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Savoring[1] Beliefs Inventory (SBI): A scale for measuring beliefs about savouring[1]

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Abstract

Background: Research has shown that beliefs about one's capacity to savour positive outcomes, a form of perceived control over positive emotions, are largely independent of beliefs about coping, a form of perceived control over negative emotions.

Aim: To describe a new measure of savouring beliefs, the Savoring Beliefs Inventory (SBI).

Method: Six studies validating the SBI that is designed to assess individuals' perceptions of their ability to derive pleasure through anticipating upcoming positive events, savouring positive moments, and reminiscing about past positive experiences.

Results: SBI scores were found to be: (a) positively correlated with affect intensity, extraversion, optimism, internal locus of control, reported self-control behaviours, life satisfaction, value fulfilment, self-esteem, and intensity and frequency of happiness; (b) negatively correlated with neuroticism, guilt, physical and social anhedonia, hopelessness, depression, and the frequency of unhappy and neutral affect; and (c) uncorrelated with socially desirable responding. SBI was validated prospectively by first measuring college students' savouring beliefs and then later assessing their behaviours and affects in looking forward to, enjoying the actual experience of, and looking back on their Christmas vacation. Within each of the three time frames, the relevant SBI subscale generally predicted behaviours and affects more strongly than did the subscales associated with the other two temporal orientations. Finally, SBI was cross-validated in a sample of older adults.

Conclusion: These results provide strong evidence that the SBI is a valid and reliable measure of individuals' beliefs about their capacity to savour positive experiences through anticipation, present enjoyment, and reminiscence.

Keywords: positive affect, positive emotion, emotional regulation, positive psychology, subjective well-being.

Introduction

Although psychology has traditionally been dominated by a focus on distress and dysfunction (Diener, 1984), there is a growing interest in understanding the causes and consequences of positive functioning. Despite earlier theoretical and empirical work distinguishing between psychological well-being and psychological distress (e.g. Bradburn, 1969; Bryant & Veroff, 1982, 1984; Campbell, 1980), investigations of domains

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[1]American spellings have been adopted for the title of the questionnaire only.

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of positive functioning remain rare compared to research on psychopathology. However, the recent emergence of positive psychology as an integrative research domain (Seligman, 2002; Seligman & Csikszentmihalyi, 2000) has sparked renewed interest in understanding basic domains of positive subjective experience. Central to this re-emerging orientation is the notion that subjective well-being is not simply the absence of subjective distress (Bryant & Veroff, 1984; Campbell, 1980; Ryff, 1989). Being able to handle negative events in ways that reduce distress does not guarantee one will experience positive events in ways that promote well-being.

Along these lines, Bryant (1989) has shown that people make separate self-evaluations of their ability to avoid and cope with negative outcomes and to obtain and savour positive outcomes. In this research, beliefs about savouring emerged as a distinct form of perceived control over positive emotions that is largely independent of beliefs about coping, which represent a form of perceived control over negative emotions.

Beliefs about one's capacity to savour have important implications for understanding positive well-being. Just because one experiences positive events does not mean that one feels capable of savouring these events, that is, of generating, intensifying, and prolonging enjoyment through one's own volition. On the contrary, the active management of positive emotion requires, not only the capacity to feel pleasure, but also, the capacity to regulate it to find it, to manipulate it, and to sustain it.

Differences in the capacity to savour positive experiences may well lead to differences in positive well-being. For example, it is difficult to get pleasure from anticipating positive events, if one is unsure about whether or not one will enjoy them. Likewise, the sense that joy is fleeting may undermine present enjoyment, especially if one feels incapable of rekindling such pleasure afterwards. Thus, an understanding of individual differences in beliefs about savouring may contribute to our understanding of differences in positive functioning.

Clearly, differences in savouring beliefs have significant clinical implications as well. A tool for assessing personal beliefs about savouring capacity would help clinicians evaluate the relative strengths and weaknesses of their clients in managing positive affect. For example, some individuals may have problems anticipating positive outcomes and may dread rather than savour impending positive events; some may look forward to upcoming positive events in ways that undermine present-focused enjoyment when these events actually occur; others may feel disconnected from their past because of their inability to recall positive events in ways that are pleasurable; still others may have no trouble looking forward to or looking back on positive events, but find themselves unable to enjoy these events as much as they would like while the events are actually unfolding.

Why are current theories and measures of the frequency, intensity, and duration of positive affect insufficient for a full understanding of positive functioning? Consider two individuals, both of whom report low frequency, low intensity, and low duration of positive affect in response to positive events. Imagine that one of these individuals believes he is incapable of deriving positive affect from positive events despite his best efforts; whereas the other individual believes he is fully capable of enjoying positive events, but has chosen temporarily to forego such pleasure in favour of other pursuits. Current theories and measurement instruments would treat these two individuals as having equally

low levels of positive functioning, based on low reported positive affect. Yet, clearly the former individual has deficits in some of the skills necessary for positive functioning, whereas the latter individual does not. What is needed is a theoretically grounded and psychometrically sound instrument for measuring savouring beliefs.

Although the index of savouring beliefs used in Bryant's (1989) research showed acceptable reliability and validity, it has at least three crucial limitations. First, it is comprised of only five items that assess beliefs about positive experience in general; obviously more items are needed. Second, it includes measures not only of the perceived ability to enjoy good events, but also of the perceived frequency, intensity, and duration of positive affect in response to good events; *as noted*, it would be better to measure savouring beliefs directly. Third, it assesses beliefs about only one form of savouring: enjoying positive events when they occur. As Bryant (1989) noted, however, there may be at least two other kinds of savouring beliefs that involve different temporal orientations to positive experience. Specifically, perceived savouring capacity may also stem from beliefs about one's ability to derive pleasure in the present by *anticipating* future positive events beforehand or by *reminiscing* about past positive events afterwards.

Thus, savouring beliefs may involve at least three distinct temporal orientations. First, before an upcoming good event occurs, people may look forward to it in ways that generate positive feelings in the present (i.e. savouring through anticipation). Next, while a good event is happening, people may intensify or prolong their positive feelings through specific thoughts and behaviors (i.e. savouring the moment). And finally, after a good event is over, people may look back on it in ways that prolong or rekindle their positive feelings (i.e. savouring through reminiscence). Each of these temporal processes provides a sense of control over positive emotions that should be reflected in stronger savouring beliefs.

The purpose of the present research was to develop an improved measure of beliefs about savouring, the Savoring Beliefs Inventory (SBI), that overcomes the limitations of the earlier measure. Six studies were conducted to evaluate the reliability and construct validity of the SBI. Studies 1–4 were designed to evaluate its internal consistency and its convergent and discriminant validity. In these studies, participants completed the SBI, as well as measures of individual differences, control beliefs, and subjective adjustment. A subset of participants in Study 4 also completed the SBI three weeks after the first administration, in order to examine its test-retest reliability. Study 5 was designed to evaluate the predictive validity of the SBI. In this study, participants completed the SBI and were later contacted either before, during, or after their Christmas vacation, at which time they answered questions about their experiences, respectively, in anticipating their vacation beforehand, enjoying it while it was actually occurring, or reminiscing about it afterwards. Study 6 was designed to cross-validate the SBI in a sample of older adults, who completed the SBI and measures of happiness.

