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Happy by What Standard? The Role of Interpersonal and Intrapersonal Comparisons in Ratings of Happiness

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Abstract The present research suggests that many of the most commonly-used indicators of happiness are constructed in a manner that renders them susceptible to null or misleading findings. While few happiness indicators specify particular comparison standards, we demonstrate that people tend to evaluate their happiness relative to comparison standards and give reliably different happiness ratings based on the comparison standards they spontaneously adopt. In Study 1, participants reported that intrapersonal comparisons were a more important consideration than interpersonal comparisons in determining their happiness ratings. In Study 2, participants using a free-response format more frequently reported making intrapersonal comparisons than interpersonal comparisons when rating happiness. In both Studies 1 and 2, participants who reported using interpersonal comparisons gave higher happiness ratings than those who reported using intrapersonal comparisons. In Study 3, participants who were prompted to make interpersonal comparisons gave higher happiness ratings than those prompted to make intrapersonal comparisons. We discuss the implications of these findings for measuring subjective well-being and interpreting happiness research.

Keywords Happiness · Well-being · Methods · Surveys · Comparison standards

Studies of well-being have typically focused on describing how happiness varies over time and how happiness varies across people, often with surprising results. People do not rate themselves any happier once they win the lottery (Brickman et al. 1978; but see Eckblad and von der Lippe 1994, and Gardner and Oswald 2007, for evidence that winning the lottery is positively associated with well-being), people living in sunny California do not differ in their happiness ratings from those living in the Midwest (Schkade and Kahneman 1998), and healthy people and those living with a chronic illness do not differ as much as one might expect (Sackett and Torrance 1978; Boyd et al. 1990; Buick and Petrie 2002;

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but see Lucas 2007, for evidence that long-term disability is negatively associated with well-being).

We suggest that one reason that the differences we intuitively expect to see are not reflected in happiness ratings is that the scales used to assess happiness are not constructed to be optimally sensitive to these distinctions. Most well-being indices rely on the assumption that happiness is absolute and that people can accurately evaluate and quantify their subjective experience. As a result, they tend not to specify particular comparison standards by which people are to evaluate their well-being. For example, surveys by the National Opinion Research Center, World Values Survey, and Gallup Poll Social Series all pose variations of the question, "How happy are you," but none specifies a particular comparison standard.

Contrary to these assumptions, evidence suggests that happiness ratings are not simply read-outs of absolute internal states, but rather, judgments that are relative. People's happiness ratings differ considerably depending on the comparison standards that are made salient at the time of judgment (Schwarz and Strack 1991; but see Schimmack and Oishi 2005, for a discussion of the robustness of context effects on well-being judgments). For example, participants rated themselves less happy when they were asked to think about a positive event in their past and happier when they were asked to think about a negative event (Strack et al. 1985). Similarly, participants rated themselves happier in the presence of another person who was relatively worse off (Strack et al. 1990). The notion that people use various standards of comparison is also bolstered by a large literature in social cognition (e.g. Biernat et al. 1997; Mussweiler and Ruter 2003; Mussweiler et al. 2004; Mussweiler and Strack 2000; Stapel and Koomen 2001), which further suggests that current measures of well-being are inadequate.

In the absence of an experimenter-specified comparison standard, people may spontaneously adopt comparison standards that may not correspond with the objectives of a given study. To the extent that an incongruity exists between the comparisons of interest to researchers and the comparisons people use when rating their happiness, differences in happiness ratings may be misleading. This has problematic implications for both our understanding of well-being and the development of policy based upon findings in the well-being literature.

Currently, evidence regarding what comparison standards people adopt in making happiness judgments is mixed. Emmons and Diener (1985) asked college students how satisfied they were with several aspects of their lives, how much better or worse off they were than the average college student, and how much better or worse off they were than in the past. They found that interpersonal comparisons were more highly correlated with satisfaction than intrapersonal comparisons. However, Fox and Kahneman (1992) suggested that people do not rely on interpersonal comparisons to evaluate satisfaction as much as they rely on satisfaction to infer social standing. They found that the correlation between interpersonal comparisons and satisfaction was dependent on the order in which the questions were asked.

By demonstrating that the relative importance of intrapersonal and interpersonal comparison standards depends on the context in which these judgments are elicited, these studies further highlight the difficulty in interpreting happiness ratings elicited in the absence of an experimenter-specified comparison standard. This is especially problematic if the extent to which people rely on intrapersonal or interpersonal comparison standards leads to reliably different happiness ratings. Since there are several plausible biases that could arise based on what comparison standards are adopted, it is worth investigating.

