health (see Table 8). Variance inflation factors (VIFs) were less than 2.25 for all predictors and samples, suggesting acceptable levels of multicollinearity between the predictor variables. Thus, I used ordinary least squares regression. In line with my predictions, positive judgments of positive emotions were associated with better psychological health, Sample B: $\beta = .37, p < .001$; Sample C: $\beta = .28, p < .001$, and negative judgments of negative emotions were associated with poorer psychological health, Sample B: $\beta = -.32, p < .001$; Sample C: $\beta = -.25, p < .001$. Unique associations between the other two types of emotion judgment and psychological health were not statistically significant. All results held when controlling for ideal affect, self-esteem, and state emotions individually.

Aim 2: Judgments of Discrete Emotions and Psychological Health

Associations between positive judgments of three discrete positive emotions and psychological health were comparable to one another and to positive judgments of positive emotions generally: contentment, $r = .17, p < .01$, joy, $r = .20, p < .001$, excitement, $r = .28, p < .001$, and general positive emotions: $r = .31, p < .001$. Likewise, associations between negative judgments of three discrete negative emotions and psychological health were comparable to one another to negative judgments of negative emotions generally: sadness, $r = -.33, p < .001$, anger, $r = -.26, p < .001$, anxiety, $r = -.22, p < .001$, and general negative emotions: $r = -.25, p < .001$. In sum, the results suggest that judgments of discrete emotions of different arousal levels and similar valence are associated similarly with psychological health.

Study 4: Daily Emotional Mediators of Longitudinal Links between Emotion Judgments and Psychological Health

Studies 1-3 provided support for the ideas that individuals differ in their tendencies to make particular emotion judgments and these individual differences are associated with daily emotion processes and psychological health. Next, I wanted to examine longitudinal links between emotion judgments and psychological health, and whether these links are mediated by daily emotion processes.

First, I examined short-term longitudinal associations between habitual emotion judgments and psychological health across an approximately one-month period (Aim 1). I tested longitudinal links between emotion judgments and psychological health one month later. In line with results from Study 2, I hypothesized that more positive judgments of positive emotions would be associated with better psychological health and more negative judgments of negative emotions would be associated with worse psychological health, above and beyond the other types of emotion judgments.

Second, I tested whether habitual emotion judgments predicted daily net emotions and whether they do so above and beyond initial emotions (Aim 2). I predicted that habitual positive judgments of positive emotions would predict more positive net emotions and habitual negative judgments of negative emotions would predict more negative net emotions, above and beyond initial emotions. I also tested whether initial emotions moderated the link between habitual emotion judgments and daily net emotions. For example, habitual judgments of negative emotions may only influence net emotions when initial negative emotions are high. Likewise, habitual judgments of positive emotions may only influence net emotions when initial positive emotions are high.

Third, I examined whether net emotions mediated the links between habitual emotion judgments and psychological health (Aim 3). I predicted that more positive (and less negative) net emotions would explain the links between habitual emotion judgments and psychological health, above and beyond initial emotions.

Fourth, I tested within-person associations between initial, meta, and net emotions (Aim 4). I predicted that initial and meta emotions would both be uniquely associated with net emotions.

Method

Participants

Because one of the goals of Study 4 was to predict individual differences in psychological health, I aimed to collect a sample with high between-person variability in psychological health. To achieve this goal, I collected data from a new sample of 178 undergraduates (Sample E) before and after a stressful midterm exam. After excluding

participants who failed attention checks or did not complete portions of the study, the final sample included 111 participants ($N = 835$ observations) (see Footnote 1). See Table 2 for sample characteristics.

Data Collection Procedure

Data collection for Study 4 took place in three phases. One month before their midterm exam, participants completed an online entrance survey using Qualtrics survey software that assesses habitual emotion judgments, psychological health, and other measures of personality.

Next, five days before their exam, participants began 10 consecutive days of daily diaries ($M = 7.5$ completed diaries, $SD = 2.2$). Because participants were not able to think of an emotional event on 33% of experience-sampling occasions in Study 2 and because emotion judgments and meta emotions were more common during emotional events, I used daily diaries instead of experience sampling in Study 4. Daily diaries allowed for the measurement of initial, meta, and net emotions during the most stressful event of the day, increasing the likelihood that participants would have an event to report on. I chose to assess the most stressful event of the day for two reasons. First, participants in Study 2 experienced generally low levels of negative emotions and made relatively few negative emotion judgments. Negative emotion levels, and perhaps negative emotion judgments, may be more frequent in the context of stress. Second, emotional responses during stress, including positive emotional responses (Ong, Bergeman, Bisconti, & Wallace, 2006), have important implications for psychological health (Hammen, 2005).

Because the length of time between the most stressful event of the day and between the completion of diaries will differ between participants and between measurement occasions, I tested whether time since the event moderated the strength of associations between meta and net emotions. Self-reported number of hours since the event did not moderate associations between meta and net emotions, $p > .53$, suggesting that contamination due to retrospective reporting was limited.

