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Implications of Individual Differences in Subjective Happiness for Perceiving, Interpreting, and Thinking About Life Events[1]

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Both anecdotal and empirical evidence suggest that characteristically happy and unhappy individuals seem to differ in the ways in which they respond to life events and daily situations. This paper reports two questionnaire studies and a laboratory study testing the hypothesis that happy people perceive, interpret, and think about the same events in more positive ways than do unhappy ones. The results of Study 1 showed that students nominated by their peers as "very happy" reported experiencing similar types of both positive and negative life events, as did peer-nominated "unhappy" students. However, self-rated happy students tended to think about both types of events more favorably and adaptively—e.g., by seeing humor in adversity and emphasizing recent improvement in their lives. This pattern of results was conceptually replicated in Study 2 using hypothetical events. In Study 3, self-rated happy students interacted with a female confederate in the laboratory, then watched a series of videotapes depicting a fellow (but unfamiliar) student in three different situations. Happy individuals liked the person they met, and recalled her in more favorable terms, more than did unhappy ones. The same pattern of results, albeit weaker, was found for liking of the videotaped target. Implications of our findings for the question of how happiness (or unhappiness) is maintained are discussed.

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In a now classic study, Philip Brickman and his colleagues interviewed individuals who recently had either been involved in a crippling accident, won anywhere from $50,000 to $1,000,000 in the Illinois State Lottery, or (like most of us) experienced neither the sudden tragedy nor the sudden windfall (Brickman, Coates, & Janoff-Bulman, 1978). Strikingly and surprisingly, regular folks reported being no less happy than the lottery winners and only somewhat happier than the paraplegics and quadriplegics; lottery winners reported enjoying day-to-day activities (such as watching television) significantly less than did controls; and no differences among the three groups were found in predictions of their future happiness. These findings are a powerful blow to the "objectivist" approach to happiness—that is, the notion that happy people are simply those with the most advantages (for reviews see Argyle, 1987; Diener, 1984; Diener, Suh, Lucas, & Smith, 1998; Eysenck, 1990; for reviews).

In marked contrast is the view that how people perceive, interpret, recall, and actually experience life events may be more critical to their happiness than the nature of the events themselves. Indeed, we all know individuals who have a "talent" for happiness, who see the world in rose-colored glasses, who are resilient rather than vulnerable in the face of tremendous stress, and who make the most of what they have (Freedman, 1978; Myers & Diener, 1995; Ryff & Essex, 1992; Ryff, Singer, Love, & Essex, in press; Taylor & Brown, 1988). We are also all familiar with people who see the world in "blue-colored spectacles" (Eysenck, 1990), dwell on minor failures (Lyubomirsky, Kasri, & Zehm, 1998; Lyubomirsky & Kim, 1998), and derive little pleasure from life. In the present research, we sought to show that individual differences in happiness levels are linked with individual differences in how people perceive, interpret, and think about life events and situations, large and small. More specifically, we hypothesized that chronically happy and unhappy individuals perceive, interpret, think about, and indeed experience life events in a way that serves to support, or even enhance, their respective affective dispositions.

Happiness, or subjective well-being, appears to be relatively stable over time and consistent across situations (e.g., Costa, McCrae, & Zonderman, 1987; Diener, 1994; Diener et al., 1998; Sandvik, Diener, & Seidlitz, 1993). Although a substantial genetic component for happiness has been identified (e.g., Lykken & Tellegen, 1996), it is important to examine the mechanisms by which happiness is maintained. As an example, consider dental health. Although people inherit varying levels of dental health, they must protect their teeth from environmental damage (sugar, irritants) by caring for them (brushing, flossing, visiting the dentist), in order to avoid experiencing deteriorating dental health (plaque, decay, disease). While some individuals

do not have to work as hard at maintaining their happiness, others do not have to work as hard at maintaining their smiles. However, even chronically happy people must put effort into maintaining their happiness, especially in the face of "environmental damage" (such as negative life events).

Thus, the question of how people maintain their happiness has both theoretical and applied potential. Little empirical evidence, however, bears directly on this issue. A notable exception is work by Diener and his colleagues, who have used a memory recall paradigm to show that happy people interpret life events more positively than unhappy ones (Seidlitz & Diener, 1993; Seidlitz, Wyer, & Diener, 1997). These researchers have argued that cognitive processes associated with the encoding of life events contribute to the maintenance of well-being. Similarly, the well-being of older women has been found to be directly related to the ways they interpret a significant life experience—that is, relocation (Ryff & Essex, 1992). There is also evidence that happy people may actually "create" for themselves a relatively greater number of favorable life events (Heady & Wearing, 1989), and that their emotional reactions are more intense to positive events, but less long-lasting to negative events (Seidlitz et al., 1997, Study 2). Relatively happy people have been shown additionally to think more positively about themselves (Campbell, 1981), feel more personal control (Larson, 1989), and rate recent experiences in their lives as more pleasant (Matlin & Gawron, 1979).

Research from our own laboratory has suggested that self-rated happy and unhappy individuals respond to naturally occurring life events, as well as situations constructed in the laboratory, in a manner supportive of their well-being and self-regard. For example, happy individuals tend to be less influenced in their moods, self-confidence, and evaluations of their abilities by the superior performance of a fellow student (Lyubomirsky & Ross, 1997) or a competing "team" (Tucker & Lyubomirsky, 1998). Furthermore, happy people, relative to unhappy ones, are more likely to be satisfied with all their options following both trivial and ego-threatening decisions—for example, choices among fancy desserts or prospective colleges (Lyubomirsky & Ross, 1998).

The notion that happy and unhappy people differ in their experience, evaluation, and recall of life events is consistent with top-down theories of well-being, which posit that happiness results from a "general propensity to experience things in a positive way" (Diener, 1984, p. 565; see Brief, Butcher, George, & Link, 1993; Costa et al., 1987; Feist, Bodner, Jacobs, Miles, & Tan, 1995; Headey, Veenhoven, & Wearing, 1991, for empirical tests). Thus, one may imagine that when such perceptions and experiences are repeated over a lifetime, happy and unhappy people may be able to preserve (or even promote) their happiness and unhappiness, respectively. A number of processes may simultaneously play a role. For example, a happy individual may develop a rich network of positive associations (and

a thin network of negative ones) (Bower, 1991). Or a happy person may draw optimistic inferences from life events, leading her to a more positive assessment of the gap (or lack thereof) between her accomplishments and aspirations (Argyle, 1987; Csikszentmihalyi & Wong, 1991; Michalos, 1985). Or she may avoid dwelling on the negative aspects of events and, instead, focus on their positive and productive features (Diener, 1998; Lyubomirsky et al., 1998; Lyubomirsky & Kim, 1998) or compare the events favorably to her past (e.g., Parducci, 1995; Tversky & Griffin, 1991).

