WISE OPTIMISM AND WELL-BEING: ARE OPTIMISTIC PREDICTIONSAlways BEST?

A Thesis
Presented to the
Faculty of
San Diego State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Psychology

by
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Summer 2011
SAN DIEGO STATE UNIVERSITY

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June 13, 2011
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by

Sara Elizabeth Andrews

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DEDICATION

This thesis is dedicated to my grandparents, Alvin and Grace Gabrielsen, two of the strongest, kindest, and hardest working people I have ever known. Thank you for the example you set for others, for the support you have provided, and for the faith and unconditional love you have always shown me. I love you both. Grandpa, you are truly missed.
ABSTRACT OF THE THESIS

Wise Optimism and Well-Being: Are Optimistic Predictions Always Best?

by
Sara Elizabeth Andrews
Master of Arts in Psychology
San Diego State University, 2011

Research on the consequences of optimism has tended to look at optimism as a stable dispositional characteristic, defining individuals along a single continuum and typically neglecting the possibility that people’s predictions may vary across situations. However, other lines of research have shown that optimism can and does vary from situation to situation, suggesting that there may be more to optimism than always expecting the best. Using a new measure of optimism, the primary goals of this thesis are (1) to determine whether optimism can be understood not only in terms of how optimistic people tend to be in general (overall level), but also in terms of how much optimism tends to vary from situation to situation (cross-situational flexibility); and (2) to evaluate both dimensions of optimism by comparing people’s descriptions of their own predictive tendencies to conventional notions of what ideal predictions ought to be (correspondence to prescribed ideals). I hypothesize that both overall level and cross-situational flexibility are measurable dimensions of optimism, as is correspondence to a situation-specific prescribed ideal, and that all three individual difference variables represent reliable aspects of a person’s orientation toward the future. I also hypothesize that not only does the expression and experience of optimism vary by situation, but that the ideal prediction also varies, and corresponding to this shifting ideal is important for well-being. The “wise optimist” is predicted to be generally optimistic, but not too optimistic, and flexible enough to adjust their responses appropriately depending on the specific demands a given situation. To test these hypotheses, I conducted two studies: A cross-sectional study and a longitudinal study utilizing a cross-lagged panel design. The results of the cross-sectional study (N = 347) revealed that all three variables (level, flexibility, and correspondence) are measurable and reliable, and when entered into a simultaneous multiple regression, each was found to make a significant, independent contribution to well-being. The longitudinal study (N = 233), which utilized a more comprehensive measure of well-being, allowed me to investigate questions of both causality and stability (test-retest reliability) over time. Using structural equation modeling to evaluate the longitudinal data, correspondence to prescribed ideals was found to be a significant predictor of well-being over time, suggesting that there is some real wisdom to conventional wisdom, and corresponding to ideals prescribed by others has some important implications for well-being, at least in terms of subjective well-being. Taken together, these studies suggest that there is much more to being a wise optimist than always expecting the best.
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ACKNOWLEDGEMENTS

This thesis would not have been possible without the mentorship and guidance of my advisor, David Armor, who has challenged me to push the boundaries of what I felt capable of from day one. Thank you for letting me into 410 (even if it did take three weeks of work to convince you sign the papers); you were the first person to open a door into this world for me and I will always be grateful for that.

I owe a huge debt of gratitude to Melody Sadler, who has gone above and beyond the call of duty to patiently help me with an ever-interesting assortment of questions and challenges. She is an incredible teacher, mentor, and human being. If I can be half the psychologist and person that she is, I will have achieved something truly remarkable.

I would also like to thank Mark Reed for taking the time to be on my committee despite the many demands on his time. It was a pleasure to share this work with someone who not only has a strong background in the subject matter, but was willing to make many insightful comments and provide a new perspective on the project.

Scott Roesch was kind enough to coach me on EQS and structural equation modeling before, during, after and in between multivariate statistics classes, even before we reached it in the course. I greatly appreciated his help and humor during the process.

Thank you too, to the research assistants in our lab: Alfred Collazo, Gin Lee, and Lauren Bernhard for helping with data collection and data entry; and especially to Jon Miller, who was the best “deputy” I could have asked for on this project.
Thank you to the many friends and comrades who were part of this adventure, especially Aly Monroe (the lifesaver who saves lives), Vanessa Watts (my partner in crime and puppies), Carly Hennessy (my own personal data monster), Emily Shaffer (whose logic is not fail) and Chris Cole (who is sure you think you are right). You made this process more fun that it had any business being.

I would like to thank my parents, John and Carol Andrews, and all my family, for the encouragement, advice, and support that has been so generously offered throughout this process. Knowing you are always there is invaluable. Thank you for everything. In mentioning family, I would be remiss if I did not acknowledge my running partner and house jester, my Husky Trouble. He got me out of the house and kept me company during some very long days and nights of work; I would like to think he knew how much I needed it.

Finally, I would like to thank my wonderful husband, Jean Pierre Ruiz, who continues to take every single step of this journey with me, providing unwavering support in every way possible even when it is not fun or easy. You make me a better person, and I am grateful every day that you choose to be part of my life. Thank you for giving me wings and a nest.
WISE OPTIMISM AND WELL-BEING: ARE OPTIMISTIC PREDICTIONS ALWAYS BEST?

Research on the costs and benefits of optimistic expectations has provided scholars with a vast literature to reference, in which the conclusions drawn can often be reduced down to familiar dichotomies of good versus evil: the half-full glass and the half-empty glass, the silver lining and the stormy cloud. Those who argue for the benefits of optimistic expectations can point to research on dispositional optimism (i.e., optimism measured as a general aspect of personality), which is almost invariably associated with positive outcomes in domains such as physical health (Rasmussen, Scheier, & Greenhouse, 2009), coping with stress (Nes & Segerstrom, 2006), and general well-being (Wrosch & Scheier, 2003; see also Carver, Scheier, & Segerstrom, 2010).

However, there are some who argue that optimism is not entirely the panacea it appears to be. One concern is that it may be possible to be too optimistic. A considerable amount of research has shown that people tend not only to be optimistic, but to be optimistically biased: People consistently underestimate their chances of experiencing negative events, and overestimate their chances of experiencing positive ones (e.g., Weinstein, 1980; for reviews, see Armor & Taylor, 1998, 2002; Helweg-Larsen & Shepperd, 2001).

Another concern is that optimism has been shown to vary from situation to situation, a possibility traditionally neglected in research on dispositional optimism. The mere fact that this variability exists suggests that while optimism may be advantageous in some situations,
it may be disadvantageous in others. For instance, although less frequent than those showing
the benefits of optimism, a few studies have shown that optimists are more likely than
pessimists to persist at gambling (Gibson & Sanbonmatsu, 2004) and to pursue riskier
investment strategies (Felton, Gibson, & Sanbonmatsu, 2003); both behaviors that can easily
lead to less-than-ideal outcomes. Also, recent research on unrealistic optimism suggests that
people may be more unrealistic in some situations than others, and predictably so (Armor &
Taylor, 2002; Sweeny & Shepperd, 2010; Sweeny, Carroll, & Shepperd, 2006). Still, it is not
entirely clear whether situational variability in optimism is advantageous.

These varied findings suggest that we would do well to look at optimism as a function
of the person and of the situation, rather than isolating our investigation to one domain or the
other. In other words, we know that individual differences exist in terms of people’s general
levels of optimism, but they may also exist in terms of how flexible people are in their
responses to different situations, and it should be possible to investigate both constructs
simultaneously. Otherwise, we run the risk of neglecting information that may be important
for our understanding of optimism as a whole.