Participants received daily survey links via email at 6 p.m. each day and were instructed to complete the survey as close to the end of the day as possible. The daily diary portion of the study was scheduled such that the first five daily surveys were completed before the midterm exam. The midterm exam took place on day six and participants completed five additional daily surveys after the midterm exam. Finally, six days after the midterm exam, participants completed an online exit survey that assessed habitual emotion judgments and psychological health. Two attention checks were included in the entrance survey and exit survey respectively and one attention check was included in each daily diary. Participants who failed one or more attention check in the entrance survey were excluded prior to analyses ($N = 22$). Participants who failed one or more attention check in the exit survey were excluded prior to analyses ($N = 18$). Days on which the attention check was failed were excluded prior to analyses. Participants received partial course credit for their time.

Measures

Habitual emotion judgments. I assessed habitual emotion judgments using the 24-item EJQ described in Study 1.

Psychological health. To capture multiple aspects of psychological health, I assessed two measures of ill-being (depression and anxiety symptoms) and two measures of well-being (psychological well-being and satisfaction with life). I formed a single psychological health composite using the same measures and the same procedure as in Study 3.

Daily-diary measures. In each daily survey, participants were asked to think of the most stressful event of the day. To assess initial emotions, participants rated the greatest amount of seven positive emotions (joyful, contented, excited, happy, calm, energetic, proud) and eight negative emotions (anxious, sad, angry, nervous, down, annoyed, ashamed, guilty) they felt during the most stressful event of the day. I selected these emotion terms to be representative of various arousal levels and basic emotion categories, and to include emotions likely to be related to emotion judgments. To reduce complexity, I formed a single net emotion composite indicating positive (versus negative) emotional responding. The initial emotion composite had good internal consistency, Cronbach's alphas $> .71$.

To assess meta emotions, participants were instructed to think about "...*how you feel about your feelings*". In other words, we are interested not in how you initially felt but in how you feel about (or evaluate) your feelings. For example, you might feel guilty about being angry or you might feel righteous about being angry. Or, you might feel guilty about being happy or you might feel good about being happy." Participants then rated how they currently felt about their negative and positive emotions respectively on a scale from 1 (I feel extremely bad) to 7 (I feel extremely good), yielding one meta emotion rating referring to positive emotions and one meta emotion rating referring to negative emotions. Like with initial emotions, I formed a meta emotion composite indicating positive (versus negative) meta emotions.

To assess net emotions, participants rated the extent to which they *currently* felt each of the seven positive and eight negative emotions listed above. Like with initial and meta emotions, I formed a net emotion composite indicating positive (versus negative) net emotions. The net emotion composite had good internal consistency, Cronbach's alphas $> .76$.

Results and Discussion

Analyses for Aims 1, 2, and 4 were conducted in R version 3.3.0. Analyses for Aim 3 were conducted in MPlus Version 8.2.

Aim 1: Short-term Longitudinal Associations between Emotion Judgments and Psychological Health

To examine the short-term longitudinal associations between habitual emotion judgments and psychological health, I entered the four types of habitual emotion judgments into a multiple regression predicting psychological health one month later. Negative judgments of negative emotions predicted worse psychological health one month later, $\beta = -.48, p < .001$. None of the other types of emotion judgments were statistically significant predictors of psychological health, $ps > .10$. Longitudinal associations of emotion judgments with psychological health were partially consistent with cross-sectional associations observed in Study 3. Negative judgments of negative emotions were significantly associated with worse psychological health in both studies. However, positive judgments of positive emotions were significantly associated with better psychological health cross-sectionally in Study 3 but not longitudinally in Study 4.

Aim 2: Associations between Habitual Emotion Judgments and Net Emotions

To examine the effects of habitual emotion judgments on net emotions, I used random-intercept random-slope multilevel models predicting daily net emotions from grand-mean centered habitual emotion judgments. Habitual negative judgments of negative emotions was a significant predictor of more negative daily net emotions, $b = -.24, p < .001$, above and beyond the other types of emotion judgments. None of the other types of habitual emotion judgments were statistically significant predictors of daily net emotions, $ps > .13$. Next, I tested whether these associations held above and beyond initial emotions by including person-mean centered initial emotions in the model. Habitual negative judgments of negative emotions remained a

significant predictor of more negative daily net emotions, $b = -.26$, $p < .001$, above and beyond the other types of emotion judgments and initial emotions. None of the other types of habitual emotion judgments were statistically significant predictors of daily net emotions, $ps > .10$.

Finally, I examined whether initial emotions moderated the associations between habitual emotion judgments and net emotions. The only significant interaction was between negative initial emotions and habitual negative judgments of negative emotions, $p = .050$. The effect of habitual negative emotions on more negative net emotions was attenuated at higher levels of negative initial emotions. This is the opposite pattern than the one that was predicted. However, the effect was on the threshold of statistical significance and should be interpreted with caution.

Aim 3: Mediation of the Association between Emotion Judgments and Psychological Health

To examine the mediating role of daily net emotions in the link between habitual negative judgments of negative emotions and psychological health, I used a '2-1-2' random effects mediation model in which the predictor (negative judgments of negative emotions) and the outcome (psychological health) were assessed at level 2 and the mediator (daily net emotions) was assessed at level 1, as described in Preacher, Zhang, & Zyphur, 2011 (see Figure 2). The other three types of emotion judgments were included as covariates.