Item construction

In the initial phase of scale construction, conceptual explication was used to generate a list of 30 statements that reflect beliefs about one's ability to enjoy positive events through anticipating, savouring the moment, or reminiscing. Half of these statements were

positively-anchored, and half were negatively-anchored. Pilot testing with small groups of college students revealed that some of these items were ambiguous or misleading, and these were deleted. This yielded a final set of 24 items – four positively-worded and four negatively-worded items for each of the three temporal forms of savouring – that were completed by participants in all six studies. Instructions accompanying the SBI ask respondents to indicate how true the particular statement is for them on a 7-point scale ranging from 'strongly agree' (1) to 'strongly disagree' (7). Respondents also indicated their age and gender.[2]

Scale development

Procedure

In studies 1–5, separate samples of college students (total N=447) completed the SBI, thereby providing the data required for scale development. (The specific size and characteristics of each of these five samples are presented below in the sections on 'Convergent and Discriminant Validation' and on 'Predictive Validation'.) In order to examine the dimensional structure of the SBI, the responses of these college samples to the SBI were analyzed using both exploratory and confirmatory factor analysis. These analyses were aimed at building reliable composite scales for use in validating the SBI.

Results

Principal-components analyses (PCAs) were initially performed on the data of each college sample separately, in order to determine the number of latent factors underlying the SBI. For each sample, these analyses revealed that one dominant factor underlay responses to the SBI, although scree-plots of the eigenvalues suggested that a three-factor solution reflecting the intended temporally-focused savouring dimensions was also tenable.

Maximum-likelihood confirmatory factor analysis (CFA) was then used via LISREL 8 (Joreskog & Sorbom, 1996) to evaluate the goodness-of-fit of several alternative measurement models for the SBI. As an initial step, CFA was used to test the hypothesis that the covariance matrices of the 24 SBI items were equivalent across the five college samples. The test statistic for this hypothesis was nonsignificant, $\chi^2(1200, n=415)=1262.54$, $p>0.05$, indicating that the five samples showed the same factor structure. An additional test of the equivalence of covariance matrices for college men and women was also nonsignificant, $\chi^2(300, n=415)=338.77$, $p>0.05$, further indicating that the factor structure of the SBI was invariant with respect to gender. Thus, the data of the college samples were pooled for subsequent analyses.

Four measurement models were tested via CFA: (a) a global, one-factor model; (b) a three-factor model consisting of a global factor and positively- and negatively-anchored method factors; (c) a three-factor model consisting of the intended Anticipating, Savouring the Moment, and Reminiscing factors; and (d) a five-factor model consisting of Anticipating, Savouring the Moment, and Reminiscing factors and positively- and negatively-anchored method factors. Table 1 presents the results of these CFAs.

Paralleling the results of the PCAs, the CFAs revealed that a global savouring factor

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[2] The SBI questionnaire was structured so that odd-numbered items were positively-anchored, even-numbered items were negatively-anchored, and the temporal focus of the items alternated from future to present to past, successively. Copies of the SBI and scoring instructions are available upon request from the author or from Behavioral Measurement Database Services (BMDS) of Pittsburgh, PA (E-mail: bmdshapi@aol.com).

Table 1: Results of confirmatory factor analyses of savouring beliefs inventory items using the data of the five college samples pooled (*n*=415)

Model	χ^2	df	χ^2/df^a	GFI^b
One global factor	1087.09	252	4.31	0.78
Three factors: Global savouring, Positive method and Negative method	550.50	227	2.43	0.90
Three factors: Anticipating, Savouring the Moment, and Reminiscing	878.67	249	3.53	0.82
Five factors: Anticipating, Savouring the Moment, Reminiscing, Positive method and Negative method	425.01	224	1.90	0.93

Note. Initial tests of the equivalence of covariance matrices revealed that the factor structure of the SBI was invariant with respect to sample [χ^2(1200, *n*=415)=1262.54, *p*>0.05] and gender [χ^2(300, *n*=415)=338.77, *p*>0.05]. The data for men and women were thus pooled across all four samples for the above confirmatory analyses. The sample size of 415 represents the number of the original 458 respondents who provided nonmissing data for all 24 SBI items.

^{a} The ratio of chi-square to degrees of freedom is an index of goodness-of-fit. As this ratio decreases and approaches zero, the fit of the given model improves (Hoelter, 1983).

^{b} GFI is the goodness-of-fit index (Joreskog & Sorbom, 1996). GFI reflects the proportion of common variance explained by the given model and is analogous to R^2 in multiple regression.

explained 78% of the common variance in responses to the SBI. The addition of 'method' factors representing positively- and negatively-anchored items increased the one-factor model's explanatory power to 90%, which was a highly significant improvement in fit, χ^2(25, *n*=415)=536.59, *p*<0.0001. The three-factor (i.e. Anticipating, Savouring the moment and Reminiscing) model, around which the SBI was initially constructed, explained 82% of the common variance in SBI responses. The addition of positive and negative 'method' factors increased the explanatory power of this three-factor model to 93%, again a highly significant improvement in fit, χ^2(25, *n*=415)=453.66, *p*<0.0001. This latter five-factor structure was selected as the final

measurement model on the basis of its explanatory power (it had the best overall goodness-of-fit) and on the basis of *a priori* theory (it parallels the putative structure around which the SBI items were originally created).

Table 2 presents the factor loadings and factor inter-correlations that compose this five-factor model. As expected, the three temporal-orientation factors were positively related to each other. The strongest intercorrelation was between the Savouring the moment and Reminiscing factors (*r*=0.86, *p*<0.0001). When variance associated with measurement error is partialled out, the perceived ability to savour the moment shares twice as much variance with (a) the perceived ability to enjoy positive events by looking

back at them (R^2=0.74) as it does with (b) the perceived ability to enjoy positive events by looking *forward* to them (R^2=0.37).[3]

Thus, although one dominant factor underlies responses to the SBI, the intended tripartite model that distinguishes past, present, and future *foci* provides a significant improvement in model fit. Given evidence for both the one-factor and the three-factor models, it seems reasonable to examine the convergent/discriminant validity not only of the total SBI score, but also of the scores for the Anticipating, Savouring the moment, and Reminiscing factors.

Convergent and discriminant validation

Hypotheses

Studies 1-4 were designed to assess the convergent and discriminant validity of the SBI by comparing scores on the instrument with scores on measures of other constructs hypothesized to be either correlated (convergent validity) or uncorrelated (discriminant validity) with beliefs about savouring. The specific constructs measured as criteria for validation were chosen because of their hypothesized relationship or lack of relationship with savouring beliefs.

Individual-difference variables

The perceived capacity to savour should correlate with personality differences associated with higher levels of positive affect. People who experience more frequent and intense positive affect should, as a consequence, report stronger beliefs in their savouring capacity. Based on this reasoning, it was hypothesized that beliefs about the capacity to enjoy positive events would be *positively* related to: (a) affect intensity, which produces amplified emotional responses to environmental events, thereby making the intense person 'happier if happy' (Diener *et al.*, 1985, p. 545); (b) extraversion, which has consistently been linked to higher levels of reported well-being in past research (Costa & McCrae, 1980; Diener, 1984; Wilson, 1967); and (c) dispositional optimism, the favorability of a person's generalized outcome expectancies (Scheier & Carver, 1985).