A nagging question remains to be addressed, however. Are dispositionally happy individuals simply more likely to sport relatively positive moods, and it is these moods, in turn, that influence their reactions to life events? (See Bower, 1991; Forgas, 1991, for reviews.) There is abundant evidence that happy people experience more positive affect, and less negative affect, than do unhappy ones (e.g., Diener, Sandvik, & Pavot, 1991; see also Lyubomirsky, 1994; Lyubomirsky & Ross, 1997, 1998). Indeed, people may use their "moods as information" when reporting on their global well-being (Schwarz & Bohner, 1996), a process that could result in situationally induced variations in happiness judgments. However, although transient mood undoubtedly contributes (and, by definition, should contribute) to long-term happiness, it is much more likely to fluctuate over time than is happiness (Diener & Larsen, 1984). Furthermore, mood appears to affect neither the rated intensity of positive or negative events (Cohen, Towbes, & Flocco, 1988), nor the number of stressful or negative events people report as having had experienced (Siegel, Johnson, & Sarason, 1979). Finally, previous studies have attempted to elucidate the role played by mood by controlling for it statistically, and have found that the effects of dispositional happiness remain significant (e.g., Lyubomirsky & Ross, 1997; Seidlitz & Diener, 1993). Thus, increasing evidence suggests that differences between happy and unhappy individuals' responses to life events and laboratory manipulations may be, at best, only partially influenced by differences in their transient moods at the time of study (see Diener, 1984, 1994). However, it remains critical for researchers to continue investigating the role that mood states play in the relation between chronic happiness and cognition, motivation, and behavior.

Present Research

Our working hypothesis in the present research was that happy and unhappy individuals would differ in how they perceive, interpret, and think about (or "cope" with) a variety of both real and hypothetical events. Specifically, we predicted that people would respond differently to the same situations, events, or life circumstances as a function of whether they were

chronically happy or unhappy. How does one assess reactions to the *same* events? Several approaches were used to address this question (see Aspinwall & Taylor, 1997, for a review of similar efforts in other domains). In Study 1 (Part I), participants (a) completed a standard checklist of life events and (b) spontaneously described two actual life events (one positive and one negative) they had recently experienced. To determine whether there were group differences in the valence of reported life events, both the participants and independent judges rated a portion of these events on how generally positive they were (Part II). Alternatively, in Study 2, all participants were presented with the same set of hypothetical life scenarios, and, finally, in Study 3, all students were exposed to the same two experiences in the laboratory—meeting and interacting with a confederate and observing the videotaped behavior of a peer.

Our three studies allowed us to test differences in how positively or negatively happy and unhappy people perceive and interpret events, as well as the ways in which they think about these events. To this end, we collected ratings of positivity and negativity (Studies 1 and 2), reports of liking and trait perceptions (Study 3), and open-ended responses to ambiguous hypothetical events (Study 2). In addition, the strategies that people use in thinking about events in their own lives (Study 1, Part I) and responding to hypothetical situations (Study 2) were assessed. Finally, the role of current mood was tested in all three studies.

STUDY 1: PART I

The hedonic impact of a triumph or a downfall will, in part, be determined by the individual's definition of the event (e.g., as threat vs. challenge), his or her interpretations (e.g., as signaling progress vs. revealing weakness), and the ways in which he or she continues to think about the event (e.g., with a sense of tragedy vs. a sense of humor, favorably vs. unfavorably comparing it to the past, or dwelling on it vs. avoiding thoughts of any kind). As an initial step in examining some of these processes, our first study investigated the extent to which self-rated or peer-nominated happy people differ from unhappy people in their overall hedonic judgments of life events, as well as in the cognitive strategies they use when thinking about these events.

Method

Participants and Procedure

Introductory psychology students, 62 women and 75 men, participated in this study to fulfill a course requirement. Students completed the study's

materials in group sessions, which lasted approximately 30 min. They were told that we are interested in exploring "the different ways that people think about events in their lives" and instructed to take a few minutes to think about their answers. A full debriefing followed each session.

Materials

Subjective Happiness Scale. Participants were first asked to complete the Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, in press). The first item on the scale asked students to characterize themselves using absolute ratings (1 = *a very unhappy person*; 7 = *a very happy person*). The second item asked them to characterize themselves relative to their peers (1 = *much less happy*; 7 = *much more happy*). The third and fourth items, respectively, characterized happy people ("Some people are generally very happy; they enjoy life regardless of what is going on, getting the most out of everything") and unhappy people ("Some people are generally not very happy; although they are not depressed, they never seem as happy as they might be") and each asked participants to what extent each characterization described them (1 = *not at all*; 7 = *a great deal*). Two items were purposefully created as relatively specific and two items as relatively general, allowing respondents to define happiness for themselves. Although the general items in part involve appraisals of self-esteem, mood, and self-efficacy—i.e., all "resources" that happy people possess and unhappy people lack—our 4-point scale is not multidimensional.

Responses to the four items, which showed good internal consistency (Cronbach's α = .89), were combined and averaged to provide a single composite score, ranging from 1.0 to 7.0. This measure of global subjective happiness has been found to have good to excellent validity and reliability in 14 studies (N = 2,732). Data have been collected in the United States from students on two college campuses and one high school campus, from community adults in two California cities, and from retired adults. Students and community adults in Moscow, Russia, also participated in these studies to assess the scale's reliability and construct validity.

The SHS has demonstrated high internal consistency (Cronbach's αs range from .85 to .95 in seven different studies), a unitary structure, and high test-retest stability (Pearson's r = .90 for 4 weeks and .71 for 3 months). It further has been shown to correlate highly with informant ratings of happiness (r = .65). As expected, moderate correlations have been found with measures of constructs theoretically related to happiness, including Scheier and Carver's (1985) Life Orientation Test (rs ranged from .47 to .62 in four studies), Rosenberg's (1965) Self-Esteem Scale (rs ranged

from .53 to .58 in four studies), the Beck Depression Inventory (BDI; Beck, 1967) (*r*s ranged from –.49 to –.65 in four studies), extraversion (r = .36) and neuroticism (r = –.50) as assessed by the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975), and positive emotionality (r = .48) and negative emotionality (r = –.39) as assessed by Tellegen's (1985) Differential Personality Questionnaire. Furthermore, the happiness measure has shown strong relationships with other widely used scales of subjective well-being, such as Bradburn's (1969) Affect-Balance Scale (*r*s ranged from .49 to .64 in three studies), and his Global Happiness item (*r*s ranged from .57 to .69 in three studies), Andrews and Withey's (1976) Terrible-Delighted Scale (*r*s ranged from .59 to .71 in three studies), and Diener, Emmons, Larsen, & Griffin's (1985) Satisfaction With Life Scale (*r*s ranged from .61 to .69 in three studies). Finally, the first item on the scale, which arguably is the most "face valid," as well as lacking appraisal-related content, has shown virtually identical correlations as the composite with these related measures, as well as across time periods and informants. As expected, no significant correlations have been found between the SHS and college grade point average, math and verbal ability, age, sex, and education. For further information on the characteristics of this measure, see Lyubomirsky and Lepper (in press).

After completing the SHS, students were asked to name one or two individuals who they felt fit our description of a very happy or a very unhappy person particularly well. The individuals they named were required to be people they knew well and who were also enrolled in the class. This information was subsequently used in Part II of our study (see below).

Beck Depression Inventory. Participants also completed the short form of the Beck Depression Inventory (BDI-SF; Beck & Beck, 1972). Data from students with scores of 7 and above (i.e., those classified as dysphoric) were not used in further analyses. The correlation between participants' BDI scores and the happiness composite was moderate (Pearson's r = –.49).

