



Stressed and Happy? Investigating the Relationship Between Happiness and Perceived Stress

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Abstract Developing interventions to increase happiness is a major focus of the emerging field of positive psychology. Common beliefs about the need to reduce stress to obtain happiness suggest that stress management activities should be included in these interventions. However, the research on the relationship between positive and negative affect is equivocal. Theoretically, they are conceptualized as independent dimensions, but research has often found an inverse relationship between happiness and stress. In addition, the research generally attempts to assess stress objectively rather than in terms of the cognitive appraisal process. The current study examines the relationship between perceived stress and happiness among 100 college students to determine if the same inverse relationship exists. Linear correlations between happiness and perceived stress were significant indicating that there was an inverse relationship between these variables. The discussion focuses on several factors that might help to explain the observed relationship.



Keywords Perceived stress · Happiness · Positive affect · Negative affect · Relationship between stress and happiness

1 Introduction

In recent years, the field of positive psychology has emerged to bring awareness to the role of psychology in making life more fulfilling, enhancing human functioning, and increasing happiness (Seligman 2002). Research has suggested that increasing happiness has multiple benefits. For example, Fredrickson's (1998) broaden-and-build model proposes that positive emotions cause a broadening of thought-action potentials, build personal resources (e.g., social relationships and knowledge), and improve personal functioning (Fredrickson 1998). Lyubomirsky et al. (2005) compiled research documenting that positive affect is associated with multiple positive outcomes including better performance ratings at work, higher salaries, and improved health. Based on the benefits of increasing happiness found

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in the literature, an important goal within the field of positive psychology has been to develop interventions that increase individuals' happiness levels and sustain these gains over time (Seligman et al. 2005). However, the most effective method of achieving these goals still needs to be determined.

Based on the common conception that stress impedes happiness, it would seem that an important way to increase happiness would be to reduce stress levels. However, it has been unclear from research on the relationship between stress and happiness whether stress management would be essential in an intervention to increase happiness. Watson and Tellegen (1985) concluded that positive (e.g., happiness) and negative (e.g., stress) affect were two orthogonal dimensions, which suggests that it is possible to feel both emotions simultaneously. In fact, there is a growing literature on post-traumatic growth, which refers to positive outcomes that can arise from traumatic experiences (Tedeschi et al. 1998). However, some research conducted on the relationship between positive and negative affect has not supported the proposed independence of these two dimensions (Feldman Barrett and Russell 1998; Russell and Carroll 1999), and definitions of these dimensions have varied in the literature.

2 What is Happiness?

Within the literature, happiness has been broadly used to describe positive subjective experiences. Diener's (2000) model of subjective well-being has been one of the most widely accepted definitions of happiness. His model is comprised of three components including the cognitive appraisal of one's life (i.e., life satisfaction) as well as positive and negative affect (i.e., emotions), which are viewed as two separate dimensions. The combination of these three components creates a holistic view of the overall perception of happiness (Pavot and Diener 1993).

In another approach to defining happiness, Lyubomirsky and Lepper (1999) proposed a method that captures the global and subjective qualities of happiness. Rather than assess positive and negative affect separately, this approach attempts to allow the individual to give an overall assessment of the extent to which he or she is a happy person. Thus, it identifies a relatively stable characteristic of happiness separate from life experiences.

Finally, a newer conceptualization of happiness has been Seligman's (2002) definition, which consists of three components including: experiencing positive emotion (the pleasant life), being engaged in life activities (the engaged life), and finding a sense of purpose or meaning (the meaningful life). The most satisfied people pursue all three pathways to happiness, with engagement and meaning having a greater influence (Seligman et al. 2005). Similar to Diener's (2000) conceptualization of happiness, Seligman has identified positive emotion as being an important component in a person's perception of happiness. However, unlike Diener, Seligman has not addressed the role of negative affect in this model.

3 What is Stress?

Stress has been examined previously by measuring its physiological manifestations, the occurrence of major life events, the frequency of daily hassles, and its cognitive appraisal. Similar to the assessment of subjective well-being, the latter approach proposes that a person's cognitive appraisal of stress is the most important factor in evaluating stressful events (Cohen et al. 1983). From this perspective, a person interprets environmental events

based on his or her own values and resources and reacts psychologically, behaviorally, and biologically. Events are only characterized as stressful when the demands of the event outweigh the person's available resources (Cohen et al. 1983).

4 Relationships between Happiness and Stress

The relationship between happiness and stress has been examined both in terms of the negative effects of stress on well-being as well as the role of positive emotions in buffering against stress. Some research has demonstrated the negative effects of stress on well-being (Chatters 1988; Suh et al. 1996; Zika and Chamberlain 1987) and other research has not (Feist et al. 1995).