Conversely, personality differences associated with lower levels of positive affect should be negatively correlated with the perceived capacity to savour. People whose positive affect is weaker and less frequent should, as a consequence, report a lower savouring capacity. Based on this reasoning, beliefs about savouring were hypothesized to be *negatively* related to: (a) neuroticism, traditionally characterized by anxiety, rumination, and 'an absence of real fulfilment' in the face of success (Angyal, 1965, p. 82); (b) guilt and shame, dysphoric affective states 'often linked with difficulties in emotional self-regulation' (Harder & Zalma, 1990, p. 729); (c) physical and social anhedonia, 'the lowered ability to experience pleasure' in the sensory and interpersonal domains (Chapman *et al.*, 1976, p. 374); and (d) hopelessness, 'a system of cognitive schemas whose common denominator is negative expectancies about the future' (Beck *et al.*, 1974, p. 864). Optimism and hopelessness were hypothesized to be most strongly related to the Anticipating

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[3] To test directly whether beliefs about savouring the moment were more strongly correlated with beliefs about reminiscing than with beliefs about anticipating, an additional CFA was conducted that constrained these two factor intercorrelations to be equal. The model with this equality constraint fit the data more poorly than did the model without this equality constraint, $\Delta\chi^2$(1, *n*=415)=57.78, *p*<0.0001, indicating that beliefs about one's ability to savour the moment have more to do with the perceived ability to savour through reminiscence than they do with the perceived ability to savour through anticipation.

Table 2:   Factor loadings and inter-correlations for the three-factor model with Positive and Negative 'method' factors using the data of the five college samples pooled (*n*=415)

Items	Savouring factors[a]			Method factors[b]	
	ANT	MOM	REM	POS	NEG
Get pleasure from looking forward	0.30	0.00	0.00	0.50	0.00
Don't like to look forward too much	-0.43	0.00	0.00	0.00	0.30
Can feel the joy of anticipation	0.24	0.00	0.00	0.62	0.00
Anticipating is a waste of time	-0.42	0.00	0.00	0.00	0.46
Can enjoy events before they occur	0.44	0.00	0.00	0.46	0.00
Hard to get excited beforehand	-0.62	0.00	0.00	0.00	0.28
Can feel good by imagining outcome	0.46	0.00	0.00	0.55	0.00
Feel uncomfortable when anticipate	-0.49	0.00	0.00	0.00	0.19
Know how to make the most of good time	0.00	0.48	0.00	0.21	0.00
Find it hard to hang onto a good feeling	0.00	-0.46	0.00	0.00	0.29
Can prolong enjoyment by own effort	0.00	0.27	0.00	0.57	0.00
Am own 'worst enemy' in enjoying	0.00	-0.56	0.00	0.00	0.06
Feel fully able to appreciate good things	0.00	0.59	0.00	0.32	0.00
Can't seem to capture joy of happy moments	0.00	-0.46	0.00	0.00	0.34
Find it easy to enjoy self when want to	0.00	0.60	0.00	0.20	0.00
Don't enjoy things as much as should	0.00	-0.70	0.00	0.00	0.14
Enjoy looking back on happy times	0.00	0.00	0.27	0.65	0.00
Don't like to look back afterwards	0.00	0.00	-0.30	0.00	0.52
Can feel good by remembering past	0.00	0.00	0.45	0.61	0.00
Feel disappointed when reminisce	0.00	0.00	-0.58	0.00	0.08
Like to store memories for later recall	0.00	0.00	0.35	0.63	0.00
Reminiscing is a waste of time	0.00	0.00	-0.34	0.00	0.57
Easy to rekindle joy from happy memories	0.00	0.00	0.54	0.47	0.00
Best not to recall past fun times	0.00	0.00	-0.42	0.00	0.54

	Factor inter-correlations	
	Anticipating	**Savouring the moment**
Anticipating	1.00	
Savouring the moment	0.61	1.00
Reminiscing	0.56	0.86

[a]ANT = Anticipating; MOM = Savouring the moment; REM = Reminiscing.
[b]POS = Positively-anchored items; NEG = Negatively-anchored items.

Note. Loadings are from the standardized solution of a maximum-likelihood confirmatory factor analysis [χ^2(224, *n*=415)=425.01, Goodness-of-fit Index=0.93] performed using LISREL 8 (Joreskog & Sorbom, 1996). Loadings of 0.00 were fixed at zero *a priori*. The positive and negative method factors were constrained to be uncorrelated with the remaining three factors, but were allowed to correlate with each other (estimated correlation between method factors =-0.54). For clarity of presentation, SBI items have been clustered together according to their temporal focus, although the relative order in which the items actually appeared in the questionnaire has been preserved with each time frame. The sample size of 415 represents the number of the original 458 respondents who provided nonmissing data for all 24 SBI items.

subscale, based on the assumption that it is hard to look forward to things that one believes are unlikely to happen.

Another 'person' variable that should be associated with differences in savouring beliefs is gender. Women, relative to men, generally show greater affective intensity (Diener *et al.*, 1985), are more spontaneously expressive of emotions (Hall, 1984), and report higher levels of happiness and life satisfaction (Wood *et al.*, 1989). Indeed, the female gender role seems to specify that women be more attuned to emotional experiences than men (Wood *et al.*, 1989). With respect to anticipating and reminiscing, women also tend to engage more in positive-constructive daydreaming (Huba *et al.*, 1981) and spend more time thinking about pleasant memories (Bryant *et al.*, 1986). Considered together, this evidence suggests that women may perceive a greater capacity to savour than do men – a notion confirmed by research using the earlier measure of savouring beliefs (Bryant, 1989). Thus, as a further test of discriminant validity, it was hypothesized that SBI scores would be higher in women than in men.

An additional construct was selected that seemed *a priori* to be unrelated to savouring beliefs. Specifically, savouring beliefs were hypothesized to be *uncorrelated* with the need for approval, as reflected in the general tendency to provide socially desirable responses (Crowne & Marlowe, 1964). If SBI scores truly represent personal beliefs about the capacity to enjoy, then they should be independent of socially desirable responding.

Control beliefs

A basic assumption upon which the notion of savouring beliefs is grounded is that they represent a form of perceived control. To believe that one is capable of deriving pleas-

ure from positive events should provide one with a sense of personal control. Thus it was hypothesized that SBI scores would correlate positively with internal locus of control and with beliefs about personal control in regulating emotional and physiological responses.

Moreover, beliefs about the capacity to enjoy should be more strongly correlated with perceived control over positive experience than over negative experience. Thus it was hypothesized that Bryant's (1989) earlier measures of beliefs about obtaining and savouring (which reflect perceived control in relation to positive experience) would be more strongly correlated with SBI scores than would Bryant's (1989) earlier measures of beliefs about avoiding and coping (which reflect perceived control in relation to negative experience). SBI scores were also predicted to correlate more strongly with scores on the earlier savouring measure than with scores on the obtaining, avoiding, and coping measures.

Subjective adjustment

Based on the initial conceptual model of savouring (Bryant, 1989), it was hypothesized that savouring beliefs would be more strongly associated with self-evaluations of positive experience (e.g. happiness, satisfaction, value fulfillment, self-esteem) than with self-evaluations of negative experience (e.g. psychosomatic symptoms, perceived vulnerability to stress, depression). Measures of positive experience were hypothesized to correlate positively with SBI scores, whereas measures of negative experience were hypothesized to correlate negatively and to share less variance with savouring beliefs.

Another discriminant validity issue is whether the three temporal subscales relate to subjective adjustment in the same ways. Along these lines, Schwarz & Clore (1983) have shown that current mood can have a

powerful impact on self-ratings of adjustment. This suggests that the Savouring the moment subscale, which focuses explicitly on the experience of positive affect in the present, should in general relate more strongly to subjective adjustment than do the Anticipating and Reminiscing subscales.