However, it is not enough to be able to measure level and flexibility simultaneously if
we cannot come to a meaningful conclusion about any individual differences we might find.
An important question that must be considered is: What is best? Ideals are often based on
theoretical assumptions (e.g., the ideal of accuracy), but rarely if ever are they investigated in
a context-specific manner. Does an ideal level of optimism exist? Is there also an ideal level
of flexibility? And if they do exist, do these ideals vary depending on the situation? In other
words, measuring level and flexibility may not be enough without knowing if there is an
ideal level of optimism, or an ideal amount of flexibility in responding to different situations.
The goal of my thesis research is to take a closer look at optimistic expectations in situations and examine how different aspects of optimism relate to personal well-being. More specifically, I will examine how closely people’s descriptions of their own optimistic predictions correspond to conventional notions of what ideal predictions should be. I will focus not only on how optimistic people tend to be across situations (overall level), but also on how much people’s optimism tends to vary across situations (cross-situational flexibility), and I will describe the creation of a new situation-specific measure of optimism that is designed to measure level and flexibility in optimism, as well as an ideal standard that can be applied to both dimensions. I will do this by first measuring and then comparing people’s predictions to a conventional wisdom standard (correspondence to prescribed ideals).

I hypothesize, first, that not only will the expression and experience of optimism vary from situation to situation, but that the ideal prediction will also vary, and corresponding to this shifting ideal may be what is best for well-being. I predict that both dimensions of optimism (overall level and cross-situational flexibility) are measurable, as is correspondence to a situation-specific prescribed ideal, and that all three represent reliable aspects of a person’s orientation toward the future. The “wise optimist” is hypothesized to be generally optimistic, but not too optimistic, and flexible enough to respond appropriately to the specific demands of a situation. These variables are described in more detail below.

**Overall Level**

Considerable evidence has shown that scores on measures of overall level of optimism are highly correlated with a variety of well-being measures including satisfaction with life, self-esteem, and both positive and negative affect (Lucas, Diener, & Suh, 1996;
Scheier, Carver, & Bridges, 1994; for review, see Wrosch & Scheier, 2003). These existing measures of optimism focus solely on the overall level of optimism expressed by individuals—that is, they measure whether people tend to be optimistic or pessimistic, and to what degree. The most commonly used measures of optimism, the Life Orientation Test (LOT; Scheier & Carver, 1985) and the Life Orientation Test – Revised (LOT-R; Scheier et al., 1994), were explicitly intended to measure a personality characteristic that is stable across time and across situations. Empirically, the LOT and LOT-R are quite stable over time. For example, Lucas et al. (1996) found that self-reported optimism scores measured using the LOT were correlated at .76 when measured four weeks apart, and at .58 when measured three years apart (both significant at p < .01). Although these measures have certainly been useful (both in terms of ease of administration and in terms of an impressive accumulation of research findings), the very generality of these measures makes them inappropriate for asking questions about variability and excess in optimism. Statements on the LOT and LOT-R are so general (e.g., “In uncertain times, I usually expect the best”) that it is hard to imagine any negative consequences resulting from agreeing with these statements too much.

In keeping with past research, I hypothesize that the overall level of optimism will be positively associated with well-being. However, I suspect that there may also be limits to the benefits of optimism; something that can be evaluated using an ideal standard for comparison.
CROSS-SITUATIONAL FLEXIBILITY

Despite the stability commonly seen in measures of dispositional optimism, research on specific predictions (i.e., predictions that people make for individual events at single points in time) has shown that the amount of optimism (or pessimism) expressed by an individual can and often does vary from situation to situation. For example, research has shown that people tend to be less optimistic about the outcome of a task when it is real rather than hypothetical (Armor & Sackett, 2006), when the task is temporally proximal rather than distant (Gilovich, Kerr, & Medvec, 1993), and when there is a perceived lack of control over the outcome (Klein & Helweg-Larsen, 2002). Moreover, when tasks have been completed and feedback is anticipated (e.g., students waiting for feedback on an exam), the normal tendency to be overly optimistic tends to be supplanted by an equally strong tendency to be overly pessimistic (e.g., Shepperd, Oullette, & Fernandez, 1996; Sweeny & Shepperd, 2010; for review, see Sweeny et al., 2006).

What we do not know at this point is (a) whether there are individual differences in how responsive people are to situational demands, and (b) whether cross-situational variability in optimism is associated with good or bad outcomes. On the one hand, flexibility may be adaptive if it allows an individual to shift from optimism to pessimism (or from pessimism to optimism) in response to the specific demands of a given situation, rather than stubbornly adhering to one outlook. On the other hand, a stable orientation toward the future may be adaptive if it means that the individual’s position is not swayed by transitory or inconsequential changes in their environment (e.g., Kernis, Cornell, Sun, Berry, & Harlow, 1993). Because the ability to identify and respond appropriately to the demands of the environment is most certainly desirable (as long as one is not being buffeted about by these
external factors or responding at random), it is expected that a certain degree of flexibility will relate positively to general well-being, and that it is best to be responsive rather than reactive; but as with level, we cannot know what is best without an ideal for comparison.

**CORRESPONDENCE TO PRESCRIBED IDEALS**

Although the debate about the ultimate adaptive costs and benefits of optimism is ongoing (and beyond the scope of this thesis), a recent study on prescribed optimism (Armor, Massey, & Sackett, 2008) suggests that an alternative criterion for ideal optimism may be found in conventional wisdom. In other words, rather than painstakingly sorting out what levels of optimism are best in a variety of specific situations and then looking at how much these ideals vary, or relying on arbitrary standards of what is best (such as the assumed ideal of accuracy), we may be able to learn much more about these ideals by simply asking people about them. One advantage of this approach is that this criterion is *measurable*. Moreover, as work on the “wisdom of crowds” suggests (Suroweicki, 2004), aggregating the views of a diverse and independent group of individuals may provide a standard that is more than merely convenient: it may be *accurate* as well. Asking people what predictions are ideal for a variety of specific situations has the potential to provide more information for a comparison than either theory or piecemeal bits of data would allow.

Research on prescribed optimism (Armor et al., 2008) has shown that people tend to believe optimistically-biased predictions are ideal. However, this research has also found that people (a) tend to prescribe moderate levels of optimism, suggesting that an ideal level of optimism is not completely boundless, and (b) tend to prescribe more optimism in some situations than in others, suggesting that there may be recognition of some benefit to
flexibility. What is not clear from this research is whether these prescribed ideals are in fact reasonable. If they are, then those who make predictions that correspond more closely to these prescribed ideals ought to be better off psychologically, and thus experience greater overall well-being, than those who make predictions that deviate from the prescribed ideals. On the other hand, if these prescribed ideals represent unrealistic or misguided notions of what kinds of predictions are best, then those who make predictions that correspond to these ideals may suffer as a consequence. By measuring and comparing the conventional wisdom of many to the personal predictions of individuals, it is possible to determine whether people who make predictions that correspond to the prescribed ideals are better off than those who tend to deviate from them.

**THESIS OVERVIEW**

For this thesis, I have conducted two studies. The first, a cross-sectional study, and the second, a longitudinal study, both share two primary aims: first, to demonstrate that corresponding to prescribed ideals (that vary from situation to situation) is, in and of itself, important for well-being; and second, to demonstrate that level, flexibility and correspondence to prescribed ideals are all measurable and reasonably stable individual difference variables related to optimism. It is also hypothesized that all three variables will have some adaptive value, which will be determined by investigating whether they independently contribute to people’s overall well-being.

The first study examined these relationships cross-sectionally. The second study employed a longitudinal design with two additional aims beyond those described above: to provide an initial assessment of whether the three components of wise optimism are causally
related to well-being (or vice-versa) by examining cross-lagged associations, and to determine whether overall level, cross-situational flexibility, and correspondence to prescribed ideals are stable over time.
STUDY 1

OVERVIEW

One goal of Study 1 was to measure and describe people’s prediction tendencies, not only in terms of level, but also flexibility across situations. Another goal was to measure prescribed ideals, and then look at the correspondence between people’s descriptions and this new standard, and to evaluate the adaptive value of all three individual difference variables in terms of general well-being. Because I intend to use similar measures and methods in the second study, I will describe my initial results here in some detail.

METHOD

This section describes the methods used in Study 1, including participants, materials and procedures.