Consistent with my predictions, habitual negative judgments of negative emotions predicted more negative daily net emotions (a path in Figure 2), above and beyond the other types of emotion judgments, $b = -0.24$, $p < .001$. Moreover, daily net emotions predicted psychological health (b path in Figure 2), above and beyond emotion judgments, $b = 0.71$, $p < .001$. Finally, there was a statistically significant indirect effect of habitual negative judgments of negative emotions on psychological health via daily net emotions, $b = -0.17$, $p = .01$. The total effect of habitual negative judgments of negative emotions on psychological health (c path in Figure 2) was reduced by 41% when accounting for daily net emotions. The direct effect of habitual negative judgments of negative emotions on psychological health (c' path in Figure 2) remained statistically significant, $b = -0.24$, $p = .01$. In sum, daily net emotions accounted for a substantial portion of the effect of habitual negative judgments of negative emotions on psychological health.

Next, I examined the same mediation model controlling for initial emotions (see Figure 3). Daily net emotions predicted psychological health (b path in Figure 3), above and beyond emotion judgments and initial emotions, $b = 0.48$, $p < .001$. Moreover, there was a marginally significant indirect effect of habitual negative judgments of negative emotions on psychological health via daily net emotions, $b = -0.11$, $p = .050$. The direct effect of habitual negative judgments of negative emotions on psychological health (c' path in Figure 2) remained statistically significant when controlling for both initial and net emotions, $b = -0.21$, $p = .002$. In sum, net emotions appeared to mediate the relationship between habitual negative judgments of negative emotions on psychological health above and beyond initial emotions. However, the indirect effect was small and the p value was on the threshold of significance ($p = .050$) and thus should be interpreted with caution.

Aim 4: Associations between Initial, Meta, and Net Emotions

Because initial emotions and meta emotions are theorized to influence net emotions at the within-person level, I examined associations among initial, meta, and net emotions within-people using multilevel models. I entered person-mean centered initial and meta emotions into random-intercept random-slope multilevel models predicting net emotions. Both initial emotions, $b = .38$, $p < .001$, and meta emotions, $b = .15$, $p < .001$, were uniquely associated with net emotions.

These results support the inner portion of my theoretical model (see Figure 1) in which initial and meta emotions both contribute to net emotions.

General Discussion

Emotions are a central part of people's daily experiences. However, people react to their emotions in different ways. Some people judge their emotions as primarily good—appropriate, beneficial, and right. Other people judge their emotions as primarily bad—inappropriate, harmful, and wrong. I propose that individual differences in people's tendencies to make particular types of emotion judgments powerfully shape their emotional experiences and in turn, their psychological health. Specifically, emotion judgments lead to meta emotions (i.e., positive or negative feelings about one's initial emotions). Initial emotions and meta emotions jointly influence net emotions (i.e., the emotions that linger after an emotional event). Finally, repeated instances of net emotions in daily life accumulate to influence psychological health. Results from four studies mostly supported this theoretical model.

Individual Differences in Habitual Emotion Judgments

The present research integrated distinct areas of research on the ways people think and feel about their emotions. Related constructs such as affect valuation, emotion preferences, and emotional acceptance (see Table 1) have previously been studied independently from one another. Here, I provided a systematic framework and questionnaire to assess emotion judgments. I examined the structure of individual differences in emotion judgments, their stability across time, and their associations with other constructs. I conceptualized four types of emotion judgments that differed according to the valence of the emotion being judged (positive or negative) and the valence of the judgments itself (positive or negative). Factor analyses of the Emotion Judgments Questionnaire (EJQ) supported this four-factor structure.

Individual differences in the four types of emotion judgments were not orthogonal to each other. Instead, people who tended to make positive judgments about a particular type of emotion also tended to make less negative judgments about that type of emotion. This was particularly true for judgments of positive emotions. Positive judgments of positive emotions were strongly negatively correlated with negative judgments of positive emotions. This relationship was less pronounced for negative emotions. Positive judgments of negative emotions were moderately negatively correlated with negative judgments of negative emotions. This may be due in part because people, on average, make less polarized judgments of negative emotions. This is reflected in the moderate means for both positive and negative judgments of negative emotions. In contrast, the mean of positive judgments of positive emotions was relatively high and the mean of negative judgments of negative emotions was relatively low.

Individual differences in emotion judgments were moderately stable across time. Test-retest correlations of habitual emotion judgments were smaller than that of broad traits, like the Big Five, but were large enough for emotion judgments to be considered stable tendencies ($.45 < rs < .62$). Future research is needed to disentangle unreliability due to measurement error and unreliability due to change across time. For example, short-term test-retest over hours or days should be compared to long-term test retest over weeks or months. Moreover, replication is needed to understand whether some judgment types are more stable than others.

The moderate temporal stability that I observed for habitual emotion judgments was replicated in daily life. Thirty-nine percent of the variance in daily emotion judgments occurred between people. The remaining 61% of the variance in daily emotion judgments is shared between situational factors and measurement error. This suggests that both individual differences and situational factors influence emotion judgments in daily life. Moreover, habitual and daily

emotion judgments were related to one another, suggesting that responses to the EJQ reflect actual daily tendencies, rather than abstract beliefs.