Participants

In the first four studies, participants were undergraduates at a private midwestern university (Studies 1–3) or at a midwestern state university (Study 4), who participated to partially fulfill an introductory psychology course requirement. Study 1 included 91 participants (27 males and 64 females), with a mean age of 18.5 years (SD=2.5). Study 2 included 113 participants (31 males and 82 females), with a mean age of 18.6 years (SD=1.5). Study 3 included 83 participants (28 males and 55 females), with a mean age of 18.9 years (SD=1.1). Study 4 included 86 participants (41 males and 45 females), with a mean age of 19.4 years (SD=2.2); 21 of these participants (seven males and 14 females) also completed the SBI a second time, 3 weeks later.

Procedure and measures

In Studies 1–4, groups of students completed the 24-item SBI and other questionnaires. The specific set of measures varied across studies.

Individual differences

Eleven different individual-difference measures were employed. Neuroticism was measured in Studies 1 and 2 using the 24-item N scale of the Eysenck Personality Inventory (Eysenck & Eysenck, 1975). Affect intensity was assessed in Study 2 using the 40-item Affect Intensity Measure (AIM; Larsen, 1984; Larsen & Diener, 1987). Proneness to socially desirable responding was measured in

Study 3 using the 33-item Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964). The revised Harder Personal Feelings Questionnaire (PFQ; Harder & Zalma, 1990) was used to obtain separate 8-item indices of guilt and of shame in Study 3. Extraversion was measured in Study 4 using Eysenck & Eysenck's (1975) 23-item E scale. Anhedonia was assessed in Study 4 using Chapman *et al*.'s (1976) 61-item Physical Anhedonia and 40-item Social Anhedonia scales. Also in Study 4, Scheier & Carver's (1985) 12-item Life Orientation Test (LOT) was used to assess dispositional optimism; and Beck *et al*.'s (1974) 20-item Hopelessness Scale was used to measure hopelessness.

Control beliefs

Six different measures of control beliefs were used. Studies 1 and 2 included Bryant's (1989) measures of beliefs about avoiding (three items), coping (three items), obtaining (four items), and savouring (five items). Self-control beliefs were measured in Study 3 using Rosenbaum's (1980) 36-item Self-Control schedule. And internal locus of control was assessed in Study 4 using Rotter's (1966) 29-item I-E Scale.

Subjective adjustment

Ten different measures were employed to operationalize subjective adjustment. In Studies 1 and 2, subjective adjustment was measured using items from Bryant & Veroff's (1984) six-factor model of subjective mental health. The full model consists of 25 indices formed from 52 items representing various cognitive and affective evaluations of positive and negative experience. Evidence strongly supports the convergent and discriminant validity of the six composite factors, and the model has been found to be invariant with respect to gender (Bryant & Veroff,

1984), adults versus college students (Bryant, 1989), level of educational attainment (Bryant & Marquez, 1986), and marital status (Weingarten & Bryant, 1987).

For present purposes, representative measures were selected that clearly embody evaluations of either positive or negative experience. The indices chosen to assess *positive* subjective experience were: (a) the 10-item Gratification factor, tapping the degree of value fulfilment and of satisfaction in work, leisure, and interpersonal relationships; (b) a single-item indicator of the level of present happiness; and (c) a 3-item index of self-esteem originally adapted from Rosenberg (1965). The indices chosen to assess *negative* subjective experience were: (a) the 15-item Strain factor, tapping psychological, physical, and behavioural reactions to stress; (b) the 3-item Perceived Vulnerability factor, tapping reported susceptibility to stress; and (c) a 6-item index of depression originally adapted from Zung (1965).

In Study 3, Fordyce's (1987) Happiness Measures were used to assess positive and negative affect. The first measure was an 11-point scale evaluating the intensity of happiness. The second measure was a tripartite estimate of the percentage of time spent in happy, unhappy, and neutral moods.

Results

Constructing factor scores

To examine the convergent and discriminant validity of the SBI, four 'factor scores' were first constructed for the 373 respondents in Studies 1–4 and for the subset of 74 respondents in Study 5 who completed only the SBI. SBI total score was computed by summing responses to the 12 positively-anchored items and subtracting responses to the 12 negatively-anchored items for each participant. Separate scores were computed for Anticipating, Savouring the moment, and Reminiscing beliefs by summing responses to the four positively-anchored items and subtracting responses to the four negatively-anchored items that constitute each of these subscales. Table 3 displays descriptive statistics for these factor scores for the five college samples, including means, medians, standard deviations, minimum and maximum scores, and reliabilities (i.e. alpha coefficients). The four scales showed moderate to high internal consistency for each sample, and the total score was somewhat more internally consistent than were the three temporally-specific scales.[4]

Temporal reliability

Test–retest reliability of the SBI total score and subscale scores was evaluated by computing the correlations across administrations for the subset of 21 respondents in Study 4 who completed the SBI twice. These 3-week test-retest correlations were: SBI Total score, $r=0.84$, $p<0.0001$; Anticipating subscale, $r=0.80$, $p<0.0001$; Savouring the moment subscale, $r=0.88$, $p<0.0001$; and Reminiscing subscale, $r=0.85$, $p<0.0001$. Thus, total score and the three SBI subscale scores all showed strong temporal reliability.

Convergent and discriminant validity

Table 4 presents the validity coefficients for Studies 1–4 relating SBI total and subscale scores to other measures.

Individual difference measures. Confirming *a priori* hypotheses and providing evi-

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[4]Additional within-subjects analyses via two-tailed pairwise *t*-tests revealed that, for the pooled college data set as well as for men's and women's data separately: (a) scores on the Reminiscing subscale were significantly higher than were scores on the other two temporal subscales; and (b) scores on the Savouring the moment subscale were significantly higher than were scores on the Anticipating subscale (all *t*'s>2.87, *p*'s<0.005).

Table 3: Descriptive statistics for SBI scores for the five college samples (Studies 1-5) and for the sample of older adults (Study 6)

Scale	Number of items	Study	*n*	Alpha[a]	Mean	SD	Min.	Max.	Median
SBI total[b]	24	1	85	0.89	38.86	18.49	-2	+72	+39
		2	107	0.88	32.83	16.69	-12	+69	+33
		3	80	0.90	31.01	19.91	-9	+72	+28
		4	79	0.89	27.87	20.26	-22	+72	+26
		5	64	0.88	30.81	20.16	-8	+67	+31
		6	36	0.94	44.92	19.44	+5	+72	+42
Anticipating[c]	8	1	90	0.83	11.42	8.10	-18	+24	+12
		2	111	0.68	9.22	6.56	-7	+23	+9
		3	83	0.79	7.76	8.20	-9	+24	+7
		4	83	0.71	7.57	7.22	-6	+24	+6
		5	72	0.78	7.92	10.76	-16	+24	+8
		6	36	0.84	13.36	7.57	+1	+24	+13
Savouring the moment[c]	8	1	89	0.78	12.37	7.68	-7	+24	+13
		2	110	0.83	9.91	7.87	-22	+24	+10
		3	82	0.78	10.07	7.96	-12	+24	+10
		4	82	0.69	8.84	7.24	-6	+24	+8
		5	67	0.68	10.76	7.12	-5	+24	+10
		6	36	0.89	14.56	7.35	-1	+24	+15
Reminiscing[c]	8	1	89	0.75	15.02	6.18	+1	+24	+16
		2	112	0.79	13.29	6.46	-4	+24	+14
		3	81	0.84	12.53	7.40	-6	+24	+13
		4	84	0.82	10.88	7.99	-13	+24	+10
		5	72	0.79	11.22	8.12	-6	+24	+10
		6	36	0.83	17.00	6.35	+0	+24	+17