Preliminary Mood Questionnaire. Before proceeding, participants completed a set of Likert mood scales that had been used in previous studies (Lyubomirsky & Nolen-Hoeksema, 1993, 1995; see also Aspinwall & Taylor, 1993). Although a standardized instrument, such as the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988), has more desirable psychometric properties, we felt that the shorter scales would be less likely to alert participants to our hypotheses. Students rated the extent to which they were feeling good, happy, low, and in a bad mood using 7-point scales (1 = *not at all*; 7 = *a great deal*). These scales were com-

Table I. Means, Standard Deviations (in Parentheses), and t-Values for Cognitive Strategies Used in Response to Positive and Negative Events as a Function of Happiness Status in Study 1 (Part I)[a]

Cognitive strategy	Participants: Happy (n = 64) M	(SD)	Participants: Unhappy (n = 44) M	(SD)	t-value
Positive events					
1. I just enjoyed [the event] and didn't think about it too much (e.g., didn't analyze it, didn't compare it).	5.12[a]	(1.49)	4.50[b]	(1.64)	2.23[b]
2. I imagined [the event] vividly, thought about *how* it happened.	4.84[a]	(1.37)	4.35[b]	(1.33)	2.10[b]
3. I thought about the negative aspects of [the event].	2.92[a]	(1.37)	3.86[b]	(1.48)	3.73[d]
4. I hardly thought about [the event] at all.	4.14[a]	(1.48)	3.74[a]	(1.54)	1.53
5. When reminded of [the event], I thought about how much worse things are now.	1.13[a]	(0.65)	1.16[a]	(0.67)	0.27
6. When reminded of [the event], I compared it to the past and thought about how much worse things were then.	3.11[a]	(1.72)	3.37[a]	(1.69)	0.90
Negative events					
1. I distracted myself and didn't think about [the event] at all (e.g., didn't analyze it, didn't compare it).	3.53[a]	(1.73)	3.20[a]	(1.42)	1.20
2. I found something positive and productive about [the event] (e.g., thought about what was learned from it, looked at its positive aspects, thought about the accomplishment of having survived it).	5.39[a]	(1.27)	4.89[b]	(1.40)	2.08[b]
3. I looked at [the event] with a sense of humor (e.g., thought about its funny aspects, thought about what a good story it would make in the future).	5.53[a]	(1.32)	4.32[b]	(1.62)	4.58[d]
4. I avoided dwelling on [the event], I thought about how much better things are now.	5.16[a]	(1.41)	4.36[b]	(1.76)	2.80[c]
5. When reminded of [the event], I thought about how much better things are now.	5.28[a]	(1.20)	4.60[b]	(1.37)	2.98[d]
6. When reminded of [the event], I compared it to the past and thought about how much better things were then.	3.31[a]	(1.52)	4.13[b]	(1.73)	2.83[c]

[a]Means that share superscripts are not significantly different from one another.
[b]$p < .05$.
[c]$p < .01$.
[d]$p < .004$.

bined to provide a single mood index on which more positive scores reflected more positive moods ($\alpha = .82$).[4]

Cognitive Strategies. Participants were asked to list one "good, pleasant, or happy" and one "bad, unpleasant, or unhappy" event that they had experienced during the last month. They were then presented with a list of 12 cognitive strategies (order counterbalanced), or "ways that some people tell us they respond to events in their lives." These strategies, which are listed in Table I, consisted of ways of thinking about both positive and negative life events that had, in fact, discriminated between people designated by their peers as unusually "happy" ($n = 12$) or unusually "unhappy" ($n = 10$) in earlier intensive pilot interviews (Lyubomirsky & Ross, 1990). The strategies included contrasts with the past (e.g., "When reminded of [the positive event], I thought about how much worse things are now"), ways of finding something positive in negative events (e.g., "I looked at [the negative event] with a sense of humor"), and not thinking about the events (e.g., "I avoided dwelling on [the negative event]"). Some of these strategies were similar to items used in previous coping scales, such as the COPE (Carver, Scheier, & Weintraub, 1989; cf. Positive Reinterpretation subscale) and the Ways of Coping Checklist (WCCL; Folkman & Lazarus, 1985). Students were asked to rate how often they engaged in each of the strategies in response to the specific positive and negative event that they listed (1 = *never*; 7 = *all the time*). Six strategies referred to a positive life event and six strategies referred to a negative life event.

Stressful Life Events. Finally, participants were asked to complete the Social Readjustment Rating Scale (Holmes & Rahe, 1967), modified for our sample. Items not generally relevant to college students, such as "mortgage over $10,000" and "death of spouse," were omitted. Three new items, which were more relevant to a student population, were added. Students were asked to assess whether the following events had occurred "in the last six months": (a) break-up of a serious relationship, (b) falling-out with a close friend, and (c) serious academic difficulties (20 points each). Following the procedure used by Holmes and Rahe, scoring was conducted by summing the point values associated with each life event that was checked.

Results and Discussion

Overview of Analyses

In this part of the study, we were primarily concerned with the specific ways of thinking about events that distinguished unhappy individuals from

[4]Although we refer to our mood measure as "positive mood," it is a composite of *both* positive and negative mood scales. These two sets of mood scales have very high inverse correlations and in statistical analyses show almost identical results as the composite scale. Consequently, in the interest of efficiency, we report findings with respect to the single index.

happy ones. Accordingly, two sets of analyses were performed. Preliminary t-tests were first conducted to examine differences between self-rated happy and unhappy students' reported frequency of using each of the 12 cognitive strategies. As in previous studies (e.g., Lyubomirsky & Ross, 1998), the "happy" and "unhappy" groups were selected as those whose composite scores were, respectively, either in the top or bottom half of the distribution (median = 4.75 on the 7-point scale). (Students whose scores fell directly on the median were excluded.) The happy students' mean on the relevant scale was 5.54 (SD = 1.17) (n = 77), while the unhappy students' mean was 4.05 (SD = 0.72) (n = 57).[5]

Our second analytic approach involved a stepwise discriminant function analysis to determine which of the 12 strategies discriminated best between happy and unhappy participants. That is, this analysis allowed us to select from among the 12 strategies the "best" set of predictors of the happiness status grouping variable. Because happy and unhappy participants differed in their baseline levels of positive mood (Ms = 5.47 vs. 4.84), $t(123) = 2.91$, $p = .005$ (a result consistent with both intuition and previous research, e.g., Lyubomirsky & Ross, 1997, 1998), a subsequent discriminant function was performed, including mood as a predictor. Finally, group differences on reported number of stressful life events were tested.

Because there were no group differences associated with sex or order of strategy presentation, all analyses were conducted by collapsing across these two variables.

Cognitive Strategies

Bivariate Comparisons. Table I lists the means, standard deviations, t-statistics, and significance levels for the happy and unhappy group's reported uses of the 12 cognitive strategies. As shown, initial t-tests revealed that happy respondents differed from unhappy ones on three out of six strategies for thinking about positive events and on five out of six strategies for thinking about negative events. However, because the relatively high number of variables examined posed a risk of inflating Type I error, a Bon-

[5]Given the absolute values of these means, one could argue that the unhappy group might better be labeled as "not happy" or even "average." We were guided, however, by research showing that on measures of current or long-term affective state, and, indeed, on most measures of well-being, life satisfaction, or self-esteem, people tend to show overall means that are on the high or above average end of the scale (Bradburn, 1969; Rosenberg, 1965; Watson et al., 1988). Accordingly, the self-ratings of the unhappy students in Study 1 (Part I) and Study 2, which approached the midpoint of 4.0 on the relevant scale, meant that they were unhappy relative not only to our self-labeled happy participants but also to their peers in the population as a whole. However, the happiness ratings of the unhappy students selected from the lowest quartile (in Study 1, Part II, and in Study 2) were significantly lower than the midpoint of the scale.

ferroni correction was used to ensure that the "family-wise" error rate would not exceed .05. Significant group differences (i.e., α levels less than .05/12, or .004) were found for 3 out of the 12 strategies following the Bonferroni procedure. Compared to unhappy students, happy students more often reported looking back at the negative event with a sense of humor, $t(103) = 4.58$, $p < .0001$, and thinking about how much better things are now when reminded of the negative event, $t(110) = 2.98$, $p < .004$. Happy participants also reported thinking less frequently about the negative aspects of the *positive* event than did unhappy ones, $t(115) = 3.73$, $p < .0004$.