Associations between Habitual Emotion Judgments and Psychological Health

Emotion judgments should influence the trajectory of emotional responses and, in turn, psychological health. Previous research has shown that constructs related to emotion judgments (e.g., emotional acceptance) are associated with better psychological health (Ford et al., 2018). However, past research has assessed only one or two types of emotion judgments within a single study. Given the observed intercorrelations among the different types of emotion judgments, this leaves open the possibility that a subset of emotion judgments are driving associations with psychological health. The present research addressed this question by examining the unique associations between all four types of emotion judgments and psychological health, above and beyond the other types of emotion judgments.

Across three samples, I found strong support for a unique association between negative judgments of negative emotions and worse psychological health. This association was observed cross-sectionally in Study 3 and over a one-month period in Study 4. The effect size ranged from the low end of “medium” (.25 in Study 3 Sample B) to the low end of “large” (.48 in Study 4 Sample E). I also found partial support for a unique association between positive judgments of positive emotions and better psychological health. A medium effect was observed cross-sectionally in Study 3 in two samples. However, the association was small and not statistically significant cross-sectionally or longitudinally in Study 4. The absence of a statistically significant effect in Study 4 may be due to the smaller sample size relative to the two samples in Study 3. A likelihood ratio can be used to interpret the evidentiary value of mixed results like these (Lakens & Etz, 2017). On average, the three studies had 92% power to detect a medium effect (.25). Given $\alpha = .05$, power = .92, and two statistically significant results out of three samples, the likelihood that the alternative hypothesis is true (an association between positive judgments of positive emotions and psychological health) is 28.51 greater than the likelihood that the null hypothesis is true (no association between positive judgments of positive emotions and psychological health). If the true effect is small (.10), the likelihood ratio becomes 62.09 in favor of the alternative hypothesis. If the true effect is large (.40), the likelihood ratio becomes 4.13 in favor of the alternative hypothesis. Because the true effect size and thus statistical power are unknown, the true likelihood ratio is also unknown. However, for all three levels of statistical power, the observed results would be more likely under the alternative hypothesis than under the null hypothesis. In sum, negative judgments of negative emotions appear to be powerfully linked to psychological health. Positive judgment of positive emotions also appear to be linked to psychological health, but the effect size was smaller and results were less consistent.

Consistent with my predictions, I did not find support for a unique effect of negative judgments of positive emotions or positive judgments of negative emotions on psychological health in any of the samples, $p > .09$. Thus, incongruent emotion judgments (i.e., when the valence of the emotion being judged and the valence of the judgment itself are opposite each other) appear to be inert for psychological health.

Taken together, these findings show that people’s judgments of their emotions are important for their psychological health, above and beyond their initial emotional responses. Many constructs in affective science (e.g., stress reactivity) focus on people’s initial emotional responses to laboratory stimuli or daily experiences. The present findings suggest that these initial emotional responses only explain part of the links between emotion and psychological health. A more complete model of these links should also consider people’s judgments of their

initial emotional responses. This approach is consistent with previous research on related constructs, such as emotional acceptance (Ford et al., 2018), affect valuation (Tsai et al., 2006), and emotion preferences (Tamir et al., 2017). The present research showed that emotion judgments are related to, but distinct from, these other constructs. Moreover, integration of these constructs within a systematic framework should benefit research that aims to better understand mechanistic links between emotion judgments and psychological health.

The Role of Initial, Meta, and Net Emotions

I hypothesized that the associations between habitual emotion judgments and psychological health could be explained by the effects of habitual emotion judgments on daily net emotions. Moreover, I predicted that both initial and meta emotions would uniquely contribute to net emotions in daily life. The present research provided initial support for this theoretical model. In Study 4, net emotions mediated the relationship between negative judgments of negative emotions and psychological health. Furthermore, both initial emotions and meta emotions uniquely contributed to net emotions in daily life.

Negative judgments of negative emotions predicted more negative net emotions in daily life and worse psychological health one month later. Net emotions explained 40% of the link between negative judgments of negative emotions and psychological health. A significant direct effect of habitual negative judgments of negative emotions on psychological health also remained, above and beyond net emotions. There are at least two possible explanations for this direct effect. First, imperfect measurement of net emotions may have reduced the explanatory power of measured net emotions, even if net emotions completely explain the association in reality. Second, emotion judgments might be directly harmful to psychological health or they may be associated with other damaging attitudes and behaviors that we did not measure, such as negative self-perceptions. Future work should seek to disentangle these possibilities to further explain the association between habitual emotion judgments and psychological health.

Limitations and Future Directions

Several open questions remain concerning the effects of emotion judgments on emotional responses and psychological health. First, the present research was correlational and thus cannot address questions about causality. My theoretical model outlines a process through which habitual emotion judgments may lead to better or worse psychological health. A complimentary model in which psychological health causally influences emotion judgments is also plausible. Longitudinal and experimental work is needed to better understand the nature and directionality of the associations between emotion judgments and psychological health. Understanding the directionality of these links has important practical implications. For example, if emotion judgments causally influence psychological health, interventions to change emotion judgments may be particularly useful. In contrast, if psychological health causally influences emotion judgments, emotion judgments may be considered indicators of psychological health.