There are several ways in which intrapersonal comparisons could lead to systematic biases in happiness judgments. The tendency for negative memories to fade more quickly than positive memories may lead to positively biased memories of the past and consequently more negative appraisals of current happiness levels (Walker et al. 2003). On the other hand, self-enhancement motives may lead people to disparage their past selves and compliment their current selves in order to believe that they are improving over time, which could lead to higher appraisals of current happiness levels (Wilson and Ross 2001).

Interpersonal comparisons may lead to a different set of biases. Self-enhancement motives may lead people to selectively compare themselves to people who are less fortunate (Taylor and Brown 1988; Wills 1981). Additionally, Lykken and Tellegen (1996) suggest that people may have naive theories that they are better off than most other people in general. Due to the diversity of biases that different comparison standards are likely to elicit, there is good reason to suspect that different comparison standards will yield different response patterns.

In what follows, we investigate the relative accessibility and perceived relevance of intrapersonal and interpersonal comparison standards in constructing well-being judgments and the impact of these comparison standards on ratings of happiness. In Study 1, participants rated the importance of intrapersonal comparisons and interpersonal comparisons to their happiness judgments. In Study 2, participants reported in a free-response format what comparisons influenced their happiness judgments. In Study 3, we prompted the use of intrapersonal or interpersonal comparison standards and compared ratings of happiness to those in a no-prompt control condition. To foreshadow the results, in all three studies, we find reliable differences in happiness ratings depending on what comparison standard is adopted. We conclude with a discussion of methodological implications for studies of subjective well-being and directions for future research.

1 Study 1: Rated Importance of Intrapersonal and Interpersonal Comparisons

Study 1 examined people's perceptions of the relative importance of intrapersonal or interpersonal comparisons in happiness judgments and whether happiness ratings differ depending on which comparison standard people believe is most important in forming their judgment.

1.1 Method

1.1.1 Participants

Ninety-eight Princeton University undergraduates filled out a survey as part of a packet of unrelated questionnaires in exchange for $10.

1.1.2 Procedure

Participants were asked the question, "How happy are you?" and rated their happiness on a 9-point scale ranging from 1 = *not at all happy* to 9 = *very happy*. Then, they were asked to what extent they considered each comparison standard by rating: "I thought about how happy I am compared to most other people," and "I thought about how happy I am compared to what is typical for me," on a scale ranging from 0 = *not at all a consideration* to 4 = *very strong consideration*.

1.2 Results and Discussion

Overall, participants reported using intrapersonal comparisons ($M = 3.42$, $SD = 1.07$) more than interpersonal comparisons ($M = 2.52$, $SD = 1.12$), $t(97) = 5.53$, $p < .001$. This is consistent with the notion that people tend to interpret the question, "How happy are you?" as "How happy do you feel right now compared to how happy you typically feel?" Overall, happiness ratings were $M = 6.38$, $SD = 1.06$. The more people favored intrapersonal comparisons over interpersonal comparisons, the lower their happiness ratings, $r = -.26$, $p = .01$.

2 Study 2: Relative Accessibility of Intrapersonal and Interpersonal Comparisons

These findings suggest that happiness ratings do indeed differ depending on the comparison standard that a person adopts. However, in Study 1 participants were provided with two comparison standards and asked to rate how strongly they considered each. By explicitly providing participants with options, we may have biased their reporting of comparison standards. To remedy this, in Study 2 we used a free response format to examine whether intrapersonal or interpersonal comparison standards come to mind more readily when people evaluate happiness.

2.1 Method

2.1.1 Participants

Eighty-six Princeton undergraduates enrolled in an introductory psychology course participated in exchange for partial fulfillment of a course requirement.

2.1.2 Procedure

Participants were asked the question, "How happy are you?" and rated their happiness on a 9-point scale ranging from 1 = *not at all happy* to 9 = *very happy*. After providing happiness ratings, participants were asked, "When you answered the question, 'How happy are you?' what did you consider?" and then completed the statement, "I thought about how happy I am compared to _____."

2.2 Results and Discussion

Two independent coders, who were blind to the hypothesis, classified each statement as an intrapersonal standard, interpersonal standard, or neither an intrapersonal nor an interpersonal comparison standard. Coders agreed on their classification for 79% of the statements. A third coder, who was also blind to the hypothesis, resolved the differences.