Discriminant Function Analyses. Discriminant analyses, which offer a more conservative treatment of cognitive strategies than multiple regression analyses, were conducted. Table II presents the results of two stepwise discriminant function analyses—one with and one without mood as a predictor. The results of the two analyses were identical. In both, two cognitive strategies—namely, looking at the negative event with a sense of humor and thinking about how much better things are now when reminded of the negative event—constituted the set of predictors that best differentiated happy and unhappy individuals. These two cognitive strategies combined to form a significant function, $F(2, 105) = 16.34$, $p < .0001$, and a canonical correlation of .49. The discriminant function analysis was also repeated with quartile splits on the Subjective Happiness Scale and yielded virtually identical results. Notably, the inclusion of mood in the function did not alter either set of results, suggesting that mood does not mediate the relationship between happiness and strategy use.

In addition, because redundancy among the predictors could potentially suppress important variables, a further set of discriminant functions was tested, excluding from the model, one at a time, previously significant predictors. These analyses produced similar results; however, they yielded discriminant functions that were less effective in predicting happiness status.[6]

[6]The first model excluded the "things are better now" strategy, whereas the second model excluded the "sense of humor" strategy. The results of the first analysis yielded only one significant predictor—the sense of humor strategy (once again) (Wilks's lambda = .82, $F(1, 106) = 23.17$, $p < .0001$). The results of the second analysis yielded two significant predictors—one previously observed, the things are better now strategy (Wilks's lambda = .89, $F(1, 106) = 12.64$, $p < .0001$), and one that had not, "comparing the event to the past and thinking about how much better things were then" (Wilks's lambda = .82, $F(2, 105) = 11.15$, $p < .0001$). These two cognitive strategies combined to form a significant discriminant function (Wilks's lambda = .82, $p < .0001$) and a canonical correlation of .42, correctly classifying 66.7% of cases. Thus, the small but significant inverse correlation between the sense of humor strategy and the "compare to the past" strategy ($r = -.24$, $p < .01$) may have led to the suppression of the latter variable in the original discriminant analysis. However, once again, adding mood as a predictor to either of these analyses did not alter the results.

Table II. Discriminant Function Analysis Predicting Happiness Status from the 12 Cognitive Strategies (With or Without Mood as a Predictor) (Study 1, Part I)

		Test of significance	
Predictor	Variable entered at step	Wilks's lambda	Probability
Sense of humor	1	.82	.0000
Things are better now	2	.76	.0000
		Predicted group membership	
		Happy	Unhappy
Happy			
Unhappy		77%	23%
Correctly classified		32%	68%
		73.1%	

These findings generally support the prediction that unhappy individuals think about (and "cope" with) life events in less positive and productive ways than happy ones. Interestingly, the differences between happy and unhappy students emerged primarily in response to negative life events, which may have been particularly upsetting, threatening, or stressful. There is evidence that sense of humor (Nezu, Nezu, & Blissett, 1988), problem-solving skills (Nezu, Nezu, Saraydarian, Kalmar, & Ronan, 1986), and cognitive appraisal processes (Folkman, Lazarus, Gruen, & DeLongis, 1986) moderate the effects of stressful or adverse life events, thus decreasing psychological distress. People who are unusually happy may also be unusually skillful at using such strategies in thinking about negative events, and, indeed, may use them to preserve their happiness. In addition, because negative events are likely to generate a wider range of responses than positive ones, they may lead to larger group differences. Future research could consider whether certain types of situations—e.g., uncontrollable versus controllable, unexpected versus expected—may be more likely to produce response differences between happy and unhappy individuals.

Stressful Life Events

As in previous studies (e.g., Hewitt & Dyck, 1986), students experienced, on average, a high number of stressful life events (Holmes & Rahe, 1967) (M = 289.6; SD = 168.1). Importantly, however, happy and unhappy students did not differ in the number of stressful and negative life events reported (Ms = 283.0 and 296.0, respectively), $t < 1$, n.s. This finding is inconsistent with the results of two recent investigations (Seidlitz & Diener, 1993, Study 2; Seidlitz et al., 1997, Study 1; see also Headey & Wearing, 1989), which suggested that happy and unhappy people actually differ in

their incidence of stressful life events. However, in a study of 1,285 retired individuals (Lepper, 1996), the correlation between subjective well-being and the number of reported positive and negative life events from the previous year was essentially zero. Given the lack of conclusive evidence regarding this issue, our findings presently offer suggestive evidence that the subjective ways that people perceive and think about the events in their lives may be a stronger predictor of happiness than the objective nature of the events themselves.

STUDY 1: PART II

Overview

The findings of Part I suggested that happy and unhappy people may differ in the ways in which they think and reflect on specific positive and negative events in their lives, thereby possibly enhancing or diminishing their happiness. However, it is possible that, in response to our prompts, happy individuals may have been relatively more likely to *label* slightly positive events as "happy" and slightly negative events as "unhappy" (cf. Seidlitz & Diener, 1993). For example, it may very well be easier for an individual to view a negative event, such as a fight with a parent, with a sense of humor if he or she already perceives that event as not really very negative. Thus, in Part II, a sample of these participants was brought back and asked retrospectively to judge their previously generated events on how positive and negative they were. As a check on these assessments, four independent judges rated the same events. Following our finding of no differences in the number of stressful life events reported, it was predicted that happy and unhappy people would differ in their perceptions of the valence of their own life events, but that observers would not. Furthermore, we hypothesized that these results could not be accounted for by participants' transient moods.

Method

Participants

A total of 24 students, 14 women and 10 men, was recruited from among those who participated in Part I of the study to participate in "a further study of how people think about events in their lives." These students were selected on the basis of nominations solicited from their peers in Part I of the study. That is, they were nominated as unusually happy or

unusually unhappy by fellow students who "knew [them] well." This method of peer nomination, in part, allowed us to validate our scale and permitted an additional method of classifying our participants. Twelve peer-nominated happy students (M = 6.42 on the SHS, completed previously) and 12 unhappy students (M = 3.83) participated in the study. They were paid $5 for their participation.

Procedure

Students participated individually, with the experimenter unaware of their happiness status. Participants were reminded that they had previously completed a questionnaire in which they described one happy and one unhappy life event of the preceding month. They were subsequently administered several questions about these events and then fully debriefed.

Materials

As in Part I, participants first rated the extent to which they were currently in a good, happy, low, or bad mood (1 = *not at all*; 7 = *a great deal*). Again, these ratings were combined to provide a single mood index, with higher scores reflecting more positive moods (α .80).