Participants

Participants were 347 students recruited from the San Diego State University campus. The sample was diverse in terms of ethnicity (39% White, 25% Hispanic, 19% Asian, 5% Black, 12% Other), gender (60% were women) and, to a lesser extent, age ($M = 22.1$ years, $SD = 4.6$ years).

Materials and Procedure

Participants were randomly assigned to one of two conditions. Half ($N = 174$) were asked to indicate the extent to which their personal expectations would be optimistic, pessimistic, or accurate in each of 30 different situations (personal condition). Remaining
participants ($N = 173$) were recruited to provide a normative criterion for the ideal expectation in each situation (ideal condition). Following work on prescribed optimism (Armor et al., 2008), each of these participants was asked to indicate what the “best” response would be in each of the 30 situations (i.e., what kinds of predictions would be ideal). Responses from all participants were recorded on nine-point scales, which ranged from $-4$ (extremely pessimistic) to $+4$ (extremely optimistic) with a midpoint of 0 (accurate).

The specific situations used in this study were intended to elicit a range of responses for how optimistic or pessimistic people say they would (or should) be. Drawing from research on moderators of optimistic and pessimistic biases (e.g., Armor & Taylor, 1998, 2002; Helweg-Larsen & Shepperd, 2001; Sweeny et al., 2006), the set included situations that were expected to elicit reports of optimistic, pessimistic, and accurate predictions in approximately equal proportions. Sample situations include “You have some large bills due today, and you do not have enough money in your bank account to cover them,” and “You have just been called back for a very important interview, and it will be in one week.” The complete list of situations is presented in Appendix A. Half of the participants in each condition were presented with the situations in the order they appear in Appendix A; the remainder were presented with the situations in the reverse order.

These procedures facilitated the computation and examination of overall level, cross-situational flexibility, and correspondence to prescribed ideals. Each participant’s overall level of optimism was obtained simply by calculating the within-participant mean across all 30 situations. Drawing from research on intra-individual variability in personality and affect
(e.g., Baird, Le, & Lucas, 2006; Eid & Diener, 1999), cross-situational flexibility was
determined by calculating the within-participant standard deviation across the 30 situations.¹

The calculation of the each participant’s degree of correspondence to prescribed
ideals required several steps. I first calculated the average prescribed ideal for each situation
(by averaging across all raters in the ideal condition) in order to obtain mean
recommendations representing situation-specific ideals. Next, for each participant, I
calculated the absolute value of the difference between the participant’s response and the
average ideal for each situation. In order to account for potential inter-rater discrepancies in
prescribed ideals, this value was divided by the standard deviation of the prescribed ideals
(calculated within-situation across all raters). Finally, these absolute deviations were
averaged (across all 30 situations) and then multiplied by -1 so they could be interpreted in
terms of the mean level of correspondence between an individual’s personal predictions and
the average prescribed ideal (as opposed to a deviation). Formally, the equation for this
calculation is as follows:

\[
CPI_i = \frac{1}{N} \sum_{s=1}^{N} \left[ \frac{[X_{is} - \overline{PI}_s]}{PISD_s} \right] \cdot (-1)
\]

Where:

- \( N \) = number of optimistic situations
- \( X_{is} \) = individual subject score on situation \( s \)
- \( \overline{PI}_s \) = mean prescribed ideal for situation \( s \) (from comparison group)
- \( PISD_s \) = standard deviation of ratings of situation \( s \) in prescribed ideal group

¹ Research on intra-individual variability in personality and affect has found the within-participant
standard deviation in responses over time to be a reliable and valid measure of variability, demonstrating a
strong pattern of convergent validity in personality measures and strong predictive value in personality change
over time.
In order to determine whether level, flexibility and correspondence to prescribed ideals are associated with overall psychological adjustment, participants were also asked to complete the Satisfaction with Life Scale, a widely-used measure of subjective well-being (Diener, Emmons, Larsen, & Griffin, 1985). This scale asks respondents to what extent they agree with five simple statements (e.g., “the conditions of my life are excellent”). For exploratory purposes, participants were asked to complete the Life Orientation Test-Revised (Scheier et al., 1994).

RESULTS

The goal of this cross-sectional study was to begin investigating the relationship between people’s prediction tendencies and prescribed ideals in the context of well-being. To accomplish this, I compared our participants’ prediction tendencies to prescribed ideals, calculated reliabilities for all variables of interest and looked at the inter-relations between level, flexibility, correspondence and well-being, in addition to comparing our new and multi-faceted measure of optimism to a well-established one, the Life Orientation Test – Revised.

COMPARING PREDICTION TENDENCIES TO PRESCRIBED IDEALS

Averaged across all 30 situations, people described their own predictions as significantly more optimistic ($M = .45$) than accurate (0), $t(173) = 8.21, p < .001$, which is consistent with the finding that people tend to be optimistically biased. However, our participants’ responses were significantly less optimistic ($M = .45$) than the prescribed ideals.
\(M = .99\), \(t(345) = 6.28, p < .001\), suggesting that the ideals are even more optimistically biased than people’s own responses.

Additionally, a 2 (condition: describe vs. prescribe) by 30 (situation) mixed-design Analysis of Variance revealed a main effect of situation in which participants reliably described (and prescribed) more optimism in some situations than in others, \(F (29, 9715) = 214.0, p < .001\), and a situation by condition interaction, \(F (29, 9715) = 5.65, p < .001\). Examination of responses revealed that the situations had a stronger effect on the kinds of predictions participants said they would make than on the kinds of predictions that participants said would be best to make. In other words, participants describe their own predictions as being more reactive to situations than prescribed ideals suggest they ought to be.

**RELIABILITY OF INDIVIDUAL DIFFERENCE MEASURES**

Results revealed that all three aspects of optimism can not only be measured reliably but that they also relate to well-being in meaningful ways. Means, reliability coefficients, and intercorrelations are presented in Table 1.

The reliability of participants’ overall level of optimism was calculated with Cronbach’s alpha, and the resulting coefficient (\(\alpha = .84\)) revealed a considerable degree of consistency in how respondents approached situations. This result indicates that participants who tended to be more optimistic in some situations also tended to be more optimistic (or less pessimistic) in others, and this occurred despite the inclusion of situations that were expected to be especially conducive to pessimism. This suggests that the “level” variable is a good measure of overall optimism across situations.
**Table 1. Study 1 Wise Optimism Descriptive Statistics and Correlations**

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<th>Descriptive Statistics</th>
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<tr>
<td></td>
<td>M</td>
<td>SD</td>
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<tr>
<td>Overall Level of Optimism</td>
<td>.45</td>
<td>.72</td>
</tr>
<tr>
<td>Cross-Situational Flexibility</td>
<td>2.12</td>
<td>.43</td>
</tr>
<tr>
<td>Correspondence to Prescribed Ideals</td>
<td>.84</td>
<td>.21</td>
</tr>
<tr>
<td>SWLS</td>
<td>4.91</td>
<td>1.29</td>
</tr>
</tbody>
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*Note. N = 174.*  
*<sup>p</sup> < .01, **<sup>p</sup> < .001.*  
<sup>a</sup> Cronbach’s alpha  
<sup>b</sup> Split-half correlation of within-participant standard deviations utilizing odd-numbered and even-numbers questions, estimated for the full-length scale using the Spearman-Brown prophesy formula; uncorrected <sup>r</sup> = .69.

To evaluate the reliability of cross-situational flexibility, I calculated the within-participant standard deviation for half of the situations, correlated this standard deviation with the standard deviation of responses for the remaining situations, and then used the Spearman-Brown prophesy formula to project reliability coefficients for the full 30-item measure. This process revealed that participants were consistent in how much flexibility they showed across situations, regardless of whether I correlated the standard deviation of the first half of the items with the standard deviation of the second half of the items (prophesized <sup>r</sup> = .77) or correlated the standard deviations of the odd-numbered and even-numbered items (prophesized <sup>r</sup> = .82).
The reliability of participants’ situation-by-situation degree of correspondence to prescribed ideals was assessed using Cronbach’s alpha, and the resulting coefficient (α = .75) revealed a fair degree of consistency in the extent to which respondents’ individual predictions corresponded to (or deviated from) the ideal predictions prescribed by others.