Second, the precise time-course of initial, meta, and net emotions is still unknown. In the present research, I used a coarse approach to assessing initial, meta, and net emotions in daily life. Initial and meta emotions were measured in relation to the most stressful event of the day (which might have occurred at any point in the previous 24 hours) and net emotions were measured in relation to one's current emotions at the end of the day. Moreover, all three ratings were provided at the end of the day. Future research should examine the time course of initial, meta, and net emotions as an emotional situation unfolds. For example, participants could use rating dials to make second-by-second ratings of their emotions as they experience them during an emotion induction in the laboratory.

Third, the present research cannot speak to the precise weighing of initial and meta emotions in net emotions. In Study 4, initial emotions were more strongly related to net emotions than meta emotions. However, several limitations preclude me from drawing strong conclusions about this observation. First, initial emotions and net emotions were assessed using very similar items, whereas meta emotions were assessed using a different set of items. The relatively stronger association between initial and net emotions could be explained by a shared method effect. Moreover, the influence of initial and meta emotions on net emotions may depend on timescale. More fine-grained assessments of initial, meta, and net emotions as they occur in real-time would provide better estimates of the unique contributions of initial and meta emotion to net emotions.

Fourth, the present research was largely conducted between-people, whereas my model is theorized to unfold within-people across time. Study 4 Aim 4 began to examine this theoretical model at the within-person level. However, even within-person effects from multilevel models are not equivalent to true idiographic analyses (Fisher, Medaglia, & Jeronimus, 2018). Idiographic analyses that are conducted within-individuals across a large number of measurement occasions are needed to understand whether this process unfolds differently for different people. For example, the influence of meta emotions on net emotions might differ for different people. Meta emotions may overpower initial emotions for some people, while only having a small effect on net emotions for other people. The time course of initial, meta, and net emotions may also differ for different people. All of these factors may influence the degree and manner in which emotion judgments influence psychological health. Intensive time series data collected second-by-second in the laboratory or using experience sampling in daily life could begin to answer these questions.

Finally, several open questions remain concerning the sources and antecedents of emotion judgments. How do individual differences in habitual emotion judgments develop? Habitual emotion judgments were only weakly associated with personality, suggesting that more specific developmental factors may influence emotion judgments. Future research should examine factors such as culture, parenting, and socialization to understand how individual differences in habitual emotion judgments develop. Initial findings from the present research suggest that age, gender, and culture may play a role in habitual judgments of positive, but not necessarily negative, emotions. We also know little about the proximal antecedents of emotion judgments. That is, in addition to individual difference factors, features of the situation (e.g., the presence of other people) as well as features of the emotional experience (e.g., emotional intensity) may influence emotion judgments. Experience sampling and experimental manipulations of different situations and emotions should seek to identify such factors.

Conclusion

Everyone experiences emotions. However, not everyone responds to their emotions in the same way. Some people judge their emotions as predominately good and other people judge their emotions as predominately bad. The present research integrated existing research on the ways people think and feel about their emotions in a systematic framework. Results showed that negative judgments of negative emotions result in lingering negative emotions in daily life, which in turn lead to worse psychological health. Moreover, positive judgments of positive emotions may be associated with benefits for psychological health, but further research is needed to test this possibility. In sum, individuals differ in the types of emotion judgments that they tend to make and these individual differences appear to powerfully shape daily emotional responses and in turn, psychological health.

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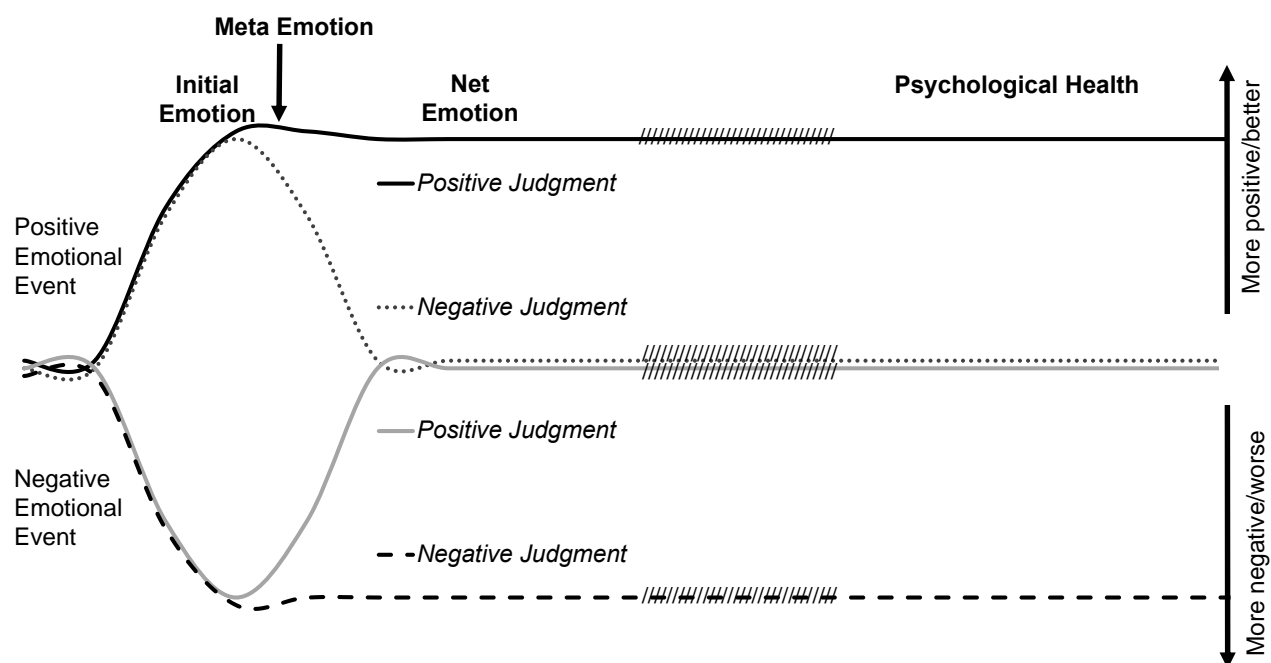