Photocopies of each participant's descriptions of one happy and one unhappy event were included on separate pages to ensure that students had an opportunity to recall these events. After having read their own descriptions of each event, students answered two questions about it, using 7-point Likert-type scales: "How happy [unhappy] did the event make you feel *at the time that it happened*?" (original italics); and "How happy [unhappy] does the event make you feel as you *think back on it now*? That is, to what extent does the event still make you happy [unhappy]?" Students were also asked to report whether there were "any major events going on in [their] life" at the time that they completed the original questionnaire. This question was intended to probe whether some people were underreporting their events—that is, not writing down the *most* happy or unhappy events that they had been experiencing. This possibility was not supported.

The two events that the students had previously listed—one positive and one negative—were transcribed, randomized, and presented to four "blind" independent judges who rated each of these events on "How happy [unhappy] would this event make a person feel?" (1 = *not at all*; 7 = *a great deal*). This single question was chosen because judges could not reli-

ably discriminate between the question of how happy or how unhappy an event might make people feel "at the time that it happened" and "as they look back on it later." The reliability of the judges' ratings was calculated by computing the intraclass item correlation (r = .76).

Experimenter's Conjectures

As a way of validating the selection of participants as purportedly happy and unhappy, the experimenter estimated at the end of each session to which group each participant belonged.

Results and Discussion

Because there were no main effects involving participants' sex (and no interaction effects between sex and happiness status), the results are reported after collapsing over this variable.

Subjective Versus Objective Ratings of Events

In this part of the study, our primary interest was in differences between participants' "subjective" and judges' "objective" ratings of positivity of the previously reported life events. As expected, in judging their own events, happy people tended to rate positive events as making them more happy than did unhappy people, both at the time that they happened (Ms = 6.58 vs. 5.92), $t(22) = 2.44, p < .03$, and as they look back at them now (Ms = 5.83 vs. 4.83), $t(21) = 2.76, p < .02$. In addition, unhappy people tended to rate their negative events as making them more *un*happy than did happy people, both at the time that they occurred (Ms = 2.33 vs. 1.58), $t(19) = 2.78, p < .02$, and as they look back on them now (Ms = 3.25 vs. 2.42), $t(21) = 1.91, p < .07$. In striking contrast, the judges failed to perceive a group difference in the positivity of the events. Indeed, judges' mean ratings of how happy the positive events would make a person feel were slightly, but not significantly, higher for events generated by the *unhappy* students than for events generated by the happy ones (Ms = 6.17 vs. 5.83), $t(22) = 1.14$, n.s. Furthermore, the judges' ratings of negative events were indistinguishable for the two groups (Ms = 2.17 vs. 1.92), $t < 1$, n.s. This pattern of results was reflected in a significant Group (happy vs. unhappy) × Rater Type (Participant vs. Judge) interaction, $F(1, 88) = 10.48, p < .002$ (collapsing over event type).

Thus, at least as far as our judges could tell, the events experienced by the happy and the unhappy groups did not appear to differ in significant or obvious ways. Happy individuals, however, judged the events they had experienced in more positive terms and, perhaps as a consequence, reflected on them in ways that boosted their moods. Combined, these findings lend support to our primary hypothesis—that happy and unhappy people experience and think about similar events differently. It is possible that, as a result, happy individuals may derive relatively more happiness from such events. These results are especially notable given the small sample sizes used in Part II. Unfortunately, however, we cannot determine from this study whether the two groups used different "thresholds" to label or define which events they considered positive and negative, or, alternatively, whether group differences in ratings of the positivity of the events emerged only *after* our participants had defined and reflected on these events. Of course, both of these processes may have operated simultaneously.

Self-Reports of Happiness and Mood

Cross-temporal correlations were also computed between participants' happiness (SHS) scores, as well as their self-reported moods, at Time 1 (Part I of the study) and at Time 2 (Part II). Students' SHS scores were very stable (Pearson's $r = .871, p < .0001$). By contrast, the correlation for mood between Time 1 and Time 2 was virtually zero ($r = .004$, n.s.). Furthermore, t-tests showed that while happy and unhappy students significantly differed in self-reported happiness at Time 2 (Ms = 6.42 vs. 3.83), $t(18) = 11.57, p < .0001$, they did not significantly differ in their self-reported moods (Ms = 5.50 vs. 4.92), $p > .2$. Notably, in Part I of this study, we *did* find a significant difference in mood between the happy and the unhappy group. Although the sample size was smaller at Time 2, the effect size was not significantly different from zero. Thus, the combined results of the two parts of Study 1 suggest that mood is unstable over time and does not reliably discriminate between the two groups. This finding supports our hypothesis that transient mood does not play a critical role in mediating people's responses to life events.

Observation-Based Ratings of Happiness

The blind experimenter's conjectures regarding which group each participant belonged were matched with the participants' actual group membership. Nineteen out of 24 correct matches yielded a binomial significant

at the .008 level. This finding lends validity to our classification of participants into a happy and an unhappy group (both via peer nominations and self-reports). It also suggests that observer ratings may be an appropriate method of validating self-reports, as well as an alternative way of selecting a sample of happy and unhappy individuals.

STUDY 2

In this study, we sought to replicate conceptually the results of Study 1. However, in order to control for the hedonic intensity of events, we chose to forego the idiographic method and, instead, presented all of our participants with the same five hypothetical events. This method allowed for a more direct test of the hypothesis that happy and unhappy people respond differently to the same events. Also, by decreasing the variation inherent in the types of events that people experience, it permitted a more sensitive analysis of group differences.

Because many life experiences are not clearly positive or negative, these five scenarios were chosen to be only somewhat positive, somewhat negative, or neutral. Extremely valenced events were intentionally excluded to allow our participants to "fill in" the details by themselves.

Method

Participants

Introductory psychology students, 90 men and 102 women, received course credit for their participation. As in Study 1, all participants initially completed the SHS (α = .94), as well as the BDI-SF, as part of a larger questionnaire distributed earlier in the quarter. (As in Study 1, data from students who scored in the dysphoric range—i.e., 7 or above on the BDI-SF—were excluded from statistical analyses. There was a moderate correlation between participants' BDI-SF scores and their scores on the SHS, r = -.49.) Students scoring above or below the median on the happiness composite (median = 5.00 on the 7-point scale) were classified as "happy" (M = 5.68, SD = 0.80) or "unhappy," (M = 3.94, SD = 0.98), respectively. Students completed the study's materials in group sessions lasting approximately 30 min, which ended with a full debriefing.

Table III. Hypothetical Scenarios Used in Study 2

Positive Scenario 1
"As an honor, you have been selected to serve on an important university committee. You are told that you will play a significant role in a number of university-wide decisions, although your participation may be time-consuming."
Positive Scenario 2
"You attend a party given by someone you used to go out with."
Negative Scenario 1
"You've applied for a summer internship that you really want. When you come home from classes, there is a telephone message that your application was late."
Negative Scenario 2
"You find out that your roommate has not given you several telephone messages."
Neutral Scenario
"You are sitting at home and looking out the window."

Procedure and Materials

At the beginning of the session, students rated their mood on two Likert scales—that is, how *good* and how *low* they were currently feeling (1 = *not at all*; 7 = *a great deal*). These two ratings, which showed a correlation of -.71, were combined into a single index of positive mood.

Students were presented with five hypothetical scenarios (two somewhat positive, two somewhat negative, and one neutral), order counterbalanced, and were asked to imagine that they were experiencing each of these scenarios. The five scenarios, which encompassed both interpersonal and academic domains, had been earlier prerated for positivity and negativity by eight independent judges ($M = 5.34$ on a 7-point composite of positivity for *positive* scenarios, $M = 2.88$ for *negative* ones, and $M = 4.00$ for *neutral* ones). All five scenarios are listed in Table III.