Finally, in keeping with past research, the Satisfaction with Life Scale was highly internally consistent (α = .87), as was the Life Orientation Test – Revised (α = .75).

**INTER-RELATIONS BETWEEN MEASURES**

The individual difference variables were not independent. Intercorrelations between our measured variables (see Table 1, p. 14) revealed a positive relationship between correspondence and level \( (r = .52, p < .001) \), which may be explained by the simple fact that prescribed ideals were generally more optimistic than people’s prediction tendencies. A negative correlation between correspondence and flexibility \( (r = -.63, p < .001) \) was also found, and may be explained by the fact that prescribed ideals were generally less variable than people’s prediction tendencies, while the negative correlation between level and flexibility \( (r = -.23, p < .01) \) may be an artifact of forced dependence between the means and standard deviations\(^2\) (for further discussion, see Baird et al., 2006).

**RELATIONS TO WELL-BEING**

Because all three individual difference variables were intercorrelated (see Table 1, p. 14), it was important to look at the unique contributions of each one to well-being.

\(^2\) When responses tend toward one end of a scale or the other, variance is automatically limited (restriction of range), producing an artificial correlation between the two variables. This is, in fact, what we see in this data: participants consistently responded with optimism to a clear majority of the situations provided, and it is possible that this forced dependence caused level to limit the effect of flexibility on satisfaction with life.
Entering overall level, cross-situational flexibility, and correspondence to prescribed ideals into a simultaneous multiple regression as predictors of life satisfaction revealed that each variable was a unique predictor of well-being. First, overall level of optimism was found to be a significant positive predictor of satisfaction with life, $\beta = .32$, $t(170) = 3.91$, $p < .001$, which indicates that the more optimistic a person reported being across situations, the better adjusted they tended to be. Second, cross-situational flexibility was also positively associated with life satisfaction, $\beta = .18$, $t(170) = 1.99$, $p = .05$, indicating that flexibility is also a significant predictor of adjustment, over and above an individual’s overall level of optimism. Third, and most importantly, correspondence to prescribed ideals was found to be positively associated with life satisfaction, $\beta = .24$, $t(170) = 2.34$, $p = .02$, indicating that those whose responses tended to be closer to prescribed ideals also tended to be better adjusted (see Table 2).

**Table 2. Study 1 Predictors of Life Satisfaction**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Level of Optimism</td>
<td>.32</td>
<td>3.91</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Cross-Situational Flexibility</td>
<td>.18</td>
<td>1.99</td>
<td>.05</td>
</tr>
<tr>
<td>Correspondence to Prescribed Ideals</td>
<td>.24</td>
<td>2.34</td>
<td>.02</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .19$*

**Comparisons to the Life Orientation Test – Revised**

In order to understand how our new measure of optimism compared to a well-established one, the relationships between our variables of interest and the Life Orientation
Test – Revised were evaluated. Interestingly, dispositional optimism was even more highly correlated with general well-being ($r = .62$) than with our measure of overall level of optimism ($r = .46$).

To explore these relationships further, all three individual difference variables were entered into a simultaneous multiple regression predicting dispositional optimism, and the results were almost identical to those that we found after running the same analysis with well-being as an outcome: Each was found to be a significant predictor of dispositional optimism. Overall level of optimism was found to be a significant positive predictor of dispositional optimism, $\beta = .49, F(1, 170) = 19.60, p < .001$; an unsurprising finding as it was intended to capture the same element of general optimism that dispositional optimism represents. Cross-situational flexibility was also positively associated with dispositional optimism, $\beta = .51, F(1, 170) = 6.52, p = .011$, indicating that flexibility contributes to the expression of dispositional optimism. Finally, correspondence to prescribed ideals was found to a positive contributor to dispositional optimism, $\beta = 1.50, F(1, 170) = 10.16, p = .002$, indicating that those whose responses tended to be closer to prescribed ideals tended to also express more general optimism.

Next, the three individual difference variables were entered into a simultaneous multiple regression predicting Life Orientation Test – Revised, to see if they could still predict residual variance in well-being when controlling for dispositional optimism. In this case, only dispositional optimism came out as a significant prediction of well-being, $\beta = .60, F(1, 168) = 56.79, p < .001$. Level and flexibility dropped out of the analysis entirely ($\beta = .002, F(1, 168) = .00, p = .983$ and $\beta = -.14, F(1, 168) = .53, p = .469$, respectively), while correspondence remained a moderately significant predictor ($\beta = .64, F(1, 170) = 2.79,$
indicating that there may still be some adaptive value to corresponding to prescribed ideals, over and above that of the strongly significant predictor dispositional optimism.

**DISCUSSION**

The results of this study confirm that there may in fact be a “best” way to be optimistic: Not only did people prescribe what is best in a variety of different situations, but those whose prediction tendencies corresponded to these prescribed ideals tended to be more satisfied with their lives than those who tended to deviate from them. Prescribed ideals thus appear to be one way of knowing what is best, but if associations with well-being can be used as a basis for evaluating the wisdom of these prescriptions, then it would appear that there may be more to being a wise optimist than simply adhering to these prescriptions. In this study, at least, level and flexibility also independently predicted well-being, suggesting that prescribed ideals can not tell the whole story. However, these results also imply that there is more to being a wise optimist than always expecting the best (i.e., not just level), and our prescribed ideals appear to suggest moderation, both in level and in flexibility. In other words, there may truly be some wisdom in adhering to conventional wisdom standards, but it does not appear to completely explain the relationship between optimism and well-being.

As hypothesized, we found that all three individual difference variables (overall level of optimism, cross-situational flexibility, and correspondence to prescribed ideals) are measurable and reliable aspects of a person’s orientation toward the future. Moreover, each one appears to be associated with a person’s overall sense of well-being, at least in terms of satisfaction with life. Taken together, these results suggest that optimism is not solely the
product of one’s personality, but also of the situation. The ability to recognize and respond appropriately to the specific demands of the environment appears to be an adaptive skill, and one that may play a key role in adjustment.

What we cannot know from these data is whether these three variables are causally related to well-being (or vice-versa), or whether level, flexibility, and correspondence are stable constructs over time. Although the results are promising, it is be important to replicate these findings in an independent sample to validate the measure.

Another consideration has to do with potential limitations of the Satisfaction with Life Scale (SWLS) as a measure of well-being. First, well-being researchers have argued that the construct of subjective well-being is comprised of both a cognitive assessment of life satisfaction and an emotional evaluation of positive and negative affect (e.g., Lucas et al., 1996). Thus, adding a measure of positive and negative affect would allow a more complete test of the relations between the three components of wise optimism and well-being. A second potential limitation of the SWLS is methodological. Because all of the items on the SWLS are positively-keyed, participant acquiescence could potentially impact the relationships observed thus far by exaggerating the correlation between overall level of optimism (in which high scores always reflect more optimism) and satisfaction with life (in which high scores always reflect greater satisfaction with life). Acquiescence appears to be less problematic for the other variables (cross-situational flexibility and correspondence to prescribed ideals), and would not be expected to impact their correlations. An advantage of adding a measure of negative affect is that, as a negative indicator of well-being, it would avoid the acquiescence problem present when using only positive indicators of well-being.
STUDY 2

OVERVIEW

The purpose of Study 2 was to extend the findings of the first study in three important ways: (1) to investigate causality in the observed relationship between the three individual difference variables and well-being, something that is not possible in a cross-sectional study design; (2) to determine if and how these three variables relate to a broader conception of well-being incorporating both cognitive and affective components; and (3) to determine whether level, flexibility, and correspondence to prescribed ideals are stable over time, as this is an important precondition for making causal judgments.