Fifty-one participants reported using intrapersonal comparisons, 25 participants reported using interpersonal comparisons, and 10 participants reported using some other comparison standard. The difference in the number of statements classified as intrapersonal and the number of statements classified as interpersonal was statistically reliable, χ^2 (1, $N = 76$) = 8.90, $p = .003$. Overall, happiness ratings were $M = 6.61$, $SD = 1.71$. Happiness ratings were significantly higher when people used interpersonal comparisons

($M = 7.16$, $SD = 1.55$) than intrapersonal comparisons ($M = 6.37$, $SD = 1.61$), $t(74) = 2.03$, $p < .05$.[1]

The results of Studies 1 and 2 suggest that when evaluating happiness, people who spontaneously adopt an interpersonal comparison standard rate themselves happier than those who adopt an intrapersonal comparison standard. However, correlation does not imply causation. It may be that people who adopt an interpersonal comparison standard actually are objectively happier than those who adopt intrapersonal comparisons. For example, maybe thinking about others rather than oneself leads one to be happier, and also leads one to adopt others rather than the self as a comparison standard. As such, to ensure that it is actually comparison standards rather than a third variable that leads to differences in happiness ratings, in Study 3 we systematically manipulated what standard people adopted by explicitly referencing a particular comparison standard.

3 Study 3: Intrapersonal and Interpersonal Ratings of Happiness

Study 3 examines the influence of comparison standards on ratings of happiness by prompting an intrapersonal comparison standard or an interpersonal comparison standard and comparing these ratings to those in a no-prompt control condition.

3.1 Method

3.1.1 Participants

Eighty-seven Princeton University undergraduates were recruited via email and offered a chance to win one of five $50 cash prizes.

3.1.2 Procedure

Participants filled out an online questionnaire consisting of several self judgments presented in a randomized order. Self judgments ranged across several domains, including affect, hedonic states, frequencies, probabilities, opinions, wants, likes, traits, abilities, and knowledge.

Participants were randomly assigned to one of three versions of the questionnaire. In the intrapersonal comparison condition, participants were asked, "How happy are you compared to what is typical for you?" In the interpersonal comparison condition, participants were asked, "How happy are you compared to other people?" In the control condition, participants were asked, "How happy are you?" After providing happiness ratings, participants in the control condition were asked, "When you answered the question, 'How happy are you?' what did you consider?" and were then instructed to complete the statement, "I thought about how happy I am compared to _____." For all happiness judgments, participants rated their happiness on a 9-point scale ranging from 1 = *not at all happy* to 9 = *very happy*.

[1] The pattern of results is the same if we only consider cases for which both raters agreed: Forty-three participants reported using intrapersonal comparisons, 21 participants reported using interpersonal comparisons, and 4 participants reported using some other comparison standard. The difference in the number of statements classified as intrapersonal and the number of statements classified as interpersonal was statistically reliable, χ^2 (1, $N = 64$) = 7.56, $p = .006$. Overall, happiness ratings were $M = 6.69$, $SD = 1.53$. Ratings were marginally higher when people used interpersonal comparisons ($M = 7.19$, $SD = 1.60$) than intrapersonal comparisons ($M = 6.37$, $SD = 1.63$), $t(62) = 1.89$, $p = .06$.

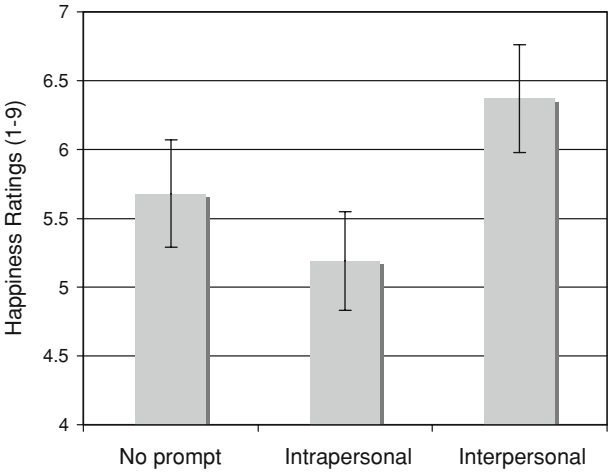

Fig. 1 Happiness ratings in no prompt, intrapersonal comparison, and interpersonal comparison conditions

3.2 Results and Discussion

Overall, happiness ratings were $M = 5.71$, $SD = 2.09$.[2] As can be seen in Fig. 1, happiness ratings were higher when people were prompted to use interpersonal comparisons, $M = 6.37$, $SD = 1.47$, than when they were prompted to use intrapersonal comparisons, $M = 5.19$, $SD = 2.19$, $t(54.45) = 2.47$, $p = .02$.[3] Happiness ratings in the control condition, $M = 5.68$, $SD = 2.34$, did not significantly differ from those in the interpersonal condition $t(45.68) = 1.32$, $p = .20$,[4] or in the intrapersonal condition $t(58) = .84$, $p = .41$.