[a]Alpha represents Cronbach's alpha, an index of internal consistency reliability.
[b]SBI Total score was computed by summing responses to the 12 positively-anchored items and subtracting responses to the 12 negatively-anchored items. Total scores could range from -72 to +72. Anova performed on total scores revealed a significant main effect for study, $F(5,445)=5.90$, $p<0.0001$; and Scheffe contrasts ($p<0.05$) disclosed that scores were higher in Study 6 than in Studies 3-5 and higher in Study 6 than in Study 4.
[c]Scores for the three SBI subscales were computed by summing responses to the 4 positively-anchored items and subtracting responses to the 4 negatively-anchored items that constitute each subscale. Subscale scores could range from -24 to +24. Anova performed on *Anticipating* scores revealed a significant main effect for study, $F(5,469)=5.42$, $p<0.0001$; and Scheffe contrasts ($p<0.05$) disclosed that scores were higher in Study 6 than in Studies 3–5. Anova performed on Savouring the moment scores revealed a significant main effect for study, $F(5,460)=4.05$, $p<0.002$; and Scheffe contrasts ($p<0.05$) disclosed that scores were higher in Study 6 than in Study 4. Anova performed on Reminiscing scores revealed a significant main effect for study, $F(5,468)=6.19$, $p<0.0001$; and Scheffe contrasts ($p<0.05$) disclosed that scores were higher in Studies 1 and 6 than in Studies 4 and 5.
Note.   Participants responded to the SBI items on a 7-point scale, with higher scores reflecting stronger endorsement. These data are from the 27 male and 64 female college students in Study 1; the 31 male and 82 female college students in Study 2; the 28 male and 55 female college students in Study 3; the 41 male and 45 female college students in Study 4; the 31 male and 43 female college students in Study 5; and the 14 male and 22 female older adults in Study 6. Exact sample sizes varied due to incomplete data for some respondents.

dence of convergent validity, SBI Total score and scores on the Anticipating, Savouring the moment, and Reminiscing subscales were *positively* correlated with affect intensity, extraversion, and optimism; and were *negatively* correlated with hopelessness, neuroticism, and physical and social anhedonia. Guilt and shame were both negatively correlated with the Savouring the moment subscale, but were unrelated to the Reminiscing subscale. Guilt also showed a negative relationship with SBI Total score and with the Anticipating subscale. Supporting *a priori* hypotheses and providing evidence of discriminant validity, SBI total score and all three subscales were *uncorrelated* with socially

desirable responding. Also as predicted, the Anticipating subscale was more strongly related to optimism ($z=1.98, p<0.03$, one-tailed) and hopelessness ($z=1.94, p<0.03$, one-tailed) than were the other two subscales, using Meng *et al.'s* (1992) test for contrasting correlated correlation coefficients.

As a further test of discriminant validity, multivariate analysis of variance (MANOVA) was used to test the hypothesis that women would score higher than men on SBI total scale and on the three SBI subscales. There was a significant multivariate main effect of gender, $F(3,440)=6.53, p<0.01$. Confirming the hypothesis, women had higher mean scores than did men on SBI total scale

Table 4:   SBI validity coefficients from Studies 1-4 and Study 6

Measures	Study[b]	n[c]	SBI factor scores[a]			
			TOT	ANT	MOM	REM
I. *Individual differences:*						
Affect intensity	2	110–112	0.27*	0.21*	0.21*	0.17*
	3	58–60	0.48**	0.49**	0.31*	0.49**
Extraversion	4	77–82	0.42**	0.34*	0.44**	0.33*
Optimism	4	79–84	0.50**	0.56**	0.41**	0.42**
Hopelessness	4	75–80	-0.41**	-0.48**	-0.33*	-0.37**
Neuroticism	1	86–88	-0.26*	-0.22*	-0.30*	-0.23*
	2	107–108	-0.38**	-0.18*	-0.48**	-0.30*
Guilt	3	79–81	-0.26*	-0.19*	-0.34*	-0.13
Shame	3	80-82	-0.09	-0.12	-0.19*	0.04
Physical anhedonia	4	69-73	-0.56**	-0.52**	-0.52**	-0.50**
Social anhedonia	4	72-77	-0.57**	-0.50**	-0.58**	-0.48**
Social desirability	3	71-72	-0.01	0.07	-0.01	-0.04
II. *Control beliefs:*						
Internal locus of control	4	74–79	0.31*	0.25*	0.32*	0.31*
Self-control	3	70–71	0.24*	0.19*	0.23*	0.23*
Obtaining	1	87–88	0.41**	0.29*	0.41**	0.34*
	2	108–110	0.44**	0.23*	0.37**	0.44**
Savouring	1	88–89	0.49**	0.35**	0.51**	0.39**
	2	111–112	0.63**	0.40**	0.67**	0.53**
Avoiding	1	89–90	0.02	-0.04	0.15	-0.09
	2	108–110	0.18	0.05	0.20*	0.17
Coping	1	80–87	0.23*	0.04	0.40**	0.12
	2	110–112	0.21*	-0.06	0.35**	0.29*

Table 4: continued

Measures	Study[b]	n[c]	SBI factor scores[a]			
			TOT	ANT	MOM	REM
III. *Subjective adjustment*:						
Present happiness	1	84-90	0.25[*]	0.08	0.37[**]	0.20[*]
	2	104-109	0.20[*]	-0.03	0.28[*]	0.21[*]
Gratification	1	84-89	0.39[**]	0.29[*]	0.39[**]	0.28[*]
	2	106-111	0.37[**]	0.21[*]	0.45[**]	0.39[**]
Self-esteem	1	85-90	0.39[**]	0.30[*]	0.39[**]	0.23[*]
	2	106-111	0.30[*]	0.10	0.42[**]	0.28[*]
Strain	1	83-88	-0.09	-0.02	-0.19[*]	-0.03
	2	106-111	-0.33[**]	-0.16	-0.46[**]	-0.33[**]
Vulnerability	1	82-87	-0.06	0.00	-0.16	-0.02
	2	105-109	-0.20[*]	-0.06	-0.23[*]	-0.27[*]
Depression	1	85-90	-0.25[*]	-0.12	-0.34[**]	-0.11
	2	106-111	-0.31[*]	-0.11	-0.40[**]	-0.28[*]
Happiness intensity	3	80-83	0.45[**]	0.24[*]	0.59[**]	0.26[*]
	6	36	0.56[**]	0.48[*]	0.60[**]	0.46[*]
Per cent of time happy	3	77-80	0.55[**]	0.38[**]	0.58[**]	0.39[**]
	6	36	0.61[**]	0.47[*]	0.60[**]	0.46[*]
Per cent of time in neutral mood	3	77-80	-0.49[**]	-0.37[**]	-0.43[**]	-0.40[**]
	6	36	-0.38[*]	-0.31[*]	-0.43[*]	-0.32[*]
Per cent of time unhappy	3	77-80	-0.35[**]	-0.18[*]	-0.49[**]	-0.18[*]
	6	36	-0.57[**]	-0.43[*]	-0.59[**]	-0.56[**]

[*]$p<0.05$, one-tailed unadjusted; [**]$p<0.05$, one-tailed Bonferroni-adjusted (i.e. unadjusted one-tailed $p<0.0003$).

Note. Because of the large number of statistical tests performed, a more stringent p-value was adopted to avoid capitalizing on chance. Specifically, the desired p-value (0.05) was divided by the total number of statistical tests (168) to obtain a significance level that corrected for Type I errors (i.e. 0.00029, or $p<0.0003$).

[a] TOT = Total score; ANT = Anticipating score; MOM = Savouring the moment score; REM = Reminiscing score.