The quasi-experimental cross-lag panel design has two benefits. First and foremost, the longitudinal design allows an examination of cross-lagged relationships between level, flexibility, correspondence to prescribed ideals and well-being that can provide an initial test of the causal relationship between them (Kenny, 1975). If optimism truly does promote well-being, the optimism variables measured at Time 1 should predict greater well-being at Time 2, and these associations should be stronger than those between well-being at Time 1 and optimism at Time 2. Second, this design allows us to examine the temporal stability of the new measure and of the relationships identified in Study 1.

As described previously, well-being researchers have argued that there is more to subjective well-being than the cognitive evaluation of life satisfaction, and that positive and negative affect are equally central to the conceptual definition of well-being. Accordingly, Study 2 employed an expanded measure of well-being that included both positive and
negative affective elements, by adding the Positive Affect Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). This is a widely-used and well-validated measure that supplements the Satisfaction with Life Scale (SWLS).

**METHOD**

This section describes the methods used in this study, including participants, materials and procedures.

**Participants**

Participants were 280 students recruited from San Diego State University for a two-session study. A total of 245 students (87.5%)\(^3\) completed both the first and second session. Of these, 12 participants were excluded from the following analyses because they missed the final page of the survey, thereby failing to complete either the SWLS or the PANAS at Time 1 or Time 2. However, data from five participants who skipped a single item on a given scale were retained, with their scores based on the remaining responses. All students received research credit or extra credit for completing the study. Overall, the final sample (\(N = 233\)) was diverse in terms of ethnicity (42% White, 25% Hispanic, 17% Asian, 3% Black, 13% Other), gender (69% female) and, to a lesser extent, age (\(M = 20.5\) years, \(SD = 3.4\) years).

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\(^3\) Attrition analyses revealed that individuals who completed both Time 1 and Time 2 of the study (\(N = 245\)) were not different from those who did not return for the second session (\(N = 35\)) in terms of gender, ethnicity, age or randomly-assigned condition. However, individuals who dropped out of the study were more likely to report lower levels of overall optimism (\(M = .00\) vs. \(.34\); \(t [186] = -2.291, p = .023\)), lower life satisfaction (\(M = 4.03\) vs. \(4.86\); \(t [182] = -3.10, p = .002\)), less positive affect (\(M = 2.82\) vs. \(3.21\); \(t [182] = -2.31, p = .022\)), and more negative affect (\(M = 2.57\) vs. \(1.99\); \(t [182] = 3.95, p < .001\)) than those who returned for the second session.
Materials and Procedures

As in Study 1, participants were randomly assigned to one of two conditions (personal or ideal) for the duration of the study. However, in this second study, participants were randomly assigned in a ratio of 2:1 to the personal and ideal conditions because our goal was to understand those who are describing their own prediction tendencies, and we needed a reasonable sample size to do this effectively.

Participants were asked to return for a second session four weeks after completing the first part of the study. The same set of measures was completed at both Time 1 and Time 2: a revised situation-specific measure of optimism (see Appendix B), the SWLS, the PANAS, and a set of basic demographics (including age, gender, and ethnicity). In order to maintain participant confidentiality in this longitudinal study, a limited amount of identifying

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4 The situations in the new set retain the variety of domains represented in the first, but include fewer specifics about incidental aspects of the situations (to maximize stimulus generalizability) and the descriptions are shorter, making the surveys less cumbersome for participants and also mapping more clearly onto prototypical situations either known or theorized to influence expressions of optimism or pessimism (cf. Armor & Taylor, 1998, 2002; Helweg-Larsen & Shepperd, 2001; Sweeny et al., 2006). In order to investigate and describe any potential differences between the original and revised situation sets, three additional studies were completed while data was collected for the longitudinal study. In each of the three studies, participants were randomly assigned to evaluate either the original or revised situation set.

The first study (N = 117) asked participants how evaluate how easy it was to imagine being in the situations presented on a seven-point scale from -3 (very difficult to imagine) to +3 (very easy to imagine). The two sets were not found to be different on rating of imaginability, F(1, 115) = 0.46, p = .50, suggesting that it was just as easy to imagine experiencing items from the first set (M = .65) as from the revised set (M = .55).

The second study (N = 111) asked participants to indicate how frequently they experienced the situations described on an 11-point scales ranging from 0 (never) to 10 (always). On average, participants reported experiencing the revised set of situations (M = 3.84) more frequently than the original set of situations (M = 3.08), F(1, 119) = 19.54, p < .001.

The third study (N = 116) investigated the relative importance of all 60 situations in the two situation sets, by asking participants to rate the importance of each situation on a scale of -3 (extremely unimportant) to +3 (extremely important). On average, participant rated the situations in the revised set (M = 1.72) as more important that the situations in the first set (M = 1.33), F(1, 114) = 17.28, p < .001.

In light of these evaluations, we selected the revised situation set for the longitudinal study.
information was collected, and personalized identification numbers linked to each individual were separated from participant responses in a different file.

RESULTS AND DISCUSSION

In this second study, we expected to again demonstrate the inter-item reliability of each individual difference variable and to establish test-retest reliability. Most importantly, we sought to investigate the causal relationship between wise optimism and the expanded measure of well-being.

AGGREGATED DATA: COMPARING PREDICTION TENDENCIES TO PRESCRIBED IDEALS

On average, aggregating across individuals and all 30 situations, people described their own predictions as significantly more optimistic than accurate at both Time 1, $t(164) = 6.54, p < .001$, and Time 2, $t(164) = 6.58, p < .001$, which is again consistent with the finding that people tend to be optimistically biased. A 2 (condition: descriptive vs. prescribed ideal) by 2 (Time 1 vs. 2) mixed-design Analysis of Variance revealed a main effect of condition, indicating that participants in the prescribed ideal condition prescribed more optimism ($M = .81$) than those in the descriptive condition reported experiencing ($M = .36$), $F(1, 231) = 24.67, p < .001$.

This analysis also revealed a marginally significant interaction between condition and time; even though the prescriptions are significantly greater than descriptions at both time points, the difference between conditions was slightly larger at Time 1 than at Time 2, $F(1, 231) = 3.36, p = .07)$. Although neither of the simple effects are significant, there is a trend for people to prescribe less optimism at Time 2 than at Time 1 ($M = .78$ and $M = .83$, \ldots)
respectively; \( t(79) = 1.13, p = .26 \), but to describe more optimism at Time 2 than at Time 1 (\( M = .38 \) and \( M = .34 \), respectively; \( t(152) = -1.61, p = .11 \)).

A separate 2 (condition: describe vs. prescribe) by 30 (situation) mixed-design Analysis of Variance revealed a main effect of situation in which participants reliably described (and prescribed) more optimism in some situations than in others, \( F(29, 6496) = 154.7, p < .001 \), as well as a situation by condition interaction, \( F(29, 6496) = 36.3, p < .001 \). Examination of responses revealed that the situations had a stronger effect on the kinds of predictions people said they personally would make than on the kinds of predictions that people said were best to make, again demonstrating that people tend to describe their own predictions as more reactive to situations than conventional wisdom suggests they ought to be.

**Reliability of Measures**

As in Study 1, the calculated inter-item reliabilities for level, flexibility, and correspondence were all high (at both time points), with alpha coefficients ranging from .67 to .88. Also, all three scales used to indicate well-being were found to be highly internally consistent, with values ranging from .77 to .85 (see Table 3).