In terms of the buffering hypothesis, positive emotions have been found to play a key role in undoing the cardiovascular effects of negative emotions (Fredrickson and Levenson 1998; Fredrickson et al. 2000), which may contribute to psychological resilience (Tugade and Fredrickson 2004). When using self-report rather than physiological measures of stress, Van der Werff and Sanderman (1989) did not find support for the buffering effects of happiness on stress. However, Lightsey (1994) found that positive automatic thoughts about self worth did act as a buffer against self-reported stress. Therefore, while subjective conceptions of global happiness may not function as a buffer against stress, specific positive thoughts may.

Finally, interventions targeting both stress and happiness have found that activities such as exercise, meditation, and written expression have been shown to decrease stress while increasing happiness (Compton 2005; King 2001; Lyubomirsky et al. 2006). The effects of these activities have been examined primarily in terms of the physiological aspects of stress. Thus, further study is needed for the cognitive appraisal of stress to determine its relationship to happiness.

Possible explanations for the equivocal nature of the literature on stress and happiness may be due to the multi-dimensional nature of affect. First, measures of affect differ in terms of whether they assess the current mood state versus a long-term affective trait (Rosenberg 1998). It is possible that positive and negative affect may appear to be two ends of the same continuum (i.e., inversely related) in the short-term, but emerge as two separate dimensions when taking a long-term view (Diener 2000). A second dimension on which emotions may differ is the level of arousal experienced (Watson and Tellegen 1985). The discrepancies seen in the literature may also occur if stress has a different relationship with low (e.g., happiness) and high arousal (e.g., inspiration) positive affect, a pattern that has been found with other variables (Kunzmann and Baltes 2003; Kunzmann et al. 2005).

Clearly, further research is required to disentangle the exact nature of the relationship between stress and happiness. Specifically, do stress and happiness operate as two separate dimensions or are they two ends of the same continuum? Is it possible to be happy and stressed? The answers to these questions have important implications for interventions aimed at increasing happiness. If stress and happiness are inversely related, interventions intended to increase happiness should include stress management activities.

5 Current Study

This study sought to examine the relationship between the cognitive appraisal of stress and happiness. Based on the previously established relationship between other aspects of stress

and happiness, it was hypothesized that there would be an inverse relationship between perceived stress and happiness measured from the three conceptual models previously described.

6 Method

6.1 Participants

One-hundred full-time undergraduate students from a small, public liberal arts college in the mid-Atlantic region received credit in a general psychology course for their participation. Participants consisted of 72 females and 28 males and with a mean age of 18.60 ($SD = 1.30$). Approximately 87% of the participants were Caucasian, 3% American Indian or Alaskan Native, 2% African-American, 1% Asian-Pacific Islander, and 7% defined themselves as “Other.”



6.2 Measures and Procedures

Participants completed a set of ten paper-pencil measures in approximately 30 minutes. The measures analyzed in this study are described below in the order they were administered.



6.2.1 Happiness Measures

Three questionnaires were used to assess participants' happiness levels. The Satisfaction with Life Scale (SWLS) was used to assess the participants' overall life satisfaction. Five items (e.g., In most ways, my life is close to my ideal) are rated on a scale of 1 (*not at all true*) to 7 (*absolutely true*) yielding an overall life satisfaction score. This measure has an internal reliability of .87 and a test–retest reliability of .82 (Pavot and Diener 1993). The Subjective Happiness Scale (SHS) assesses participants' subjective sense of global happiness by averaging four items (e.g., Compared to my peers, I consider myself:) rated on a seven-point scale (e.g., from *less happy* to *more happy*). This measure has been shown to have a test–retest reliability of .72 and an internal consistency of .86 (Lyubomirsky and Lepper 1999). The Authentic Happiness Inventory (AHI, also referred to as the Steen Happiness Index) was used to measure Seligman's definition of happiness (M. Seligman, personal communication, April 10, 2006). This scale consists of 24 sets of statements. Within each set there are five statements that range from negative (*I feel like a failure*) to extremely positive (*I feel I am extraordinarily successful*). Participants chose the statement that best described them during the previous week. Preliminary data support the validity of this scale. It has a convergent validity of .79 with the SHS and .74 with Fordyce's Happiness Scale (Seligman et al. 2005). Cronbach's alpha for the three measures in this sample were satisfactorily high: SHS ($\alpha = .82$), SWLS ($\alpha = .86$), and AHI ($\alpha = .92$). The SWLS and the SHS are both global or trait measures; whereas, the AHI assesses participants' current state of happiness.