[b] Different sets of questionnaires were administered along with the SBI in each study. *Study 1* included: Eysenck & Eysenck's (1975) Neuroticism scale (N Scale); and Bryant & Veroff's (1984) measures of present happiness, gratification, self-esteem, strain, perceived vulnerability, and depression. *Study 2* included: the Affect Intensity Measure (AIM; Larsen & Diener, 1987); the N scale; and Bryant & Veroff's (1984) measures. *Study 3* included: the AIM; Harder & Zalma's (1990) indices of shame and guilt; the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1964); Rosenbaum's (1980) Self-Control Schedule; and Fordyce's (1987) measures of the intensity of happiness and the frequency of happy, neutral, and unhappy moods. *Study 4* included: Eysenck and Eysenck's (1975) Extraversion scale; Scheier & Carver's (1985) Life Orientation Test; Beck *et al.*'s (1974) Hopelessness Scale; Chapman *et al.*'s (1976) scales for physical and social anhedonia; and Rotter's (1966) I–E scale. *Study 6* included Fordyce's (1987) happiness measures.

[c] Exact sample sizes for these correlations varied because of missing data for some respondents.

($F(1,445)=11.21$, $p<0.001$) and on the Anticipating ($F(1,445)=9.18, p<0.003$), Savouring the moment ($F(1,445)=4.97$, $p<0.03$), and Reminiscing ($F(1,445)=10.96, p<0.001$) subscales.

Control beliefs. Confirming *a priori* hypotheses and providing evidence of convergent validity, SBI total score and the Anticipating, Savouring the moment, and Reminiscing subscales were *positively* correlated

with internal locus of control, with beliefs in self-control and with the earlier measures of beliefs about obtaining and savouring. Supporting *a priori* hypotheses and providing evidence of discriminant validity: (a) Bryant's (1989) measures of obtaining and savouring showed stronger relationships with SBI total score and with the three SBI subscales than did Bryant's (1989) measures of avoiding and coping; and (b) SBI total score and its subscales correlated more strongly with the earlier measure of savouring than with the earlier measures of obtaining, avoiding, and coping. Contrasts of these correlated coefficients (Meng *et al.*, 1992) across the four control-beliefs revealed that the hypothesized pattern of relationships significantly fit the data for SBI total score and for the three SBI subscales in both studies that included these measures: Study 1 ($z=6.01$, $p<0.00001$, one-tailed) and Study 2 ($z=7.82$, $p<0.00001$, one-tailed).

Subjective adjustment. Supporting *a priori* hypotheses and providing evidence of construct validity, SBI total score and the Anticipating, Savouring the moment and Reminiscing subscales were *positively* correlated with gratification, self-esteem and the reported intensity and frequency of happiness; and were *negatively* correlated with strain, perceived vulnerability, depression and the reported frequency of neutral and unhappy moods. Direct correlational contrasts (Meng *et al.*, 1992) across the 10 subjective adjustment measures revealed that this observed pattern of correlations significantly fit the hypothesized pattern of relationships for SBI total score and for the three subscale scores in all three relevant studies: Study 1 ($z=6.45$, $p<0.00001$, one-tailed); Study 2 ($z=7.33$, $p<0.00001$, one-tailed); and Study 3 ($z=4.86$, $p<0.00001$, one-tailed). Also confirming *a priori* predictions, the Savouring the moment subscale was more strongly related to the subjective adjustment measures than were

the Anticipating and Reminiscing subscales in all three studies: Study 1 ($z=6.24$, $p<0.00001$, one-tailed); Study 2 ($z=6.92$, $p<0.00001$, one-tailed); and Study 3 ($z=4.14$, $p<0.00001$, one-tailed).

To summarize, SBI scores were, as hypothesized: (a) positively correlated with affect intensity, extraversion, optimism, internality, reported self-control behaviours, present happiness, gratification, self-esteem and the intensity and frequency of happy moods; (b) negatively correlated with hopelessness, neuroticism, anhedonia, strain, perceived vulnerability, depression and the frequency of neutral and unhappy moods; and (c) unrelated to socially desirable responding. Also, confirming predictions, women scored higher than men on all three subscales of the SBI; the Anticipating subscale was more strongly related to optimism and hopelessness than were the other two subscales; and the Savouring the moment subscale was more strongly correlated with measures of subjective adjustment than were the other subscales.

Predictive validation

Hypotheses

Study 5 was designed to assess the prospective validity of the SBI by evaluating how well it predicted individuals' subsequent experiences with an actual, real-world positive event. One assumption underlying the concept of savouring beliefs is that people's perceptions of their capacity to derive pleasure from positive events are based on their actual experiences with such events. In other words, scores on the SBI should reflect the ways people actually approach and savour pleasant events. Scores on the Anticipating subscale should reflect how able and willing people actually are to savour upcoming desirable events by looking forward to them; scores on the Savouring the moment subscale should reflect how able and willing people actually

are to enjoy desirable events when they occur; and scores on the Reminiscing subscale should reflect how able and willing people actually are to relish past desirable events through retrospection. Furthermore, if these separate SBI subscales tap conceptually distinct aspects of savouring, then each subscale should more strongly predict behaviors and affects related to its respective temporal orientation than it predicts behaviours and affects associated with other temporal orientations.

This reasoning leads to several hypotheses that were addressed in Study 5, with respect to a specific, real-world positive event—Christmas vacation.[5] Such vacations from work are among the most commonly reported positive life events, and they have been shown to increase overall life satisfaction (Hoopes & Lounsbury, 1989; Lounsbury & Hoopes, 1986). A set of hypotheses was tested with respect to Christmas vacation for each of the three temporal subscales of the SBI. First, *before* the vacation begins, the amount of time spent anticipating, the affect experienced when anticipating, and the amount of time since last anticipating the upcoming vacation should be more strongly predicted by scores on the Anticipating subscale than by scores on the other two SBI subscales. Second, *during* the vacation, the affect experienced and the amount of time since last feeling that one is enjoying the vacation should be more strongly predicted by scores on the Savouring the moment subscale than by scores on the other SBI subscales. And third, *after* the vacation ends, the amount of time spent reminiscing, the affect experienced when reminiscing, and the amount of time since

last reminiscing about the vacation should be more strongly predicted by scores on the Reminiscing subscale than by scores on the other SBI subscales.

Participants and procedure

In a single mass-testing session, 74 participants (31 males and 43 females) from the same midwestern state university as in Study 4 completed the SBI and also provided their social security numbers. Using this identifying information, their names and local and home telephone numbers were then obtained from the Registrar's office at their university. Names and phone numbers were also obtained for a subset of 67 participants (30 males and 37 females) from Study 4 for whom social security numbers were available. All of the studies in this report, both cross-sectional (Studies 1–4 and Study 6) and longitudinal (Study 5), had the formal approval of the Institutional Review Board for the Use of Human Subjects at Loyola University Chicago.[6]

The total pool of 141 participants was then randomly divided into thirds, blocking on gender, to determine the time-period during which participants would be contacted by telephone for follow-up measurement: either (a) 1 week *before* the start of the university's Christmas vacation (i.e. the first week in December); (b) *during* the Christmas vacation (i.e. the week surrounding December 25th); or (c) 1 week *after* the end of the university's Christmas vacation (i.e. the third week in January).[7]

Follow-up telephone calls were made during the three time-periods by a male experi-

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[5] The dependent measures in Study 6 focused on the vacation from school and not on the celebration of Christmas *per se*. This focus was adopted because, although some students do not observe Christmas, all students took time off from classes over the holiday.

[6] All personal data (i.e. social security numbers and home telephone numbers) were destroyed after longitudinal links had been made.