To evaluate what comparisons participants used in the control condition, two independent coders, who were blind to the hypothesis, classified participants' free response statements as intrapersonal standards, interpersonal standards, or neither intrapersonal nor interpersonal standards. Coders agreed on their classification for 93% of the statements. A third coder, who was also blind to the hypothesis, resolved the differences.

Nineteen participants reported using intrapersonal comparisons, eight participants reported using interpersonal comparisons, and one participant reported using some other comparison standard. The difference in the number of statements classified as intrapersonal and the number of statements classified as interpersonal was statistically reliable,

[2] It may be noted that overall happiness ratings are lower in Study 3 than in Studies 1 or 2. The observed differences are most likely due to the fact that the studies were conducted at different times and within different contexts. In particular, given that happiness ratings tend to be lower in the fall and winter than in the spring and summer (Smith 1979) and that Study 3 was run in November and Studies 1 and 2 were run in April, these results are consistent with previously observed seasonal variations in happiness ratings. However, we caution that comparing happiness ratings across studies may not be entirely appropriate. Within a given study, participants were run at approximately the same time in approximately the same context, which allows for comparisons across conditions within an experiment, but not across experiments. Importantly, if we compare conditions within a study, we find the same pattern of results regardless of the time or context in which that study was run.

[3] Because the variance differed across conditions ($F = 5.92$, $p < .05$) the tests reported here do not assume homogeneity of variance, which is why the degrees of freedom reported are non-standard.

[4] Because the variance differed across conditions ($F = 7.12$, $p < .05$) the tests reported here do not assume homogeneity of variance, which is why the degrees of freedom reported are non-standard.

χ^2 (1, $N = 27$) = 4.48, $p = .03$. This replicates the results from Study 2. Happiness ratings did not significantly differ depending on the comparison standard used, but consistent with the results from Study 2, the trend was such that happiness ratings were higher among people who reported using interpersonal comparisons ($M = 5.75$, $SD = 2.61$) than among people who reported using intrapersonal comparisons ($M = 5.58$, $SD = 2.34$).

4 General Discussion

In this research, we have demonstrated why it is problematic to make inferences about how happiness varies across time or across people based on happiness ratings elicited in the absence of experimenter-specified comparison standards. People spontaneously make comparisons that may not correspond with the comparisons of interest to researchers. We show that participants considered intrapersonal comparisons to be more important than interpersonal comparisons to their happiness judgments (Study 1), and that participants were more likely to report adopting intrapersonal comparisons than interpersonal comparisons (Study 2), but that a non-negligible minority favored interpersonal comparisons. We further demonstrate that happiness ratings reliably differed depending on which comparison standards were adopted. This difference emerged both when comparisons were spontaneously adopted (Studies 1 and 2) and when comparisons were experimentally manipulated (Study 3).

While many of the most widely-used well-being indicators consist of single-item measures, happiness may also be assessed using multiple-item measures. A limitation of the present research is that all of the studies used single-item measures of happiness. Contextual factors may be exaggerated when single-item measures are used as opposed to multiple-item measures (Pavot and Diener 1993).

4.1 Implications

These results have important ramifications for well-being research. Of primary interest in well-being research are questions such as how happiness varies over time and across people. Research on adaptation has emphasized how happiness varies over time (e.g. Brickman and Campbell 1971; Helson 1964). Examples include studies that compare how people feel just after they get married, win the lottery, incur an injury, or suffer an illness to how they feel months later. Research on relative deprivation and social comparison, on the other hand, has emphasized how happiness varies across people (e.g. Crosby 1982; Festinger 1954). Examples include studies that compare married to unmarried, rich to poor, educated to uneducated, employed to unemployed, or healthy to sick. Given the interest in measuring how happiness varies across time and across people, it is important that we develop measures that are optimally sensitive to these distinctions.

One way to ensure that the comparison standards participants use correspond with the comparisons of interest to researchers is to explicitly specify comparison standards. To this end, we encourage well-being researchers to explicitly specify an intrapersonal or interpersonal comparison standard depending on the objective of the research. This is especially important when surveys are administered at multiple points in time or in different contexts. A person with a relatively stable level of happiness across time might look quite volatile if at one point in time he rates happiness relative to an interpersonal standard and at another point in time he uses an intrapersonal standard.