Participants were first instructed to rate each of these scenarios on four dimensions, using 7-point Likert-type scales—i.e., how positive and how negative they considered each situation (1 = *not positive [negative]*; 7 = *very positive [negative]*), how happy it makes them feel (as they imagine experiencing it) (1 = *not happy*; 7 = *very happy*), and the positivity of their mood (as they imagine experiencing it) (1 = *not good*; 7 = *very good*). Participants then wrote a "completion" to the scenario—that is, what they believed "would happen next" (if the scenarios had really occurred to them). This scenario-completion task was loosely adapted from Platt and Spivack's (1975) Means-Ends Problem-Solving Procedure, in which participants are presented with problem situations (e.g., your friends are avoiding you) and asked to imagine themselves experiencing these situations. They are then instructed to describe in writing what they would do to bring about a positive ending (see also Lyubomirsky & Nolen-Hoeksema, 1995). It

should be noted, however, that the present task was not a problem-solving task per se; thus, participants were not asked what they would "do to solve the problem," but simply to describe "what happens next."

Two independent judges, unaware of participants' happiness status, subsequently scored the scenario completions for how positive and negative they were (1 = *not positive [negative]*; 7 = *very positive [negative]*). These two ratings were highly inversely correlated (r = -.77) and combined into a single index of positivity. In addition, adapting Lyubomirsky and Nolen-Hoeksema's (1995) procedure (see also Platt & Spivack, 1975), the judges gave global ratings for the "adaptiveness" (vs. maladaptiveness) of students' responses. Adaptiveness was defined as serving long-term goals, rather than short-term emotional needs. For example, with respect to the scenario involving the forgetful (or malicious) roommate (see Table III), approaching him or her about the problem may be unpleasant in the short term, but may ultimately lead to greater happiness in the long run (i.e., the preservation of the relationship, an optimal living situation, receiving one's subsequent messages, etc.). Distracting oneself from the problem may make one happier in the short term, but less happy in the long run. Interrater agreement was good to excellent; the mean intraclass correlation coefficients for the five scenarios were .95 for the positivity ratings and .86 for the adaptiveness ratings.

Results and Discussion

There were no main effects or interaction effects involving sex of participant or order of scenario presentation; therefore, analyses reported were conducted by collapsing across these two variables. However, as expected, happy students reported higher levels of positive mood at the beginning of the study than did unhappy students (Ms = 4.21 vs. 3.89), $t(156) = 2.74$, $p = .008$.

Because scenario type did not interact with level of happiness, participants' and judges' ratings for the five scenarios were respectively combined into two composites. Furthermore, due to a main effect of scenario type—that is, as expected, some scenarios were rated as relatively positive and others as relatively negative—each of the subjects' and judges' ratings for the five scenarios was standardized before their overall mean was computed.

Participants' Ratings of the Scenarios

Overall, students in the happy group, relative to those in the unhappy group, rated the five scenarios as being more positive (Ms = 0.11 vs. -0.16),

$t(163) = 3.45, p < .001$, as less negative (*M*s = -0.14 vs. 0.15), $t(159) = 3.34, p < .002$, as bringing them more happiness (*M*s = 0.12 vs. -0.15), $t(159) = 3.08, p < .003$, and as improving their moods (*M*s = 0.11 vs. -0.13), $t(157) = 2.89, p < .005$. Importantly, all of these group differences remained significant, at least at the $p < .05$ level, when the index of participants' current mood was partialled out of these four analyses. This finding suggests that the effects of happiness status on students' perceptions of the scenarios was not mediated by the mood that they were experiencing at the time of making their evaluations.

Judges' Ratings of the Scenario Completions

Judges rated the responses of happy participants as more positive overall (*M*s = 0.09 vs. –0.12), $t(121) = 2.12, p < .04$, and more adaptive (*M*s = 0.13 vs. -0.17), $t(110) = 2.97, p < .004$, than those of unhappy participants. Although very different types of stimuli were used in this study, these results parallel those of Study 1, in which happy individuals, relative to unhappy ones, continued to think about past events from their own lives in more productive and adaptive ways. Additionally, it should be noted that these group differences remained significant when participants' current mood was covaried out.

In summary, the findings of this study, which compared happy and unhappy people's responses to hypothetical rather than real events, proved to be very similar to those of Study 1. Furthermore, this study had an advantage over Study 1 in that it ensured that all participants responded to exactly the same events. However, due to the hypothetical nature of the stimuli, as well as the hypothetical nature of our participants' responses, we should be cautious in generalizing from these results. An alternative approach to ensuring that all participants experienced the "same" events was undertaken in Study 3. Participants interacted with a confederate, then watched videotaped clips of the behavior of an unfamiliar peer. Although the outcome variables used in this study, measures of person liking and trait perceptions, were somewhat different from those of the previous studies, they tapped into at least two processes of interest to us in this research—that is, perception and interpretation of events. Indeed, observing, meeting, and interacting with a stranger is a common situation that people face, and their subjective responses to such a situation may have significant future interpersonal costs or rewards.

STUDY 3

Method

Participants

Fifty students enrolled in introductory psychology received credit or were paid $6.00 for their participation in this study. As in the previous two studies, participants were selected on the basis of their responses to the SHS (α = .90), which had been mass-administered earlier in the quarter. Students with BDI (Beck, 1967) scores of 16 and above were excluded (see Kendall, Hollon, Beck, Hammen, & Ingram, 1987). There was a moderate correlation between participants' scores on the BDI and the happiness composite (r = –.46).

A sample of 24 happy and 26 unhappy students (i.e., those whose scores on the SHS were, respectively, in the top or bottom quartile of the distribution) (median = 4.25 on the 7-point scale) were recruited for the study by telephone. The happy students' group mean on the SHS was 6.00 (SD = 0.44), while the unhappy students' group mean was 3.40 (SD = 0.81).

Procedure and Materials

One to four students participated in each session, which was led by one of three female confederates. Participants were separated by screens so that their responses would be independent. The confederate introduced students to the study (i.e., as an investigation of "first impressions") and interacted with them throughout the session. Students were told that they would be rating a person on various personality dimensions, and, furthermore, that they would be watching him or her in three different videotaped situations. These situations had been prerated to have a neutral hedonic tone. Participants viewed one of four age-matched "target" persons (see Furr & Funder, 1998, for a more detailed description of these stimuli). The four targets, as well as the order of viewing of the three situations, were randomized across all sessions. At the end of the study, participants reported any suspicions, comments, or criticisms. None guessed our hypotheses or expressed any serious suspicions. Finally, participants were thanked and debriefed.

Preliminary Mood Questionnaire. Before proceeding, participants completed a set of Likert-type mood scales that had been used in previous studies, rating how good, happy, depressed, and sad they currently were

feeling using 7-point Likert-type scales (1 = *not at all*; 4 = *somewhat*; 7 = *a great deal*). Once again, these ratings were combined to provide a single mood index (α = .74).