Test-retest reliabilities were calculated to investigate the stability of our variables over time. All variables of interest were found to be significantly reliable over time: level of optimism \( (r = .85, p < .001) \), cross-situational flexibility \( (r = .74, p < .001) \), and correspondence to prescribed ideals \( (r = .77, p < .001) \). Satisfaction with life was also found to be highly stable \( (r = .76, p < .001) \), as were positive affect \( (r = .58, p < .001) \) and negative affect \( (r = .59, p < .001) \). It should be noted that the affect measures were less reliable
Table 3. Study 2 Descriptive Statistics and Reliabilities

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th></th>
<th></th>
<th>Time 2</th>
<th></th>
<th></th>
<th>Test-Retest</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>α</td>
<td>M</td>
<td>SD</td>
<td>α</td>
<td>ΔM</td>
<td>r</td>
</tr>
<tr>
<td>1. Overall Level of</td>
<td>.32</td>
<td>.67</td>
<td>.82</td>
<td>.37</td>
<td>.75</td>
<td>.88</td>
<td>+.05</td>
<td>.85</td>
</tr>
<tr>
<td>Optimism</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>2. Cross-Situational</td>
<td>2.06</td>
<td>.42</td>
<td>.67</td>
<td>1.89</td>
<td>.44</td>
<td>.71</td>
<td>+.04</td>
<td>.74</td>
</tr>
<tr>
<td>Flexibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Correspondence to</td>
<td>1.07</td>
<td>.25</td>
<td>.73</td>
<td>1.01</td>
<td>.26</td>
<td>.77</td>
<td>-.06</td>
<td>.77</td>
</tr>
<tr>
<td>Prescribed Ideals</td>
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<td></td>
</tr>
<tr>
<td>4. SWLS</td>
<td>4.85</td>
<td>1.15</td>
<td>.80</td>
<td>5.01</td>
<td>1.10</td>
<td>.83</td>
<td>+.16</td>
<td>.76</td>
</tr>
<tr>
<td>5. Positive Affect</td>
<td>3.18</td>
<td>.74</td>
<td>.85</td>
<td>3.11</td>
<td>.68</td>
<td>.83</td>
<td>-.07</td>
<td>.58</td>
</tr>
<tr>
<td>6. Negative Affect</td>
<td>1.99</td>
<td>.65</td>
<td>.80</td>
<td>2.00</td>
<td>.68</td>
<td>.77</td>
<td>+.01</td>
<td>.59</td>
</tr>
</tbody>
</table>

Note. N = 153.

a Split-half correlation of within-participant standard deviations utilizing odd-numbered and even-numbers questions, estimated for the full-length scale using the Spearman-Brown prophesy formula; uncorrected r = .50 at Time 1 and r = .56 at Time 2.

over time, as we would expect with any measure asking participants to describe their emotions “over the past few days.” Means and reliability coefficients are presented in Table 3, and zero-order correlations are presented in Table 4.

**Analytic Strategy**

The logic of the cross-lagged panel design is based on a simple assumption—that causes precede their effects—and a seemingly simple set of comparisons. If the variables representing optimism measured at Time 1 are more strongly associated with well-being measured at Time 2 than vice-versa, this would be consistent with the hypothesis that optimism promotes subsequent well-being. The opposite pattern of associations would suggest that well-being contributes to optimism rather than vice versa.
Table 4. Study 2 Zero-Order Correlations

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Level</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2. Flexibility</td>
<td>-0.03</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3. Correspond</td>
<td>0.32**</td>
<td>-0.71**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. SWLS</td>
<td>0.45**</td>
<td>-0.11</td>
<td>0.27**</td>
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<tr>
<td>5. PA</td>
<td>0.48**</td>
<td>0.04</td>
<td>0.11</td>
<td>0.41**</td>
<td>--</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>6. NA</td>
<td>-0.21*</td>
<td>0.14</td>
<td>-0.27**</td>
<td>-0.42**</td>
<td>-0.22**</td>
<td>--</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>7. Level</td>
<td>0.85**</td>
<td>0.02</td>
<td>0.24**</td>
<td>-0.38**</td>
<td>0.43**</td>
<td>-0.13</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>8. Flexibility</td>
<td>-0.12</td>
<td>0.74**</td>
<td>-0.52**</td>
<td>-0.10</td>
<td>-0.05</td>
<td>0.20*</td>
<td>-0.14</td>
<td>--</td>
<td></td>
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</tr>
<tr>
<td>9. Correspond</td>
<td>0.28**</td>
<td>-0.46**</td>
<td>-0.77**</td>
<td>0.28**</td>
<td>0.11</td>
<td>-0.24**</td>
<td>0.26**</td>
<td>-0.49**</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. SWLS</td>
<td>0.38**</td>
<td>-0.06</td>
<td>0.26**</td>
<td>-0.76**</td>
<td>0.33**</td>
<td>-0.31**</td>
<td>0.38**</td>
<td>-0.06</td>
<td>0.23**</td>
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<td></td>
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<tr>
<td>11. PA</td>
<td>0.37**</td>
<td>0.14*</td>
<td>0.03</td>
<td>-0.26**</td>
<td>0.58**</td>
<td>0.03</td>
<td>0.42**</td>
<td>0.10</td>
<td>0.02</td>
<td>0.34**</td>
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<td></td>
</tr>
<tr>
<td>12. NA</td>
<td>-0.24**</td>
<td>0.11</td>
<td>-0.23**</td>
<td>0.28**</td>
<td>-0.10</td>
<td>0.59**</td>
<td>-0.24**</td>
<td>0.11</td>
<td>-0.20*</td>
<td>-0.28**</td>
<td>-0.19**</td>
<td>--</td>
</tr>
</tbody>
</table>

Note. N = 153. * p < .05, ** p < .01.
Kenny (1975) details a procedure for comparing cross-lagged associations based on observed correlations between variables. More contemporary analytic techniques, such as structural equation modeling, have since been recommended to more formally model hypothesized relations between variables, but the logic of the design is the same in either case. Structural equation modeling was used for two reasons. First, structural equation modeling allows for the creation of latent variables and the examination of relationships between latent variables and other variables. In these data, this is particularly important for capturing both cognitive and affective components of well-being, and for understanding how this broader concept of well-being relates to level, flexibility, and correspondence to prescribed ideals. The second reason for using structural equation modeling with these data is to evaluate primary relationships of interest while controlling for all other potential pathways and relationships. Without this, it would be impossible to accurately evaluate the relationships in this model.

**Determination of Model Fit**

The chi-square likelihood ratio test is considered insufficient as the sole criterion for assessment of model fit in confirmatory factor analysis and structural equation modeling for a number of reasons (Tanaka, 1987). As a result, many researchers (e.g., Hoyle, 2000; Hu & Bentler, 1998; Tanaka, 1987) have suggested using multiple indices of model fit. In the current study, the following descriptive measures have been used to assess descriptive model fit: (a) the comparative fit index (CFI; Bentler, 1990), with values greater than .93 indicating reasonable model fit; (b) the root mean-square error of approximation (RMSEA; Steiger, 1990), with values less than .08 indicating reasonable model fit, and (c) the standardized root mean-square residual (SRMR), with values less than .08 indicating reasonable model fit. A
model was determined to fit well if at least two of the three criteria were met (Chang, 2007). In evaluating the statistical significance of individual model parameters (e.g., factor loadings), a statistical significance level of .05 was used.

**CONFIRMATORY FACTOR ANALYSES**

Two one-factor models of overall well-being were tested separately at Time 1 and at Time 2 using confirmatory factor analysis in EQS (see Figure 1). These latent variables were each indicated by three observed variables: composite scores for Satisfaction with Life, Positive Affect and Negative Affect. All three standardized factor loadings in the just-identified model at Time 1 were moderate to large in magnitude and all were statistically significant. The standardized factor loadings were .90 ($p < .05$) for satisfaction with life, .46 ($p < .05$) for positive affect, and -.47 ($p < .05$) for negative affect. At Time 2, the results were similar: The standardized factor loadings were .69 ($p < .05$) for satisfaction with life, .49 ($p < .05$) for positive affect, and -.40 ($p < .05$) for negative affect.