Figure 1. Schematic representation of the effects of emotion judgments on initial, meta, and net emotions, and on psychological health.

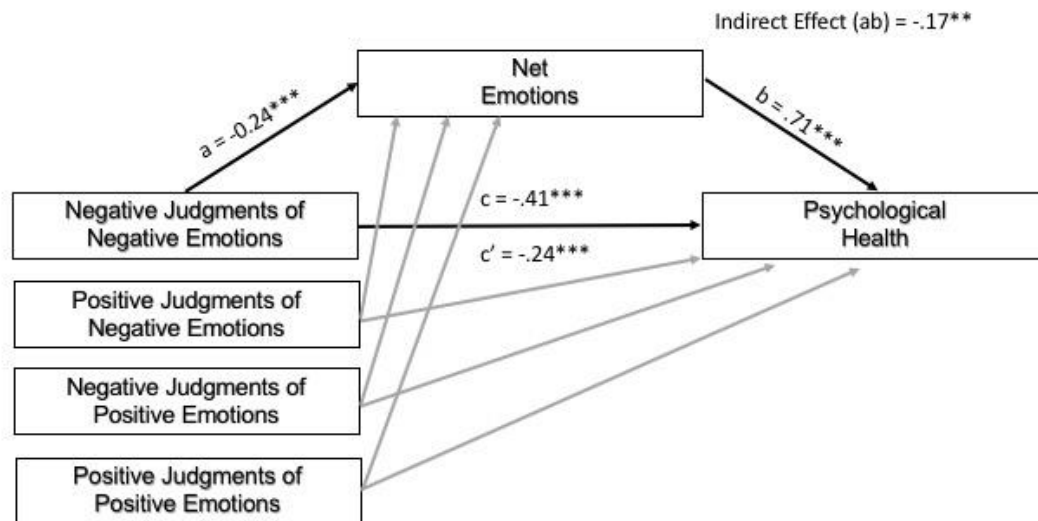


Figure 2. Mediation model from Study 4 testing whether habitual negative judgments of negative emotions predict greater psychological health (a composite of depressive symptoms, anxiety symptoms, psychological well-being, and life satisfaction) via more positive and less negative net emotions. The other types of emotion judgments were included as covariates in the model (paths shown in grey). Correlations among the four types of emotion judgments were also modeled, but are not shown for clarity. $***p < .001$, $**p < .01$.

