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BRIEF REPORT

The Pursuit of Happiness Can Be Lonely

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Few things seem more natural and functional than wanting to be happy. We suggest that, counter to this intuition, valuing happiness may have some surprising negative consequences. Specifically, because striving for personal gains can damage connections with others and because happiness is usually defined in terms of personal positive feelings (a personal gain) in western contexts, striving for happiness might damage people's connections with others and make them lonely. In 2 studies, we provide support for this hypothesis. Study 1 suggests that the more people value happiness, the lonelier they feel on a daily basis (assessed over 2 weeks with diaries). Study 2 provides an experimental manipulation of valuing happiness and demonstrates that inducing people to value happiness leads to relatively greater loneliness, as measured by self-reports and a hormonal index (progesterone). In each study, key potential confounds, such as positive and negative affect, were ruled out. These findings suggest that wanting to be happy can make people lonely.

Keywords: pursuit of happiness, loneliness, progesterone, well-being, emotion regulation

Few things seem more natural and functional than wanting to be happy. Accordingly, most people, especially North Americans, endorse wanting to be happy above many other goals (Diener, 2000; Myers, 2000) and they do so with the reasonable expectation that happiness not only feels good but is good for you. Indeed, growing evidence suggests that happy people have more friends, more occupational success, and live longer and healthier lives than do less-happy people (Fredrickson, 1998; Lyubomirsky, King, & Diener, 2005). So what could be wrong with wanting to be happy?

Here, we suggest that wanting to be happy may have some surprising negative consequences. We argue that striving for happiness might make people lonely.

This hypothesis is based on western conceptions of happiness, which emphasize *personal* outcomes such as one's own positive feelings (cf. Diener, 2000; Keltner, 2009; Uchida, Norasakkunkit, & Kitayama, 2004). Indeed, Uchida et al. (2004) found that western participants tended to define happiness in terms of positive affect, especially when it is contingent on positive feelings about the self.

Valuing personal outcomes and focusing on the self might come at the expense of connection with others. For example, people who strive for high self-esteem often fail to attend to others' needs (Crocker & Park, 2004), and achievement goals can cause people to disregard others' feelings (Bargh & Barndollar, 1996). Like people who value self-esteem or success, then, people who value happiness might experience decreased social connection and ultimately loneliness. This hypothesis has not yet been empirically evaluated and appears at first glance counterintuitive, perhaps because happiness itself leads to positive outcomes, including social ones (Fredrickson, 1998; Lyubomirsky et al., 2005).

We tested this hypothesis in two studies. Study 1 examined correlations between valuing happiness and daily reports of loneliness in a large community sample. Study 2 tested the effects of an experimental manipulation of valuing happiness on loneliness, as indexed by self-reports and a hormonal indicator of social connection (salivary progesterone).

Study 1

In Study 1, we examined whether a dispositional tendency to value happiness would be associated with greater loneliness. Participants' dispositional tendency to value happiness was assessed

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with a questionnaire. In addition, in a daily diary study, we measured feelings of loneliness following events known to evoke affiliative needs: stressful events (Taylor, 2006). Providing a particular event as a reference point allowed us to assess the experience of loneliness rather than a response set based on participants' self concept (Bolger, Davis, & Rafaeli, 2003; Robinson & Clore, 2002). To account for potential confounds, we controlled for the stressfulness of each event, socially desirable responding, and positive and negative trait affect. We predicted that valuing happiness would be associated with greater loneliness.

Method

Participants

We recruited 320 adults through postings in public areas and an online bulletin. The final sample included 206 participants (58% female) who completed all parts of the study. Participant ages ranged from 20 to 60 years ($M = 41.1$, $SD = 11.5$). Forty-one percent had not completed college, 42% had completed college, and 17% had some graduate training. Most participants were Caucasian (85.7%), with some African-American (2.5%), American-Indian (2.5%), Asian-American (1.5%), Hawaiian (.5%), and multiracial (7.4%) participants.

Procedure

Participants completed measures of demographics, socially desirable responding, trait affect, and valuing happiness in online surveys. Starting a week later, participants filled out 14 daily diaries before going to bed, where they reported the day's most stressful event, how stressful it was, and how lonely they felt during the event.

Measures

Individual differences. V*aluing happiness* was measured with a seven-item scale validated in previous research (Mauss, Tamir, Anderson, & Savino, in press; α for the present sample = .78). An example item is "Feeling happy is extremely important to me." *Socially desirable responding* was measured with the 20-item impression management subscale of the Balanced Inventory of Desirable Responding (Paulhus, 1984; $\alpha = .86$). *Trait positive and negative affect* was assessed with the 10-item subscales of the Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988; αs = .90 and .91).