![Figure 1. Study 2 confirmatory factor analyses for well-being at time 1 and at time 2.](image-url)
STRUCTURAL EQUATION MODEL

A structural equation model was tested to explore the cross-lagged relationships between the three individual difference variables related to optimism and the latent variables representing well-being. The target model specified direct paths from level, flexibility and correspondence to the latent variable representing well-being within each time point to account for cross-sectional relationships between the study variables. The model also specified direct paths from each variable at Time 1 to its corresponding variable at Time 2 to test the reliability of these measures over time. Critically, the model also included cross-lagged relations from level, flexibility and correspondence at Time 1 to well-being at Time 2, and from well-being at Time 1 to level, flexibility, and correspondence at Time 2. A comparison of these cross-lagged relations will allow for the evaluation of causality. Finally, unanalyzed associations were specified between all three optimism variables at Time 1, all three optimism error terms at Time 2, and also between the observed variable error terms for the three measures contributing to the well-being latent variables of satisfaction with life, positive affect and negative affect from Time 1 to Time 2 (as recommended by Kline, 1998). The relations in this model were tested using the structural equation modeling program EQS. This target model did not fit well statistically, $\chi^2 (35, N = 153) = 142.59, p < .001$, nor did it fit well descriptively (CFI = .895, RMSEA = .183, SRMR = .142).

The modification indices (the LaGrange Multiplier Test and the Wald Test) did not suggest theoretically sound pathways for improved model fit. However, it was determined that adding an unanalyzed association within each time point between the positive and negative affect error terms was both theoretically and methodologically relevant, as the items representing the two constructs are presented to participants together and measured on the
same scale. This new target model is presented in Figure 2. Although the new model did not meet statistical fit standards, it was a great improvement over the first $\chi^2 (33, N = 153) = 55.57, p < .001$, and it did fit well descriptively (CFI = .978, RMSEA = .067, SRMR = .074), making it possible to interpret the parameters provided in the structural model.

![Figure 2. Study 2 cross-lagged panel design.](Image)

The cross-lagged analyses revealed that the paths from Time 1 optimism to Time 2 well-being were greater in magnitude than those from Time 1 well-being to Time 2 optimism, and there was a significant direct path was from correspondence at Time 1 to well-being at Time 2 ($\beta = .36, p < .05$), indicating that corresponding to prescribed ideals does in fact promote general well-being. All other paths in the cross-lags were non-significant.
All variables of interest (observed and latent) showed a significant degree of stability from Time 1 to Time 2 in this model, with coefficients ranging from .61 to .84 \((ps < .05)\).

At each individual time point, the direct path from level to well-being was significant (Time 1: \(\beta = .64, p < .05\); Time 2: \(\beta = .47, p < .05\)), suggesting that overall level of optimism is associated with greater well-being, however, these results are inconclusive with regard to any causal relationship between overall level of optimism and general well-being. The direct paths from flexibility and correspondence to well-being at Time 1 were not significant \((\beta = .05, p > .05, \text{ and } \beta = .16, p > .05, \text{ respectively})\), nor were they significant at Time 2 \((\beta = .06, p > .05, \text{ and correspondence } (\beta = -.16, p > .05, \text{ respectively})\), indicating that they do not come out as significant contributors to well-being within each time point.
GENERAL DISCUSSION

The results from two studies revealed that optimism can be understood, and measured, as a function of the person and of the situation. Using a new, situation-specific measure of optimism, it was possible to capture individual differences in optimism along three dimensions: overall level, cross-situational flexibility, and correspondence to prescribed ideals. Prescribed ideals represent a measureable standard against which people’s prediction tendencies can be evaluated. In two studies using different sets of situations, these ideals were found to favor optimistically-biased predictions overall, but both studies also showed that this was more true in some situations than in others. Moreover, those individuals who corresponded more closely to these ideals also tended to report greater well-being, suggesting that there may in fact be some real wisdom to the ideals prescribed by others.

These data go well beyond prior research in optimism, representing not only the first time that inter-individual variability has been measured in optimism, but also the first time that a correspondence score between people’s descriptions of their own prediction tendencies and prescribed ideals has been looked at as an individual difference variable. The first study revealed that overall level of optimism, cross-situational flexibility, and correspondence to prescribed ideals were all uniquely associated with greater life satisfaction; however, the cross-sectional design does not allow us to make judgments about causality. Thus, a major goal of the second study was to establish a causal link, if one existed, between the three individual difference variables and well-being. Kenny (1975) recommended the following steps for establishing a causal relationship between two variables: “first, the consistent replication of a cross-sectional relationship; second, the finding of time-lagged relationships
between cause and effect; third, the finding of cross-lagged differences; and fourth, an experiment in which the causal variable is manipulated” (p. 901). Where Study 1 fulfilled the first of these steps, Study 2 fulfilled the second and third, providing support for the hypothesis that corresponding to prescribed ideals for optimism contributes to general well-being over time, and not the other way around. As for the fourth and final step in determining causality, future studies will be necessary to address these questions in an experimental design.

There were some differences in results between Study 1 and Study 2 that warrant mentioning. When measured cross-sectionally, level, flexibility, and correspondence all came out as independent predictors of life satisfaction. However, in the longitudinal study, level was only found to be associated with (and not causally related to) well-being, while correspondence came out as the only cross-lagged predictor of well-being, and flexibility dropped out altogether. It may be that overall level of optimism is truly not a causal factor in well-being (though this seems unlikely). Even though the path is not significant, its magnitude is much greater than the competing path from well-being at Time 1 to level at Time 2, and level is a significant contributor to well-being within each time point; one could even potentially make an argument for an indirect path from overall level at Time 1 to well-being at Time 2. What is more likely is that this test was not quite powerful enough to capture the contribution of level over time, due to the relatively low ratio of estimated parameters to available data points. Flexibility is somewhat more difficult to interpret, as it may not have been related to well-being within time points or across time for a variety of reasons in this new study. But given its already volatile nature (variation across situations can represent a number of response patterns including random responding and non-adaptive
or reactive responding), the variance in flexibility that is not accounted for by the correspondence variable may not be as important in the long run.

**IMPLICATIONS**

One implication from this work is that, in contrast to work on dispositional optimism, people should not be encouraged to be blindly optimistic, but rather they should be sensitive to the situations in which their predictions are made. Although a higher overall level of optimism may generally be valuable, results from both studies suggest it is not always best, and that it cannot tell the whole story. This thesis provides support for the notion that being a “wise optimist” is much more than always expecting the best; a finding that is particularly important for developing interventions that utilize optimism. Where previous interventions have focused on teaching pessimists to be optimistic, and teaching optimists to be more optimistic (e.g., Segerstrom, 2006; Seligman, 1990), a more comprehensive approach incorporating both level and flexibility may ultimately bring about better outcomes for individuals, particularly where flexibility is encouraged to be responsive, not reactive.

Another implication of this work is that examining conventional wisdom may prove to be of considerable valuable for evaluating and understanding optimism. Not only is conventional wisdom rarely measured, it is even less frequently used as a standard of comparison for people’s own responses (cf. Armor et al., 2008). The data presented here suggest that making predictions that correspond to conventional wisdom may be beneficial, and there may be legitimate “wisdom” to these conventional beliefs.

**LIMITATIONS**

What these data do not suggest is that prescribed ideals should be accepted without question. Conventional wisdom is a somewhat worrisome standard, and it is possible that a
better standard may exist. We cannot assume that this is a perfect ideal free from error or bias, or that these ideals will work for all people in all situations. But this standard is both available and measurable, and these data indicate that the closer people’s predictions are to these ideals, the better off they are, at least in terms of well-being.

Just as we cannot assume that the construct of prescribed ideals is perfect in and of itself, we also cannot assume that our measurement of these constructs is perfect. The findings presented here are based on sets of 30 different situations that were designed to elicit a range of prediction responses. There are a variety of ways to characterize these situations, ranging from specific domains or expected responses to importance and cost-benefit evaluations, and each could potentially change the results of the study. Having said that, what appears to be most important is that participants are presented with realistic situations that have the potential to elicit a range of predictive responses that may be more or less adaptive. Even after revising the situation set for Study 2, we observed the same pattern of relationships between people’s descriptions of their predictions and the prescribed ideals that we saw in Study 1: People still described their own predictions as more optimistic than accurate, and yet the prescribed ideals were even more optimistic than those predictions. Even so, there may be other ways of creating these situation sets to provide more information about response patterns in the individual difference variables of overall level of optimism, cross-situational flexibility and correspondence to ideals.