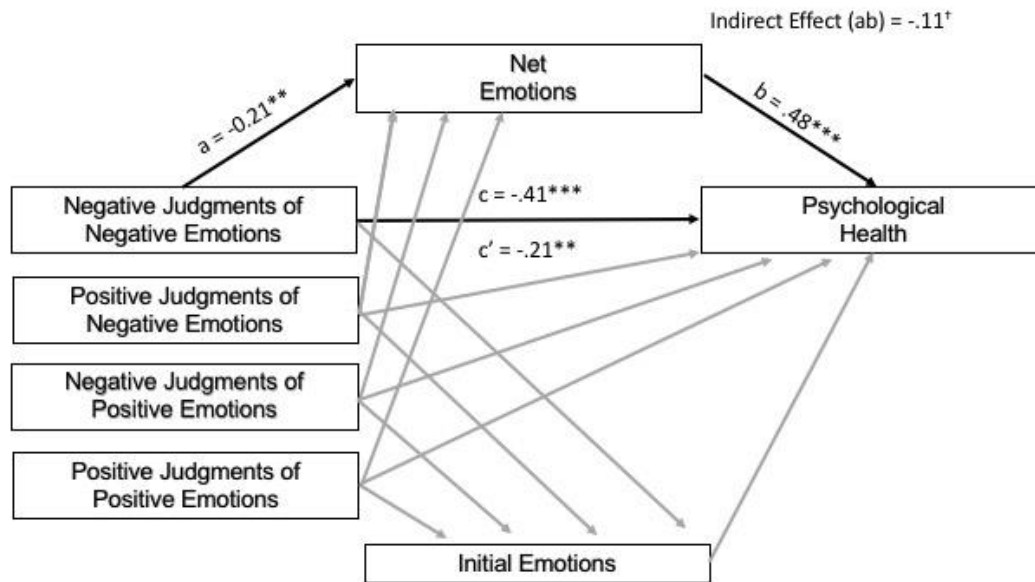


Figure 3. Mediation model from Study 4 testing whether habitual negative judgments of negative emotions predict greater psychological health (a composite of depressive symptoms, anxiety symptoms, psychological well-being, and life satisfaction) via more positive and less negative net emotions. The other types of emotion judgments and initial emotions were included as covariates in the model (paths shown in grey). Correlations among the four types of emotion judgments and between initial and net emotions were also modeled, but are not shown for clarity. *** $p < .001$, ** $p < .01$, $^{\dagger}p = .05$.

Table 1

Theoretical Mapping of Existing Constructs onto Four Types of Emotion Judgments

	Positive Judgments	Negative Judgments
Positive Emotions	Preferences for Positive Emotions Attitudes about Positive Emotions Valuing Positive Emotions Savoring	Fear of Happiness
Negative Emotions	Preferences for Negative Emotions Attitudes about Negative Emotions Valuing Negative Emotions Positive Stress Mindsets	Negative Stress Mindsets Absence of Emotional Acceptance Rumination

Table 2
Studies 1-4: Demographic Characteristics of Samples

Sample	A	B	C	D	E
Population	MTurk	MTurk	Student	Community	Student
Final sample size	593	286	257	81	111
Mean (<i>SD</i>) age in years	34.2 (<i>10.4</i>)	35.2 (<i>10.1</i>)	20.6 (<i>2.1</i>)	34.2 (<i>11.5</i>)	20.9 (<i>4.1</i>)
% Female	45.7	53.2	65.9	77.8	84.7
% European American	68.3	70.3	24.5	51.9	15.3
% Asian American	10.8	8.0	46.7	17.9	61.2
% Black/African American	8.8	8.4	0.8	5.7	0.9
% Hispanic/Latinx	2.9	3.8	11.7	4.7	8.1
% Other ethnicity	1.4	0.7	2.3	3.8	0.0
% Multiple ethnicities	7.1	8.0	12.5	16.0	12.7
% Decline to answer	1.2	0.7	1.6	7.0	1.8

Table 3

Study 1: Oblimin Rotated Factor Loadings on Four Emotion Judgment Factors

	Factor loading	Highest cross loading
Positive judgments of positive emotions		.28
I think it is almost always good for me to feel positive emotions.	.83	
When I feel a positive emotion, I think it is a good thing.	.79	
It is good for me to feel positive emotions.	.76	
I almost always consider my positive emotions appropriate.	.70	
I almost always consider my positive emotions to be beneficial.	.69	
I think almost all of my positive emotions are good.	.67	
Negative judgments of positive emotions		.27
I can be critical of my positive emotions.	.88	
When I feel positive emotions, I sometimes disapprove of them.	.77	
I sometimes consider my positive emotions inappropriate.	.76	
When I feel a positive emotion, I sometimes think it is a bad thing.	.63	
I sometimes think my positive emotions are bad.	.59	
I feel my positive emotions can be harmful.	.53	
Positive judgments of negative emotions		.15
I sometimes think my negative emotions are good.	.86	
I feel that my negative emotions can be useful.	.83	
I often consider my negative emotions to be beneficial.	.74	
I think some of my negative emotions are good.	.72	
I think it is sometimes good for me to feel negative emotions.	.60	
When I feel certain negative emotions, I approve of them.	.52	
Negative judgments of negative emotions		.24
I usually think my negative emotions are bad.	.78	
I usually consider my negative emotions inappropriate.	.74	
I reject my negative emotions.	.74	
I often think my negative emotions are bad.	.70	
When I feel negative emotions, I disapprove of them.	.68	
I feel my negative emotions can be harmful.	.55	

Note. Results are shown for Sample A.

Table 4

Study 1: Descriptive Statistics of the Four Emotion Judgment Factors

	Mean	SD	Skew
Judgments of positive emotions			
Positive judgments of positive emotions	5.80 / 5.90 / 5.47	1.15 / 1.10 / 1.00	-1.01 / -1.15 / -0.50
Negative judgments of positive emotions	2.94 / 2.73 / 3.49	1.49 / 1.43 / 1.32	0.36 / 0.56 / -0.01
Judgments of negative emotions			
Positive judgments of negative emotions	4.00 / 4.30 / 4.72	1.43 / 1.27 / 1.00	-0.14 / -0.58 / -0.81
Negative judgments of negative emotions	4.33 / 4.16 / 4.21	1.41 / 1.25 / 1.04	-0.36 / -0.15 / 0.13

Note. Results are shown for Sample A / Sample B / Sample C.