Daily diaries. Participants filled out diaries on 14 consecutive days, before going to bed. In each diary, they identified the day's "most stressful event." As an index of the *stressfulness* of the event, participants rated how much the event would impact their lives (0 = very slightly/not at all; 4 = very). Then they rated the degree to which they felt *lonely* during the event on the same scale. Most (98%) of the participants completed at least 10 diaries, and all but one completed at least seven diaries.

Results and Discussion

To examine whether valuing happiness predicted loneliness, we conducted multilevel analyses in HLM 6.08 with daily loneliness as a Level 1 (within-individual) outcome and valuing happiness as a Level 2 (between-individual) predictor (Raudenbush & Bryk, 2002). We found that the more participants valued happiness, the more lonely they felt during each day's most stressful event, $\beta = .36$, $t(228) = 6.75$, $p < .001$.[1] This result held when controlling for age, gender, socioeconomic status, socially desirable responding, trait positive and negative affect, and stressfulness of the daily events, βs $> .159$, ts$(227) > 2.72$, ps $< .007$.[2]

These results suggest that valuing happiness is linked to greater loneliness and that this association was not due to key potential confounds. These findings are suggestive but not definitive of a causal relationship between valuing happiness and feelings of loneliness. Thus, in Study 2 we tested such a causal relationship.

Study 2

In Study 2, we experimentally manipulated the extent to which people valued happiness and then measured loneliness during a nonstressful film clip designed to activate affiliative motives (Schultheiss, Wirth, & Stanton, 2004). Following others' approaches (e.g., Brown et al., 2009) and as in Study 1, we used a particular context to trigger some degree of affiliative motives and thus enhance variance in experience of loneliness. In Study 2, we used an affiliation film clip rather than a stress induction because it allowed us to test generalizability of the effects of valuing happiness across two differently valenced contexts. To provide converging evidence, we assessed self-reported loneliness and also hormonal responses known to be sensitive to loneliness (i.e., progesterone, with greater progesterone being associated with lower loneliness; Brown et al., 2009; Schultheiss et al., 2004). To ascertain that effects of valuing happiness on loneliness were not due to affect, we controlled for self-reported positive and negative affect as well as a hormonal index of negative affective responding (cortisol).

Method

Participants

Forty-three female undergraduates ($M_{Age} = 20.4$ years, $SD = 5.4$) participated in sessions scheduled between 10 a.m. and 6 p.m. in exchange for partial course credit. Only female participants were recruited because Study 1 and prior research (Mauss et al., in press) showed no gender effects of valuing happiness and because salivary progesterone levels differ by gender (Schultheiss et al., 2004). The sample included 28 European-Americans, 3-African Americans, 3 Asian-Americans, 1 Middle-Easterner, and 2 multiracial individuals. On average, participants' last menstruation was 14.5 days ($SD = 8.8$) prior to the day of the study and 66% of participants were taking oral contraceptives.

[1] The effect of valuing happiness was constant over time, as the slope was not significant.

[2] Each of these variables was entered individually into the model. Stressfulness of the event was entered as a Level 1 (within-individual) predictor; all other variables were entered as Level 2 (between-individual) predictors.

Procedure

Participants were told the study was about "TV programming." To neutralize and equate emotional states across participants, the session began with a 2-min affectively neutral film clip ("baseline film clip"). Participants then rated the extent to which they felt lonely and provided a saliva sample.

Participants were then randomly assigned to either the "valuing happiness" or an experimental control condition. Participants in the "valuing happiness" condition read a bogus newspaper article that extolled the benefits of happiness and closely matched the dispositional values measured in Study 1. The article included the following material:

> People who report higher than normal levels of happiness experience benefits in their social relationships, professional success, and overall health and well-being. That is, happiness not only feels good, it also carries important benefits: the happier people can make themselves feel from moment to moment, the more likely they are to be successful, healthy, and popular. (. . .)

Participants in the control group read an identical article except that the word happiness was replaced with "accurate judgment." Thus, in each condition participants were induced to have a self-improvement goal. This procedure has been validated for the manipulation of valuing happiness in that (a) reading the valuing-happiness article led participants to value happiness more than did reading the accurate-judgments article and (b) reading the paragraphs did not influence mood (Mauss et al., in press).

All participants then watched a 35-min film clip known to activate themes of affiliation and intimacy (Schultheiss et al., 2004). Participants rated the extent to which they felt lonely and their positive and negative affect, and provided another saliva sample.

Measures

Self-reported loneliness. Participants rated the extent to which they felt "lonely" and "distant from other people" (1 = not at all; 9 = extremely, $\alpha = .80$).