[7] A between-groups design was chosen to avoid the potential reactivity of a within-subjects design. The obtrusive nature of the telephone survey might well have altered participants' responses to later repeated measures.

menter, who was unaware of participants' SBI scores. Forty-four (31%) of the original 141 participants could not be contacted either because their telephone numbers were incorrect or had been changed (30) or because they were not at home during the calling period (14). Of the remaining 97 participants who were contacted, 86 (89%) agreed to participate. Refusal rates were comparable for the three time-periods and for males and females. One respondent assigned to the *before* condition could not be included because she had completed classes early and was already on her Christmas break. This left 22 participants (9 males and 13 females) in the *before* group, 30 participants (13 males and 17 females) in the *during* group, and 33 participants (15 males and 18 females) in the *after* group.

Dependent measures

After checking that the correct person had been contacted, the caller asked if the participant would be willing to take 2 minutes to answer a few questions for a survey about vacations. Respondents were then asked different questions, depending on the particular time period in which they were called.

Before condition

Participants randomly assigned to be contacted *before* their vacation were first asked to recall the last time they thought about their upcoming Christmas vacation and to report how long ago that was. They were then asked to indicate on a 10-point scale (1=not at all; 10=a great deal) how much they had been looking forward to their upcoming vacation. Finally, they were asked to take a moment to think about what their upcoming vacation would be like; and having anticipated it, they were asked to report, using a 10-point scale, how happy, excited, frustrated and disappointed they felt 'right now at this moment' (1=not at all; 10=very) and how much they felt like they 'can't wait for the vacation to start' (1=can wait; 10=can't wait).

During condition

Participants randomly assigned to be contacted *during* their vacation were first asked to recall the last time they felt they were 'really enjoying' themselves on their Christmas vacation and to report how long ago that was. They were then asked to indicate on a 10-point scale (1=not at all; 10=a great deal) how much they were enjoying their vacation. Finally, they were asked to take a moment to think about their vacation and to report, using a 10-point scale, how happy, satisfied, frustrated and disappointed they felt 'right now at this moment' (1=not at all; 10=very).

After condition

Participants randomly assigned to be contacted *after* their vacation were first asked to recall the last time they thought about their past Christmas vacation and to report how long ago that was. They were then asked to indicate on a 10-point scale (1=not at all; 10=a great deal) how much they had looked back on their vacation since it ended. Finally, they were asked to take a moment to think about what their vacation had actually been like; and having reminisced about it, they were asked to report, using a 10-point scale, how happy, satisfied, frustrated, and disappointed they felt 'right now at this moment' (1= not at all; 10=very).

Results

Table 5 presents the predictive validity coefficients from Study 5. Although the pattern of findings is not entirely consistent, these results generally support the predictive validity of the SBI and provide additional evidence of its convergent and discriminant validity.

Looking first at participants who were contacted *before* their vacation, scores on the Anticipating subscale predicted how long participants reported it had been since they last looked forward to their vacation, whereas

Table 5: SBI predictive validity coefficients from Study 5

Measures	Before (*n*=22) SBI scale score[a]				During (*n*=30) SBI scale score				After (*n*=33) SBI scale score			
	ANT	MOM	REM	TOT	ANT	MOM	REM	TOT	ANT	MOM	REM	TOT
Elapsed time:												
Since last looked forward to the vacation	-0.42*	-0.10	-0.11	-0.22								
Since last felt one was enjoying the vacation					-0.27	-0.45*	-0.06	-0.26				
Since last looked back on the vacation									-0.30*	-0.25	-0.31*	-0.29*
Level of temporal involvement:												
How much one is looking forward to the vacation	0.41*	0.38*	0.29	0.36*								
How much one is enjoying the vacation					0.40*	0.44*	0.17	0.41*				
How much one has looked back on the vacation									0.09	0.22	0.33*	0.21
Mood after adopting temporal focus:												
Happiness	0.36*	0.26	0.16	0.28	0.27	0.37*	0.08	0.24	-0.09	-0.01	0.25	0.06
Excitement	0.43*	0.35*	0.21	0.36*								
Satisfaction					-0.04	0.33*	-0.30*	0.02	0.13	0.09	0.07	0.12
Disappointment	0.10	-0.17	0.09	0.02	-0.14	-0.35*	0.45*	0.06	-0.25	-0.26	-0.20	-0.24
Frustration	-0.13	-0.20	-0.07	-0.14	0.09	-0.30*	0.34*	0.04	0.09	0.06	-0.12	0.08
Feel like can't wait	0.39*	0.23	0.07	0.22								

*$p<0.05$, one-tailed unadjusted.

[a]ANT = Anticipating score; MOM = Savouring the moment score; REM = Reminiscing score; TOT = Total score.

Note. Blank entries denote questions that were not asked for a particular group.

scores on the other subscales and SBI Total score did not. Further confirming hypotheses, Anticipating scores more strongly predicted elapsed time since last anticipating than did scores on the other two SBI subscales, z=-1.78, $p<0.05$, one-tailed, using Meng *et al*.'s (1992) contrast for correlated correlation coefficients.

In addition, Anticipating scores were a significant predictor of how much participants

reported looking forward to their vacation and of the extent to which they felt happy, excited, and as if they 'can't wait', after they had spent a moment anticipating what their vacation would be like. Although not predicted *a priori*, scores on the Savouring the moment subscale were also a significant predictor of how much participants reported looking forward to their vacation and of how excited they felt after having anticipated it. These latter findings are consistent with the notion that it is difficult to look forward to something that you feel incapable of enjoying.

Considering next those who were contacted *during* their vacation, scores on the Savouring the moment subscale predicted how long participants reported it had been since they last felt they were enjoying their vacation, whereas scores on the other subscales and SBI total score did not. This set of correlations significantly matches the hypothesized pattern, $z=-1.65$, $p<0.05$, one-tailed, using Meng *et al.*'s (1992) correlational contrast. In addition, Savouring the moment scores were a significant predictor of how much participants reported enjoying their vacation and of how happy, satisfied, frustrated, and disappointed they were with it. Contrary to expectations, however, higher Anticipating scores predicted greater reported enjoyment of the vacation; and higher Reminiscing scores predicted lower levels of satisfaction and higher levels of frustration and disappointment with one's vacation. Perhaps being able to anticipate enhances one's enjoyment of the moment. The results for Reminiscing are consistent with evidence that recalling happy memories may actually undermine one's present happiness by raising one's 'hedonic baseline', if one reminisces in an emotionally uninvolving way (Strack *et al.*, 1985).

Finally, considering those who were contacted *after* their vacation, scores on the Remi-

niscing subscale were a significant predictor of how long participants reported it had been since they last looked back and of how much they reported having looked back on their vacation. Contrary to expectations, however, Anticipating scores were also a significant predictor of reported elapsed time since last reminiscing, and the hypothesized pattern of correlations failed to emerge, $z=-0.23$, *NS*. Also disconfirming hypotheses, Reminiscing scores were uncorrelated with reported mood after spending a moment recalling the vacation. Indeed, none of the SBI scores predicted participants' mood after they had reminisced about the vacation. The Reminiscing subscale thus showed a lower level of predictive validity than did the other SBI subscales.

Cross validation

Studies 1–5 were limited to college student populations. In Study 6, the psychometric properties of the SBI were assessed using a sample of older adults. This study was also designed to evaluate the external validity of the SBI by testing whether the relationships observed between savouring beliefs and measures of happiness in young adults would generalize to an older age group.