6.2.2 Stress Measure

The Perceived Stress Scale (PSS) was used to measure participants' appraisal of situations in their life as stressful. The scale consists of ten items asking participants to rate the

frequency of stressful events that occurred in the past month (e.g., How often have you been upset because of something that happened unexpectedly?) on a scale from 1 (*never*) to 5 (*very often*). The PSS is a state measure of stress, which has adequate reliability, .85 (Cohen et al. 1983). Cronbach's alpha for this sample was also .85.



7 Results

Linear correlations were conducted to determine if the study's happiness questionnaires were measuring similar aspects of happiness. Analyses showed significant correlations between the AHI and SWLS ($r = .65, p < .001$), the AHI and SHS ($r = .65, p < .001$) and the SWLS and SHS ($r = .59, p < .001$). Correlations were also conducted to determine if happiness and stress were inversely related. Prior to analysis, one outlier was removed because the person's score on the PSS was unrepresentative of the data set (i.e., the z score was over 4.0). All three measures demonstrated a negative, linear correlation with stress: SWLS ($r = -.48, p < .001$), SHS ($r = -.42, p < .001$) or the AHI ($r = -.58, p < .001$). The amount of variability in stress shared with each of the happiness measures was 23.04%, 17.64%, and 33.64%, respectively. Given the large effect sizes, power for these analyses was approximately 95% (Faul et al. 2007).



8 Discussion

The purpose of the current study was to examine the relationship between perceived stress and happiness. The hypothesis that there would be an inverse relationship between the variables was supported. Participants who perceived higher levels of stress reported being less happy than those with lower levels of stress. Although it has been theorized that positive and negative affect operate on two separate dimensions (Watson and Tellegen 1985), the results of the current study provide support for an inverse relationship between perceived stress and happiness.

Although all three measures of happiness had strong negative correlations with perceived stress, there are some differences in the magnitude of these relationships across happiness measures. The AHI shared approximately one-third of its variability with stress, which is considerably more than the variance shared with the SHS (17.64%) and the SWLS (23.04%). A possible explanation for this difference is that the AHI asks participants to assess their happiness level in terms of the past week instead of the more global assessments asked of participants in the SHS and SWLS. As a state measure, the AHI was designed to be more sensitive to changes in happiness levels, especially toward upward changes (Seligman et al. 2005). The greater magnitude of the relationship between perceived stress and the AHI supports the idea that positive and negative affect appear to be inversely related in the short-term (Diener 2000). While the supposition that they may operate independently in the long-term was not fully supported by these data, the inverse relationship between perceived stress and the trait measures of happiness was somewhat attenuated compared to a state measure of happiness. The shared variability may be due to the fact that people use current mood as information when making global assessments of their level of happiness (Pavot and Diener 1993).

The current study offers some insight into the relationship between perceived stress and happiness; however, certain limitations should be noted. First, our results involving the AHI should be considered cautiously because this test has not been widely used and

published psychometric data are limited. Second, all participants received the questionnaires in the same order, so an order effect may be present. Third, the current study is correlational and cannot determine the causal relationship between happiness and stress. Lastly, the current study utilized a homogenous convenience sample of primarily Caucasian women. Therefore, it is difficult to determine how the results of this study would generalize to a different population.

Future research should examine correlates of happiness that could help to provide a more comprehensive model of the relationship between happiness and perceived stress. For example, personality has been shown to be an important variable when assessing a person's happiness largely because of its effect on how an individual interacts with environmental stimuli (DeNeve and Cooper 1998), which may be important to perceived stress. Coping style has also been identified as an important variable related to happiness (Folkman and Tedlie Moskowitz 2000). Faced with similar amounts of stress, it may be that people who participate in positive, active coping are able to maintain a high level of happiness whereas those who do not experience declines in happiness. Finally, optimism is also a key variable related to both physical health and psychological well-being (Seligman 2002). Optimists may be better able to cope with stressful events than pessimists due to both their cognitive interpretation of those events as well as their behavioral responses to them. Finally, future studies should consider examining the relationship of stress with the latent construct of happiness given the strong correlation among happiness measures.

In summation, this study suggests that current, perceived stress is related to decreases in happiness assessed by both state and trait measures. Therefore, interventions designed to increase happiness may benefit from the inclusion of activities to manage and cope with stress. Interventions may also want to utilize state measures of happiness, such as the AHI, that are sensitive to increases in happiness that may occur as a result of the intervention. Future research on variables that affect the relationship between happiness and perceived stress will clarify how to tailor intervention activities to help individuals maximize their level of happiness.

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