Self-reported affect. Participants rated the extent to which they felt two positive emotions (joyous, happy; $\alpha = .82$) and five negative emotions (angry, frustrated, anxious, sad, shameful; $\alpha = .68$) (1 = not at all; 9 = extremely, $\alpha = .80$).

Progesterone and cortisol. At both sampling points, participants used a fresh sugar-free chewing gum to collect 5 ml of saliva in a sterile polyethylene vial. Vials were frozen immediately after each session. Progesterone concentration in saliva was determined with duplicate samples using an enzyme immunoassay (EIA) kit (No. 1–1502 Salimetrics, LLC) that detects levels in the range of 5–2430 pg/ml with a sensitivity of 5 pg/ml. The antibody in this kit shows minimal cross reactivity (0.07% or less) with other steroids present in the saliva. Individual participants' samples were not split across different assay plates. Cortisol concentration in saliva was determined similarly using a commercial expanded range high sensitivity EIA kit (No. 1–3002, Salimetrics, LLC) that detects levels in the range of .003–3.0 μg/dl with a sensitivity of 0.003 μg/dl. Standard curves were fit by a weighted regression analysis using commercial software (Gen5) for the plate reader (Biotek). Inter- and intra-assay coefficients of variability based on laboratory control samples included in both assays were less than 7.5% for both steroids (DiPietro, Costigan, Kivlighan, Chen, & Laudenslager, 2011; Gozansky, Lynn, Laudenslager, & Kohrt, 2005). Duplicates exceeding 10% coefficient of variation were rerun in triplicate and the median value was reported. Both steroids in saliva show linearity of dilution in assay buffer between 1:1 and 1:25.

Results and Discussion

Randomization Checks

The valuing happiness group did not differ from the control group with respect to days since last menstruation, $t(41) = .54$, $p = .59$, proportion of participants who were taking oral contraceptives, $t(39) = 1.23$, $p = .23$, or time of day of the laboratory session, $t(41) = -1.04$, $p = .30$. Thus, groups were equivalent with respect to key factors that can influence salivary progesterone and cortisol (Liening, Stanton, Saini, & Schultheiss, 2010). During the baseline film clip, the two groups did not differ in terms of self-reported loneliness, $t(41) = .92$, $p = .37$, or progesterone, $t(41) = -.42$, $p = .68$ (for descriptive statistics, see Table 1).[3]

Effects of Valuing Happiness on Self-Reported Loneliness and Progesterone

Analyses of variance with experimental condition (valuing happiness vs. control) as a between-groups factor were conducted on (a) self-reported loneliness after the affiliation film clip and (b) progesterone after the affiliation clip. The first analysis revealed that the valuing happiness group reported greater loneliness than the control group, $F(1, 38) = 6.73$, $p < .01$. This effect remained significant when controlling for self-reported loneliness after the baseline film clip, self-reported positive and negative affect, and cortisol level after the affiliation clip, $F(1, 38) = 9.53$, $p < .01$ (Figure 1, Panel A). The second analysis revealed that the valuing happiness group exhibited lower progesterone than the control group, $F(1, 38) = 4.30$, $p < .05$. This effect remained significant when controlling for baseline progesterone, self-reported positive and negative affect, and cortisol after the affiliation clip, $F(1, 38) = 5.73$, $p < .05$ (Figure 1, Panel B).

These results demonstrate that, in a context known to activate affiliative motives, people made to value happiness felt lonelier than a control group. Supporting the reliability of this finding, this pattern was obtained for self-reported loneliness as well as for progesterone. Moreover, these effects held when controlling for positive affective responding (self-reports) and negative affective responding (self-reports and cortisol), suggesting that state affect does not account for these effects.

General Discussion

Two studies suggest that wanting to be happy may make people lonely. In Study 1, the more participants valued happiness the greater loneliness they reported experiencing during stressful daily

[3] Differences in degrees of freedom are because of variation in missing values across measures.

Table 1
Study 2: Means (Standard Deviations) of Self-Reported Loneliness and Progesterone at Baseline and After the Affiliative Film Clip

Variable	Experimental group	Time point	
		Baseline	Affiliative film clip
Self-reported loneliness (1–9)	Valuing happiness group	$2.6\ (1.6)_a$	$3.7\ (2.1)_b$
	Control group	$2.3\ (1.7)_a$	$2.5\ (1.6)_a$
Progesterone (pg/ml)	Valuing happiness group	$60.4\ (60.9)_a$	$64.0\ (47.8)_a$
	Control group	$68.7\ (56.0)_a$	$104.4\ (70.1)_b$

Note. Values within a type of measure that do not share a subscript are different from one another at $p < .05$ as determined by *T* tests.

events. This effect was not due to age, gender, socioeconomic status, socially desirable responding, trait affect, or stressfulness of the daily events. In Study 2, participants who were experimentally induced to value happiness, as compared with a control group, exhibited greater loneliness as indexed by self-report and a hormonal index. Consistent with the idea that effects of valuing happiness are specific to loneliness, this effect was not due to state affect. These patterns emerged regardless of whether (a) happiness values were measured as an individual difference or manipulated experimentally, (b) loneliness was measured via self-report or hormones, (c) the effects were measured immediately versus over two weeks, and (d) loneliness was measured in the context of a stressful or a nonstressful affiliative context.