Participants

A total of 36 older adults volunteered to participate in Study 6. Their ages ranged from 53 to 85, with a mean of 65.4 years (SD=6.8). Twenty-two participants were members of a women's philanthropic organization in a mideastern metropolitan suburb. The husbands of 14 women also completed dependent measures.

Procedure and measures

At a regular meeting of the women's group, potential respondents were asked to take home with them a packet containing a copy of the

SBI and of Fordyce's (1987) Happiness Measures. Married women were urged to take an additional packet for their husbands. Also contained in each packet was a stamped, pre-addressed envelope for use in returning completed anonymous questionnaires.

Results

Table 3 presents descriptive statistics and reliability coefficients for the SBI factor scores of the older adult sample in Study 6. SBI total score and the separate subscales again showed relatively high internal consistency. Although sample size is insufficient for factor analysis, these findings suggest that the factor structure of the SBI replicates for older adults.

Section III of Table 4 displays the correlations obtained in Study 6 between SBI factor scores and Fordyce's (1987) four Happiness Measures. In general, the results for older adults parallel those for college students in Study 3. SBI Total score and the three SBI subscales were positively correlated with both intensity and frequency of happiness and were negatively correlated with frequency of both neutral and unhappy moods. Furthermore, scores on the Savouring the moment subscale again showed a pattern of stronger association with Fordyce's (1987) Happiness Measures, relative to the other temporal subscales ($z=5.24$, $p<0.00001$, one-tailed).[8]

Conclusions

These results provide strong evidence that the SBI is a valid and reliable measure of individuals' beliefs about their capacity to savour positive experiences. In Studies 1-4,

SBI total score and the three subscales generally showed good convergent and discriminant validity. SBI scores correlated *positively* with measures of constructs hypothesized to be associated with higher levels of perceived savouring capacity, including individual-difference variables (affect intensity, extraversion, and optimism), control beliefs (internal locus of control, reported self-control behaviors and the earlier measure of savouring beliefs), and dimensions of subjective well-being (happiness, gratification, and self-esteem). SBI scores were *negatively* correlated with measures of constructs hypothesized to be associated with lower levels of perceived savouring capacity, including individual-difference variables (hopelessness, neuroticism, guilt and anhedonia) and dimensions of subjective distress (strain, depression, and perceived vulnerability). And, SBI scores were *uncorrelated* with socially desirable responding, a construct hypothesized as being unrelated to perceived savouring capacity. As further evidence of discriminant validity, the Savouring the moment subscale generally showed the strongest relationships with criterion measures, although Anticipating scores were more strongly related to optimism and hopefulness. Also confirming hypotheses, women had higher scores than did men on the SBI total scale and on each of the three SBI subscales.

In Study 5, the SBI demonstrated reasonably good prospective validity in predicting college students' actual behaviours and affects in anticipating, experiencing, and recalling their Christmas vacation. Within each of the three time frames, the relevant SBI subscale

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[8] Because the data of each wife and her husband are nonindependent, treating each respondent's data in Study 6 as independent violates the technical assumptions underlying the inferential statistics used. To examine the implications of this violation, the data of each married couple were averaged and combined with the data of the individual respondents, and the analyses were then re-run on this reduced sample ($n=22$). Results revealed the same pattern of relationships as found when treating each respondent's data as independent.

generally predicted behaviours and affects more strongly than did the subscales associated with the other two temporal orientations. This provides additional evidence of the discriminant validity of the three subscales.

The SBI also appears to be reliable. In Study 4, the total score and the three subscales were relatively stable over a three-week time span. Studies 1–5 also demonstrated the internal consistency of SBI scores. Indeed, the measurement model around which the instrument was originally constructed explained 93% of the common variance in participants' responses (N=415).

As a test of external validity, Study 6 cross-validated the SBI in a sample of older adults. SBI total scores and subscale scores were again found to be internally consistent. Furthermore, the relationships observed between SBI scores and measures of happiness among students replicated in this older group. Considered together, this set of findings suggests that the SBI is psychometrically sound and provides a potentially useful measure of people's beliefs about their capacity to enjoy positive events.

There are, however, some limitations to the utility of the SBI. The distinctions among future-, present- and past-focused forms of savouring, while conceptually appealing, received mixed empirical support in the present research. Supporting the tripartite model, on the one hand, the perceived capacity to savour the moment showed stronger correlations with measures of adjustment than did the other two savouring beliefs; the perceived ability to savour through anticipation was more strongly correlated with optimism and hopefulness than were the other savouring beliefs; and each subscale did fairly well in predicting people's actual experiences within its temporal domain.

Weakening the tripartite model, on the other hand, SBI total score was more internally consistent than either of the three subscales in all six studies; and a three-factor measurement model explained only 4% more of the variance in SBI responses than did a unidimensional model (see Table 1). Furthermore, the relatively high correlation between the Savouring the moment and Reminiscing subscales (r=0.86, p<0.0001), as well as the Reminiscing subscale's weaker predictive validity, indicates that the SBI does not discriminate well between beliefs about present-focused and past-focused savouring skills. This overlap between past and present foci is not entirely surprising, however, given that (a) reminiscence itself can intensify and prolong the joy of happy moments (Bryant *et al.*, 1986); and (b) the happier one is, the more one tends to recall pleasant memories (Bower, 1981). It may also be that distinctions among the three temporal forms of savouring are less relevant in healthy, adaptively functioning adults, but become more prominent, for example, among those with specific psychological problems (e.g. depression, schizophrenia), those suffering from chronic pain, or those experiencing a loss in functional status. One can well imagine specific negative life events, such as bereavement or a disabling accident, that might diminish the perceived ability to savour the future or to savour the moment, but might preserve the perceived ability to savour the past.

The SBI is potentially useful in clinical settings. For example, clinicians could use the instrument to identify client deficits in savouring capacity, as are likely to exist with depression, anxiety disorder, schizophrenia, or midlife crisis. Clinicians could also use the SBI to evaluate the efficacy of therapeutic interventions aimed at teaching people how to anticipate, savour, or reminisce more effectively. For example, with clients who feel unable to savour positive experiences effective therapy might involve eliminating 'killjoy' savouring strategies such as idealizing upcoming positive events, imagining how

positive events could have been better, or worrying about whether such events will ever happen again. Clients with deficits in reminiscing might be taught how to actively build memories while going through positive events and then to spend time reflecting on these memorialized events on a regular basis. Rather than merely reacting to positive events when they happen to occur, clients can learn to savour *proactively* – to consciously anticipate positive experiences, to mindfully accentuate and sustain pleasurable moments, and to deliberately remember these experiences in ways that rekindle enjoyment after they end. The SBI would enable clinicians to assess the impact of such therapy on clients' perceived savouring skills.

Finally, the SBI shows promise as a measurement tool for the emerging field of positive psychology (Seligman, 2002; Seligman & Csikszentmihalyi, 2000). Unlike measures of positive emotion *per se*, the SBI taps people's perceptions of their capacity to savour, or to derive pleasure in relation to the past, present, and future. The process of savouring requires a mindful awareness of enjoyment, a deliberate conscious attention to the experience of pleasure (Bryant & Veroff, 2002). There are no other instruments available for measuring how capable people feel they are at savouring positive experiences.

An important next step in the study of savouring is to begin to link individuals' beliefs about their savouring capacity to specific cognitive and behavioural responses that they exhibit before, during, and after the occurrence of positive events. In this way, researchers may identify patterns of appraisal and of savouring responses that determine the frequency, intensity, and duration of positive emotions, as has been done in the coping literature (Lazarus & Folkman, 1984). It is hoped that the SBI will be useful in this endeavour.

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