Ratings of the Videotaped Target. Next, three 5-min video segments were shown. At the end of each segment, participants completed an identical set of measures regarding their perceptions of the videotaped target "based on their first impressions." First, students reported on how much they "like this person," how much they would "want to be friends with this person," and how much they would "want this person to be [their] partner in a class project." These three ratings were made on 9-point Likert-type scales (1 = *not at all*; 5 = *moderately*; 9 = *a great deal*). Participants next completed the Interpersonal Qualities Scale (Murray, Holmes, & Griffin, 1996), assessing the extent to which they believed particular personality attributes were characteristic of the target (e.g., "kind," "critical and judgmental," "self-assured," "intelligent," "lazy," "witty and humorous," etc.) (1 = *not at all characteristic*; 9 = *completely characteristic*). Nine of these attributes were positive, nine were negative, and two served as filler (Murray et al., 1996). The set of positive and the set of negative adjectives were summed to create composites of positive and negative trait perceptions, respectively. Furthermore, in order to assess participants' *overall* impressions of the videotaped target, their ratings were summed and averaged over the three time periods. That is, students' ratings of how much they liked (α = .86), wanted to be friends with (α = .81), and wanted to be partners with the target (α = .83), as well as their composite ratings of positive and negative trait descriptions of the target (αs = .82 and .75, respectively), were each separately averaged over the three time periods.

Ratings of the Experimental Confederate. During the final portion of the session, students made judgments about the experimental confederate, using the exact same set of measures used to assess the videotaped target. These ratings were placed immediately in a sealed envelope.

Results and Discussion

Preliminary analyses indicated no interactions involving participant sex, target sex, target order, session order, or confederate person. Although one of the three confederates was rated more negatively than the others, there were no significant interactions between confederate type and happiness status. Accordingly, all of the above variables were ignored in subsequent analyses and presentation of results.

Perceptions of the Videotaped Target

As predicted, overall, happy participants reported liking the videotaped target more, $t(45) = 2.02$, $p < .05$, and expressed a somewhat greater desire to be friends, $t(45) = 1.96$, $p < .057$, than did unhappy ones. Happy and unhappy students did not significantly differ on how much they wanted to be partners in a class project with the target. There were also no significant group differences in students' ratings of the target on the negative or the positive personality attributes, although these differences were in the predicted direction. (See Table IV for means, standard deviations, and relevant statistics.) It may have been difficult for participants to judge videotaped targets' specific personality characteristics, such as how kind, open, tolerant, and warm they were, after only observing 5-min videotaped segments of their behavior. However, the data suggest that when asked about their general impression of the person that they observed on videotape, the first impressions of happy individuals were more favorable overall than those of unhappy ones.

As expected, happy students reported more positive baseline moods than did unhappy ones (Ms = 6.12 vs. 5.13), $t(41) = 4.46$, $p < .0001$. Once again, this result prompted us to test whether the effect of happiness status would continue to be significant after removing the influence of current mood. We were also interested in whether the original effect size estimate of the relationship between happiness status and the relevant outcome variables would be reduced after mood state was added as a covariate. Thus, a series of analyses of covariance (ANCOVAs) was performed on the two measures that produced significant group differences. As shown in Table IV, the results of these analyses showed that the addition of mood as a covariate did not significantly alter the relationship between happiness level and ratings of liking for the videotaped target, as well as between happiness level and ratings of wanting to be friends with the target. That is, the two z-scores testing change in effect size estimates were not significant, and mood itself was not a significant predictor of happiness status. These data suggest that overall impressions of an individual viewed on videotape are indeed related to whether the viewer is dispositionally happy or unhappy, apart from whether his or her current mood state happens to be high or low.

Perceptions of a Real-Life Target

Happy and unhappy students did not differ in their reports of how much they liked the real-life target (i.e., the confederate), although the means were in the predicted direction. However, happy students were rela-

Table IV. Means, Standard Deviations, and Statistical Values as a Function of Happiness Status for Ratings of the Targets in Study 3[a]

Variable	Participants: Happy (n = 24) M	(SD)	Participants: Unhappy (n = 26) M	(SD)	ANOVA (no covariate) F	r	ANCOVA (with mood as covariate) F	r	z	F (covar)
Videotaped target										
1. Liking	5.47[a]	(1.47)	4.71[b]	(1.07)	4.08[c]	.29	2.93	.24	.25	0.03
2. Friends	5.60[a]	(1.81)	4.77[b]	(1.19)	3.84[b]	.29	4.06[c]	.28	.05	0.63
3. Lab partners	5.38[a]	(1.84)	4.75[a]	(1.46)	1.80	—	—	—	—	—
4. Positive adjective	5.11[a]	(1.30)	4.65[a]	(1.05)	1.88	—	—	—	—	—
5. Negative adjective	2.70[a]	(1.16)	3.03[a]	(1.42)	0.85	—	—	—	—	—
Real-life target										
1. Liking	7.04[a]	(1.56)	6.65[a]	(1.15)	1.00	—	—	—	—	—
2. Friends	7.22[a]	(1.22)	6.30[b]	(1.40)	6.16[c]	.35	2.12	.21	.70	1.30
3. Lab partners	7.67[a]	(1.00)	6.61[b]	(1.99)	5.88[c]	.38	2.13	.21	.77	1.08
4. Positive adjective	6.66[a]	(0.90)	5.88[b]	(1.37)	5.90[c]	.36	3.06	.25	.57	0.24
5. Negative adjective	1.86[a]	(0.78)	1.91[a]	(0.95)	0.04	—	—	—	—	—

[a]Means that share the same roman letter superscripts are not significantly different from one another. F = F-statistic; r = effect size estimate; z = z-score testing change in effect size estimates; ANOVA = analysis of variance; F(covar) = F-value for the mood variable in the analysis of covariance (ANOVA); — not applicable.

[b]$p < .06$.

[c]$p < .05$.

tively more likely to report that they would like to be friends with the confederate, $t(44) = 2.45, p < .02$, and that they would like to be partners in a class project, $t(31) = 2.31, p < .03$. Also, happy participants were more likely than unhappy ones to rate the positive adjectives (e.g., kind, self-assured, open, tolerant, warm) as characteristic of the confederate, $t(36) = 2.35, p < .03$. (No significant differences were found for ratings of the negative adjectives.) Table IV presents the relevant means, standard deviations, and statistical values. These results complement those found for the videotaped target, as well as those of the previous two studies, suggesting that happy individuals have relatively more positive reactions to a variety of life situations and events. In this study, the specific situation was that of meeting and interacting with a stranger (albeit, only in the laboratory). As was the case with ratings of the videotaped target, analyses of covariance, with current mood as a covariate, suggested that the happiness status of perceivers has a direct effect on their overall impressions of people that they meet, apart from their moods at the time of meeting (see Table IV). Although the inclusion of mood as a covariate in the analyses did weaken the relationship between happiness status and ratings of the real-life target, there were no significant changes in the effect sizes for happiness status for any of the ratings. In addition, mood was not a significant predictor in any of the analyses.

GENERAL DISCUSSION

Lending support to our most general hypothesis, the three studies reported in this paper suggest that happy individuals perceive, interpret, and subsequently think about life events and life circumstances in more positive ways than do unhappy ones. These differences in cognitive processes may, in turn, reinforce and promote happy and unhappy people's affective dispositions—that is, maximizing or minimizing their global sense of happiness, as well as more transient mood states. In the idiographic design of Study 1, students generated recent negative life events, such as "break-up with boyfriend," "parents decided to separate," and "bad lacrosse practice," and recent positive events, such as "had fun in Mazatlan," "got engaged," and "got an A+ in Chemistry." Although judges rated the events generated by the two groups as having equivalent hedonic impact, happy individuals evaluated these events as making them more happy and reported thinking about these events, especially the negative ones, in relatively more positive and productive ways (e.g., "Our break-up reminded me of a *Seinfeld* episode" and "Things are less tense now that my folks are apart"). Unhappy individuals, by contrast, were more likely to use "maladaptive" strategies

when considering these events, such as dwelling on the *negative* aspects of positive events (e.g., "The Mazatlan vacation put me way behind in work") or comparing the negative events to the "good old days" (e.g., in high school) and dwelling about how much better things were then.