Table 5

Study 1: Intercorrelations Among the Four Types of Emotion Judgments

	Positive judgments of positive emotions	Negative judgments of positive emotions	Positive judgments of negative emotions
Judgments of positive emotions			
Positive judgments of positive emotions	--		
Negative judgments of positive emotions	-.65 / -.60 / -.53	--	
Judgments of negative emotions			
Positive judgments of negative emotions	-.02 / .06 / -.02	.28 / .25 / .28	--
Negative judgments of negative emotions	.04 / .15 / .16	.15 / .10 / .08	-.51 / -.34 / -.35

Note. Results are shown for Sample A / Sample B / Sample C. Significant correlations ($p < .05$) are shown in bold.

Table 6

Study 1: Age, Gender, and Ethnicity Differences in Emotion Judgments

	Age (Pearson's <i>r</i>)	Gender (Cohen's <i>d</i>)	Ethnicity (Cohen's <i>d</i>)
Judgments of positive emotions			
Positive judgments of positive emotions	.17 / .24 / --	.28 / .39 / .39	-- / -- / -.28 [†]
Negative judgments of positive emotions	-.20 / -.11 [†] / --	-.31 / -.37 / -.46	-- / -- / .64
Judgments of negative emotions			
Positive judgments of negative emotions	-.05 / .08 / --	-.04 / -.08 / -.26	-- / -- / -.06
Negative judgments of negative emotions	-.07 / -.03 / --	-.03 / .04 / .37	-- / -- / .07

Note. Results are shown for Sample A / Sample B / Sample C; -- = Too little variability to assess in this sample.; Significant simple correlations ($p < .05$) are shown in bold; Marginal associations ($p < .06$) are noted with [†]. Positive *ds* reflect higher means for women compared to men and European Americans compared to Asian Americans.

Table 7

Study 1: Simple Correlations between Emotion Judgments, Related Constructs, Broader Traits, and Emotion Experience

	Positive judgments of positive emotions	Negative judgments of positive emotions	Positive judgments of negative emotions	Negative judgments of negative emotions
Related constructs				
Emotional acceptance	.22 / .24 / .10	-.43 / -.41 / -.28	.21 / .04 / .04	-.61 / -.47 / -.47
Ideal affect (HAP)	-- / -- / .18	-- / -- / -.03	-- / -- / -.03	-- / -- / .08
Ideal affect (LAP)	-- / -- / .22	-- / -- / -.20	-- / -- / -.03	-- / -- / .06
Ideal affect (HAN)	-- / -- / -.12	-- / -- / .23	-- / -- / .05	-- / -- / .03
Ideal affect (LAN)	-- / -- / -.06	-- / -- / .12	-- / -- / -.01	-- / -- / .06
Joy preference	.34 / -- / --	-.20 / -- / --	.01 / -- / --	.05 / -- / --
Contentment preference	.36 / -- / --	-.26 / -- / --	-.02 / -- / --	-.06 / -- / --
Sadness preference	-.33 / -- / --	.39 / -- / --	.14 / -- / --	.07 / -- / --
Anger preference	-.33 / -- / --	.35 / -- / --	.16 / -- / --	.01 / -- / --
Anxiety preference	-.28 / -- / --	.34 / -- / --	.12 / -- / --	.08 / -- / --
Broader traits				
Extraversion	.20 / -- / --	-.17 / -- / --	.21 / -- / --	-.20 / -- / --
Neuroticism	-.25 / -- / --	.30 / -- / --	-.22 / -- / --	.37 / -- / --
Self-esteem	-- / .22 / .23	-- / -.13 / -.11	-- / .04 / .20	-- / -.18 / -.16
Emotion experience				
Trait positive emotions	.31 / .30 / .34	-.15 / -.08 / -.13	.25 / .15 / .15	-.14 / -.10 / -.13
Trait negative emotions	-.31 / -.30 / -.22	.38 / .39 / .32	-.11 / .06 / -.05	.32 / .22 / .28
State positive emotions	-- / .22 / .25	-- / -.02 / -.09	-- / .13 / .18	-- / -.07 / -.01
State negative emotions	-- / -.37 / -.18	-- / .41 / .25	-- / -.02 / .03	-- / .16 / .16

Note. Results are shown for Sample A / Sample B / Sample C. -- = Variable was not assessed in this sample.

Table 8

Study 3: Simple Correlations and Multiple Regression Predicting Psychological Health from Emotion Judgments

<i>Predicting psychological health from...</i>	Simple correlation	β	t	p
Positive judgments of positive emotions	.33 / .31	.37 / .28	4.75 / 3.95	< .001 / < .001
Negative judgments of positive emotions	-.29 / -.26	-.01 / -.12	0.02 / 1.64	.99 / .10
Positive judgments of negative emotions	.06 / .16	-.08 / .11	1.21 / 1.71	.23 / .09
Negative judgments of negative emotions	-.25 / -.25	-.32 / -.25	5.13 / 3.76	< .001 / < .001

Note. Results are shown for Sample B / Sample C; Psychological Health = composite of reverse-scored depressive symptoms, reverse-scored anxiety symptoms, psychological wellbeing, and life satisfaction; Significant simple correlations ($p < .05$) are shown in bold; Multiple regression model $R^2 = .20 / .20$.

Footnote 1. Study 4 is part of a larger ongoing study. Data collection will continue until $N = 193$ after exclusions. Identical models will be re-run with the full sample before publication.