The current findings present a possible explanation for why a desire for happiness can lead to reduced happiness and well-being (Mauss et al., in press; Schooler, Ariely, & Loewenstein, 2003). It may be that the desire for happiness decreases happiness and well-being because it evokes loneliness. Indeed, loneliness is one of the most robust negative predictors of happiness and well-being (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006; Steverink & Lindenberg, 2006).

Future research should explore moderating and mediating variables of the present effect. In terms of moderators, the type of happiness that is pursued may constitute an important boundary condition (cf. Gruber, Mauss, & Tamir, 2011). Our argument rests on the notion that in western contexts, people tend to define happiness in terms of personal outcomes (Uchida et al., 2004). Consequently, valuing happiness might lead to a focus on the self, potentially damaging social connections. Individuals who define happiness less in terms of personal positive feelings (e.g., individuals with Asian cultural backgrounds: Uchida et al., 2004; those with relatively pronounced communal goals: Brunstein, Schultheiss, & Grässman, 1998) might show weaker or even reversed effects of valuing happiness on loneliness. In terms of mediators, the present results are consistent with the idea that when people place high value on personal outcomes—whether that be self-esteem, success, or happiness—they might become more concerned with themselves and less concerned with others, which may via social processes contribute to increased feelings of loneliness. To fully evaluate this model, it will be important to measure presumed mediators such as self-focus, social-support networks, or affiliative behaviors. Future studies that address such possible moderators and mediators could help clarify the mechanism by which valuing happiness influences loneliness.

Together, the present findings lead to the surprising conclusion that the pursuit of happiness might make people lonely. Thus, *wanting* to be happy may sometimes have opposite effects than *being* happy, which often leads to positive social outcomes (cf.

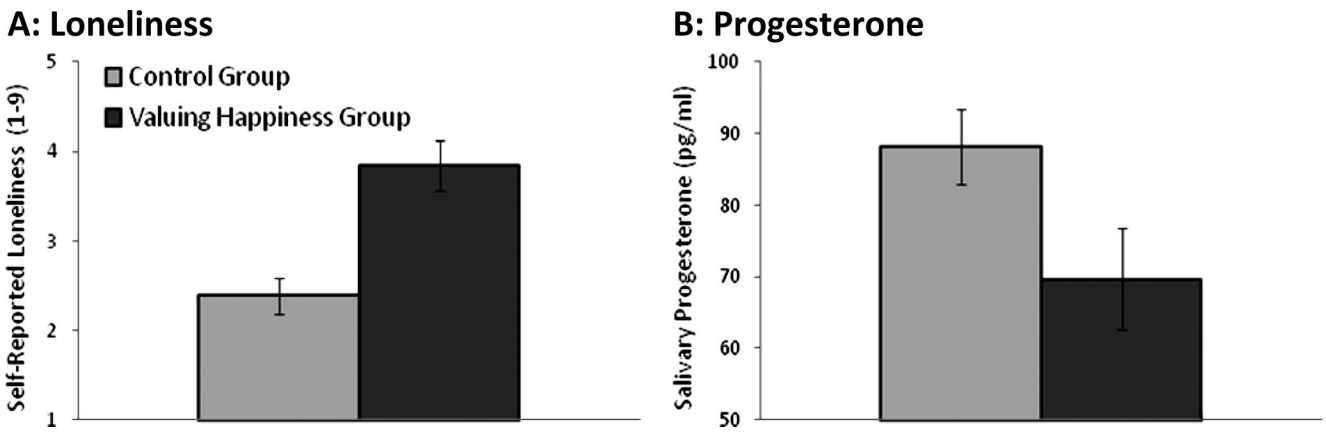

Figure 1. Study 2: Effect of experimental manipulation on self-reported loneliness (A) and progesterone (B) after the affiliation film clip. Means are adjusted for baseline responding as well as positive affect, negative affect, and cortisol responding to the affiliative film clip. Error bars depict standard error of the mean.

Fredrickson, 1998; Lyubomirsky et al., 2005). Therefore, it may be that to reap the benefits of happiness people should want it less.

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