**Future Directions**

Using this new measure of optimism, we can begin to investigate a variety of other questions, including cultural differences, non-linear relationships between variables, and other outcomes that may be of interest. Peterson and others have pointed out (Peterson,
2000; Shepperd, Findley-Klein, Kwavnick, Walker, & Perez, 2000) that there appear to be important cultural differences in optimism when using very general measures like the Life Orientation Test. Thus, a situation-based measure that is not solely focused on one’s general level of optimism may provide more information about cultural differences than existing measures do. People from Eastern cultures, for instance, typically report lower optimism scores that do Western cultures, and they rely more heavily on situational cues when making attributional evaluations (c.f. Markus & Kitayama, 1991). This suggests that individuals from these cultures might have lower overall levels of optimism, but may report greater variability in situational responding. Additionally, we might see greater correspondence to prescribed ideals as a result of the collectivistic nature of these societies, and a greater pressure to conform to norms than we see in individualistic Western societies.

This new measure can also provide insight into non-linear relationships that may exist between different aspects optimism and well-being (e.g., at what point do level and flexibility become truly disadvantageous?) It is especially important to speculate about when correspondence to prescribed ideals would be more or less effective (which raises a broader question of when prescribed ideals are more or less likely to be wise).

These three individual difference variables can also be used to investigate relations to other well-known outcomes that have been studied with optimism and well-being in the past, such as coping with stress and health outcomes. It may be that the strong associations we are aware of in the literature are more complex and nuanced than current measures are capable of reflecting (e.g., Nes & Segerstrom, 2006; Rasmussen et al., 2009), and it will be important to revisit these relationships in the future.
This situation-based measure is extremely adaptable, both in terms of the populations that can be targeted and goals that can be explored, and could potentially be used to investigate the value of specific types of conventional wisdom and advice. However, it is important to note that the strengths of this measure are inextricably linked to its weaknesses; the same characteristic that allows us to adapt this measure according to our goals can also introduce a great deal of error and bias unless we are aware of its limitations and take care to employ the measures appropriately.

**Conclusion**

The long-standing debate about the consequences of optimism has, more often than not, been framed from a person-focused perspective, with little attention paid to variability across situations. However, it is both possible and important to consider not only how optimistic people are on average, across situations, but also how individuals differ in how they respond to these situations. I have found that ideal standards for both level and flexibility can be found in conventional wisdom, and that those individuals who correspond to these prescribed ideals appear to be better off, at least in terms of subjective well-being. So, what is this wisdom? To be optimistic, but not too much, and not all of the time.
REFERENCES


APPENDIX A

A SITUATION-SPECIFIC MEASURE OF OPTIMISM (STUDY 1 VERSION)
In Study 1, participants were asked either (a) to indicate how optimistic, pessimistic or accurate they *would* be, or (b) to indicate how optimistic, pessimistic, or accurate others *should* be, in each of the following 30 situations. Responses were recorded on nine-point scales ranging from -4 (extremely pessimistic) to +4 (extremely optimistic) with a midpoint of 0 (accurate).

1. You had a great night of sleep last night and are looking forward to your day.
2. You took a big test last week, and will be receiving your grade on it in five minutes.
3. You have been asked to take a short vocabulary test, similar to the SAT, and it will begin in 2 minutes.
4. You are having a serious disagreement with your parents about a recent decision you’ve made. Everyone is going to take a break from talking about it and will try again tomorrow.
5. You have just participated in a radio trivia quiz taking place on campus. If you answered every question correctly you will win $50.
6. You have some large bills due in one month. You do not have enough money in your bank account to cover them right now, but you may have some opportunities for extra work in the next few weeks.
7. Your friend has set you up on a blind date, and you will be meeting the person in two minutes.
8. You are leaving town on vacation in one week, and there are some reports that weather might prevent your flight from going out.
9. Your favorite sports team is playing for a huge title. The game has 30 seconds left, and they are down by a small margin.
10. Your favorite sports team is playing for a huge title. The game has just started and they are down by a small margin.
11. You went on a blind date last night that your friend set you up on. You are about to talk to them to find out what your date thought of you.
12. You have a very important interview, and you are sitting in the waiting room five minutes before it begins. As you are waiting, you realize you can hear another candidate finish up.
13. You have just arrived alone in a foreign city (where you do not speak the language), and realize that the taxi cab has left you at the wrong location. It is 10:00 p.m. and you do not have any maps.
14. You have just had a major argument with your significant other, but have decided to try to work things out.
15. You made plans to go on a weekend hike with a friend, but twisted your ankle badly the day before.

16. You have just been called back for a very important interview, and it will be in one week.

17. You just started a new job that you worked very hard to get, but realize that you do not get along with the main supervisor, who seems to greatly dislike you.

18. You have some large bills due today. You do not have enough money in your bank account to cover them.

19. Your living situation is with three people that you do not get along with. You want to move out, but won’t be able to for at least a few months.

20. Your friend has just convinced you to participate in a large bean-bag toss competition at a fair, and it is your turn.

21. You were diagnosed with a serious illness three months ago. You have been in treatment since, and everything is going really well.

22. You were supposed to be leaving town on vacation an hour ago, and your flight has been delayed. It may still be cancelled due to weather.

23. You cannot find your keys, and you should have left the house 15 minutes ago.

24. You are supposed to be on a plane in 5 minutes. You are running late and stuck at security.

25. You are about to receive the results of some medical tests that will determine if you have a serious illness or not.

26. Imagine you have signed up to participate in a scavenger hunt that will take place in one month.

27. You did not sleep as much as you know you should have last night, but feel okay as you start the day.

28. You cannot find your keys, but you are not leaving the house for several more hours.

29. You did not sleep well last night, and you have a very long day today.

30. Your living situation is with three people. You only get along well with one person, so the two of you have found a new place and are moving soon.
APPENDIX B

A SITUATION-SPECIFIC MEASURE OF OPTIMISM (STUDY 2 VERSION)
In Study 2, participants were asked either (a) to indicate how optimistic, pessimistic or accurate they would be, or (b) to indicate how optimistic, pessimistic, or accurate others should be, in each of the following 30 situations. Responses were recorded on nine-point scales ranging from -4 (extremely pessimistic) to +4 (extremely optimistic) with a midpoint of 0 (accurate).

1. You are trying to decide whether you have studied enough for an important test.
2. You are going to ask your crush on a date.
3. You’ve just been diagnosed with an incurable disease and are thinking about your future.
4. You have lost some money gambling in Las Vegas, and must decide whether to make one more wager.
5. You are in an unusually good mood.
6. You are deciding whether to make an investment in the stock market.
7. You are running late to a meeting and are stuck in traffic.
8. You are thinking about how your current lifestyle (e.g., diet and exercise) will impact your long-term health.
9. You are having difficulty finding a new job.
10. You are about to meet the parents of your significant other for the first time.
11. You are trying to reach an important goal.
12. You just had surgery and now must do intense physical therapy to fully recover.
13. You have to take a very difficult test.
14. You had a great first date, and are now waiting for him/her to return your call.
15. You are walking into a dark parking structure at night.
16. You have interviewed for your dream job and are waiting to hear back.
17. You just heard that someone in your family was in a car accident.
18. You are about to tell your supervisor how long it will take to get a project done.
19. You are trying to decide whether or not to marry someone.
20. You have had a few drinks and are deciding whether you should drive home.
21. You are thinking about what your life will be like in five years.
22. Someone describes an investment opportunity as a “sure thing.”
23. You have just been tested for a rare medical condition and are about to learn the results.

24. You are thinking about starting your own business.

25. You have a really easy test coming up.

26. You just had a big fight with your significant other.

27. You are in a really bad mood.

28. You are behind on a big project.

29. A good friend wants to talk because s/he has some important news.

30. You just bought a lottery ticket.