Given our findings that people tend to spontaneously adopt an intrapersonal comparison standard, happiness ratings may provide a fairly good picture of differences in happiness over time but a poor understanding of differences across people. Returning to the finding that Californians and Midwesterners rate themselves as equally happy (Schkade and Kahneman 1998), one explanation may be that participants used an intrapersonal comparison when rating happiness. Californians and Midwesterners may have similar levels of happiness on the particular day of testing compared to their respective base rates of happiness. However, they might still have different levels of happiness compared to each other. That is, it is important to bear in mind what comparison standards people may be adopting when attempting to interpret well-being and happiness ratings.

Another reason to specify comparison standards is to increase statistical power. In the absence of an experimenter-specified comparison standard, a majority of participants adopts an intrapersonal comparison standard, but a non-negligible minority adopts an interpersonal comparison standard. This could serve as a source of noise that could mask differences of interest to researchers. Additionally, to the extent that an incongruity exists between the comparisons of interest to researchers and the comparisons people use when rating their happiness, important differences could go undetected.

In general, correlations between subjective well-being and objective life circumstances tend to be surprisingly low. However, these results are not so surprising to the extent that we consider the following: Researchers typically examine these questions by referring to surveys such as the National Opinion Research Center, World Values Survey, and Gallup Poll Social Series, all which pose variations of the question, "How happy are you?" Since no comparison is specified, these happiness ratings are bound to contain some degree of noise. Additionally, to the extent that a majority of people answer these questions by making comparisons to how they typically feel, as the present research would suggest, differences in objective life circumstances that tend to be relatively stable over time are unlikely to significantly bear on happiness ratings.

Our findings also have important ramifications for the development of policy based upon findings in the well-being literature. Recently, there has been a push for policy based upon well-being research (Di Tella and MacCulloch 2006; Frey and Stutzer 2002; Graham 2005; Graham 2008; Kahneman and Krueger 2006; Layard 2006). Some researchers have advocated for national well-being indicators that would allow countries to make longitudinal or cross-national comparisons and that would serve as a basis for public policy (Diener and Seligman 2004; Kahneman et al. 2004). The Kingdom of Bhutan has proclaimed the goal of measuring Gross National Happiness and countries such as the United Kingdom and Australia are committed to producing national well-being indicators (Frey and Stutzer 2002; Kahneman and Krueger 2006). In light of these developments, it is especially important that we develop valid and reliable measures of happiness and carefully interpret well-being findings elicited in the absence of explicitly specified comparisons.

4.2 Directions for Future Research

While intrapersonal and interpersonal comparisons account for 88% of the comparisons participants reported using in Study 2 and 96% of those participants reported using in the control condition in Study 3, these comparisons do not exhaust the list of possible comparisons that meaningfully impact happiness ratings. For example, acquired guides (e.g. ideal and ought standards) and imagined possibilities may also shape self-evaluations

(for a review, see Higgins et al. 1996). In addition, meaningful distinctions may exist within the categories of intrapersonal and interpersonal comparisons. For example, a distinction could be made between intrapersonal comparisons within a single domain versus comparisons made across domains. Cross-domain comparisons may be particularly common when people evaluate their satisfaction across a variety of domains within a single survey.

It remains to be seen whether the present findings generalize to other forms of well-being, such as life satisfaction or domain-specific satisfaction. While in many cases happiness and life satisfaction reflect the same general construct of subjective well-being, in other cases, happiness and life satisfaction are included within the same survey and are intended to measure different concepts. In these cases, the semantic and pragmatic contexts in which happiness and life satisfaction ratings are elicited may dictate the relative accessibility and perceived relevance of intrapersonal and interpersonal comparisons on these judgments. However, it is worth noting that while the specific finding that people tend to adopt intrapersonal comparisons standards may not generalize to other types of well-being, this would not change the fact that unless researchers specify comparisons it remains very difficult to unambiguously interpret participants' judgments.

Well-being research is not only concerned with people's evaluations of their own happiness but their evaluations of other people's happiness. Researchers have found that people are often inaccurate at predicting the happiness or life satisfaction of a variety of populations, such as sick versus healthy people (Sackett and Torrance 1978). An interesting area for future research would be to examine whether people use different comparison standards to evaluate their own versus another person's happiness, and whether self-other discrepancies in the comparison standards used might contribute to apparent "mispredictions" of other people's happiness.

4.3 Conclusion

People's happiness ratings reliably differ depending on whether they adopt intrapersonal or interpersonal comparison standards. As a result, in the absence of an experimenter-specified comparison standard, the differences we expect to see in happiness across time or across people may often end up diluted or misrepresented. We encourage researchers to take care when constructing well-being surveys to ensure that the participants interpret the question in the intended manner, and we urge researchers to interpret results elicited in the absence of an explicit comparison standard with caution.

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