Similar results were obtained in Study 2, in which students were presented with ambiguous hypothetical scenarios, such as "your roommate has not given you several telephone messages," and asked to fill in or "project" the details by themselves. As in Study 1, happy individuals not only judged these events relatively more positively, but responded to them in more positive and adaptive ways. For example, consider the following two responses to the telephone message scenario: "I smolder; I become very incommunicative and go to my room and play the stereo and/or study" versus "I don't receive too many important phone calls, so I would just get the messages from her and call the people back." And, consider the following two more illustrative responses to the "Looking out the window" scenario: "I am lonely, waiting for someone or something. Feeling like I should be more involved" versus "It's a beautiful sunny day. I realize how lucky I am to be alive to enjoy this day. I feel happy with my life and quite fortunate." Although these pairs of written descriptions, by happy and unhappy participants, respectively, serve only as anecdotal evidence, they illustrate the general pattern supported by our statistical analyses.

Finally, in Study 3, which used a person perception situation, the predicted group differences again were found in students' impressions of two persons—one they actually met and interacted with and one whom they observed on videotape. Again, happy students were relatively more likely to show immediate positive reactions to both types of targets.

Yet another finding merits consideration. According to the results of Study 1, happy and unhappy people did not appear to differ in the types of events that they experienced. In Part I, happy and unhappy students checked off similar numbers and types of adverse events experienced over their lifetimes, while in Part II, objective raters judged the events described by the two groups as equally positive (or negative) (cf. Lepper, 1996). These are persuasive data, suggesting that happy and unhappy individuals may be exposed to similarly valenced environments, but that the former interpret, experience, and react to their environments relatively more positively. Indeed, when we did subject the two groups of participants to objectively similar situations (in Studies 2 and 3), group differences in perception and interpretation still emerged. However, our findings leave open the possibility for two more types of person-situation interactions (Scarr, 1988)—relative to unhappy people, happy people may evoke more positive responses from others (thus reaping greater benefits and rewards) or they may actually select and construct more positive situations (e.g., by choosing

environments with greater social supports or avoiding "downer" individuals) (cf. Diener, 1996, 1998; McCrae & Costa, 1991).

Future Questions, Caveats, and Conclusions

At this point, it is worth considering the functional value of positively biased cognition. Undoubtedly, positive perceptions and interpretations may not always be adaptive—for example, they may prevent people from learning from their mistakes or lead them to be duped and taken advantage of (cf. Taylor & Brown, 1988). Previous studies, however, suggest that in situations involving high stakes or ego-threatening implications (e.g., when rejected by one's "dream" college; see Lyubomirsky & Ross, 1998), happy individuals do respond with negative assessments. In addition, although happy people tend to perceive positive implications even in negative events, they appear to do so only after some time has passed (see Lyubomirsky, 1994).

An issue worthy of consideration, once again, is the extent to which response differences between happy and unhappy participants may have been mediated by differences in their transient moods at the time of each study. As expected, happy students generally reported more positive moods than did unhappy ones. However, when mood was covaried out, the effect sizes of the level of happiness on the variables of interest were not changed significantly. Furthermore, although students scored remarkably similarly on our happiness measure 1 month apart in Study 1, there was no relationship between their moods during the two time periods. As an alternative method to examine the role of mood, further research could test differences between (1) happy individuals who are currently experiencing a low mood versus a good mood, as well as (2) unhappy individuals who are currently experiencing a good mood versus a low mood. The question of whether temporary mood states affect happy and unhappy people differently also needs to be pursued (cf. Larsen & Ketelaar, 1991; Lyubomirsky, 1994).

A limitation to the present research was our reliance on self-reports to classify participants as happy or unhappy. Self-report judgments of happiness or well-being may be affected by mood (Schwarz & Bohner, 1996), as well as by self-enhancing biases (Taylor & Brown, 1988). However, Diener (1994) has reviewed numerous studies that have provided good to excellent convergent and discriminant validity for self-report measures of well-being (e.g., Sandvik et al., 1993; see also Lyubomirsky & Lepper, in press). Every researcher who has studied happiness has faced the problem of how to measure this seemingly elusive construct (cf. Argyle, 1987; Freedman, 1978; Myers & Diener, 1995). Since a magic happiness "meter" is

yet to be invented, our technique of self-nomination, buttressed by peer nominations and unobtrusive observer ratings of behavior, seemed, in spite of its limitations, the best available solution to the measurement problem. Moreover, given that our research concerns *subjective* happiness, it is appropriate that the ultimate judge of happiness remain the person under study (Myers & Diener, 1995).

Related to the issue of self-report is that of the relationship between happiness and other "individual difference" dimensions, such as negative affectivity, self-esteem, or optimism. For example, if unhappiness is associated with negative biases (such as the negative views of self and others observed in persons high in negative affectivity), then it is not surprising that unhappy individuals would show more negative appraisals of life events (e.g., Rhodewalt & Zone, 1989). Challenging a negativity bias interpretation of our results, however, is the match we found between self-report ratings of happiness and ratings from experimenters and peers. In addition, we are encouraged by recent findings showing that differences between happy and unhappy people (in response to unfavorable social comparisons) remained even after self-esteem and optimism were controlled (and such differences did not emerge when self-esteem and optimism replaced happiness status as "grouping" variables) (Lyubomirsky & Ross, 1997). Furthermore, happiness has been shown to have discriminant validity from these constructs (Lyubomirsky & Lepper, in press).

A final issue needing mention is the correlational nature of our research—that is, because happiness was measured, rather than manipulated, the direction of causality cannot be ascertained. Although we have been arguing that being happy leads one to construe, interpret, think about, and perhaps experience, the world in uplifting, positive, humorous ways, it may be that viewing the world in these ways leads one to be happy. Indeed, we have little doubt that the causality is bidirectional, and that this process may be a cyclical and self-perpetuating one. That is, one's happiness may promote certain construals and ways of thinking about life events, which, in turn, increase or maintain one's happiness, and so on. Of course, the same self-perpetuating cycle may occur for unhappiness as well. Fortunately, in our three studies, appraisals likely did not cause differences in self-reported happiness because happiness was measured in advance of appraisals. Future research could further address this question by using experimental designs in which participants' perceptions, interpretations, and cognitive strategies are manipulated. This type of design would ultimately allow for causal inferences to be made.

Our results suggest that happy and unhappy individuals may differ—in a manner consistent and supportive of their affective states and dispositions—in the self-regulatory strategies and biases they show in perceiving,

interpreting, and thinking about ordinary life circumstances and both wonderful and stressful life events. Over 2,000 years ago, the Greek philosopher Democritus may have been right on target when he observed:

> "A happy life does not depend on good fortune or indeed on any external contingencies, but also, and even to a greater extent, on a man's cast of mind . . . . The important thing is not what a man has, but how he reacts to what he has" (Freeman, 1952).

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