

New Well-being Measures: Short Scales to Assess Flourishing and Positive and Negative Feelings

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Accepted: 12 May 2009 / Published online: 28 May 2009
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Abstract Measures of well-being were created to assess psychological flourishing and feelings—positive feelings, negative feelings, and the difference between the two. The scales were evaluated in a sample of 689 college students from six locations. The Flourishing Scale is a brief 8-item summary measure of the respondent's self-perceived success in important areas such as relationships, self-esteem, purpose, and optimism. The scale provides a single psychological well-being score. The measure has good psychometric properties, and is strongly associated with other psychological well-being scales. The Scale of Positive and Negative Experience produces a score for positive feelings (6 items), a score for negative feelings (6 items), and the two can be combined to create a balance score. This 12-item brief scale has a number of desirable features compared to earlier measures of positive and negative emotions. In particular, the scale assesses with a few

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items a broad range of negative and positive experiences and feelings, not just those of a certain type, and is based on the amount of time the feelings were experienced during the past 4 weeks. The scale converges well with measures of emotions and affective well-being.

Keywords Subjective well-being · Well-being · Measure · Positive affect · Negative affect · Scales (or Assessment)

1 Introduction

We present two new measures of well-being, and initial psychometric support for these scales. First, we offer a measure of psychosocial flourishing, based on recent theories of psychological and social well-being. Second, we present a new scale for assessing positive and negative feelings that has certain advantages over past scales designed for this purpose. Both scales show strong psychometric characteristics. We presented these scales earlier in a book chapter (Diener et al. 2009), but the current sample is larger. The new scales are presented in the appendices of this paper.

Our eight-item Flourishing Scale was designed to measure social–psychological prosperity, to complement existing measures of subjective well-being. In recent years a number of psychological theories of human flourishing have been developed, and we devised a brief measure to capture major aspects of this type of “prosperity”. Ryff (1989), Ryff and Singer (1998), and Ryan and Deci (2000), based on earlier humanistic psychology theories, suggest that there are several universal human psychological needs, such as the need for competence, relatedness, and self-acceptance, and several of these characteristics are assessed by our Flourishing Scale.

In addition to the theories derived from the humanistic tradition, we also relied on additional approaches to well-being in creating our items. Coming from a different tradition, Putnam (2000) and Helliwell et al. (2009) suggest that “social capital” is basic to the well-being of societies. In yet another vein, Csikszentmihalyi (1990) discusses flow, interest, and engagement as basic to human well-being, forming the basis of “psychological capital”. Seligman (2002), Ryff (1989), Ryff and Singer (1998), and Steger et al. (2008) present arguments and data supporting the notion that purpose and meaning are beneficial to human functioning.

Although good social relationships were originally defined as having the support of others, recent work has emphasized that humans also need to support others. For instance, Brown et al. (2003) found that helping others is more important to health than receiving help, and Dunn et al. (2008) found that people gain more from giving to others than from receiving from them. Finally, Peterson et al. (1988) and Scheier and Carver (2003) present evidence that optimism is important to successful functioning and well-being. Seligman (2002) argues that there are desirable feelings in addition to pleasant ones, and he points specifically to engagement or interest, and to involvement in activities that are meaningful and purposeful. Thus, we created a scale with items to measure the essential components of these various theories of well-being.

The Flourishing Scale included several items on social relationships: having supportive and rewarding relationships, contributing to the happiness of others, and being respected by others. The survey also included an item on having a purposeful and meaningful life, and one on being engaged and interested in one’s activities. Items were included tapping self-respect and optimism. Finally, the scale included an item on feeling competent and capable

in the activities that are important to the respondent. Thus, the brief scale assesses major aspects of social–psychological functioning from the respondent’s own point of view.

The second scale, which was designed to assess subjective feelings of well-being and ill-being, is named the Scale of Positive and Negative Experience (SPANE). This 12-item questionnaire includes six items to assess positive feelings and six items to assess negative feelings. For both the positive and negative items, three of the items are general (e.g., positive, negative) and three per subscale are more specific (e.g., joyful, sad).

Although there are a number of existing scales designed to assess emotions, the SPANE has a number of advantages. First, we use a number of general feelings in our scale, such as “positive”, “pleasant”, and “negative”. This allows the SPANE to reflect the full range of emotions and feelings that a respondent might feel, both bad and good, without creating a list of hundreds of items to fully reflect the diversity of positive and negative feelings. The problem with existing surveys is that they inquire about specific feelings, and weight them all identically. Thus, earlier scales omit important feelings, or feelings that are valued in certain cultures and not others. Furthermore, current scales, in giving equal weighting to all items, can obscure the fact that a person might feel quite positive or negative but not feel many of the specific emotions listed on the scale. Thus, a respondent could score at an intermediate level on the scale despite feeling positive all of the time. A person who feels positive all of the time should not be labeled as moderately happy because she or he experiences only a few of the questions listed. Similarly, a person who is sad and angry all of the time should be considered very unhappy even if he or she never experiences fear or stress, or the other negative feelings listed on the scale. Thus, the SPANE captures positive and negative feelings regardless of their provenance, arousal level, or ubiquity in western cultures where most scales have been created. In this way, our scale can better reflect the full set of feelings felt by individuals around the globe, and give them the proper positive and negative weighting. By including labels such as “good” and “positive”, and “bad” and “negative”, that reflect all types of feelings, the SPANE assesses the full range of possible desirable and undesirable experiences.

An issue with the most popular current scale of emotions, the PANAS (Watson et al. 1988) is that the items are all high arousal feelings, and many are not considered emotions or feelings. For example, the words “active” and “strong” need not refer to feelings. If a person feels happy, contented, grateful, and loving, it is not captured by the high arousal emotions of the scale. The SPANE reflects all levels of arousal for both positive feelings (joy, happy, contented) and negative feelings (sad, angry, and afraid). The emotions we use allow us to capture the major emotions of many affect theories, but the general words such as “pleasant” and “unpleasant” allow us to also assess other positive and negative feelings. Thus, the SPANE reflects all positive and negative feelings regardless of their specific labels. Although clinical practitioners often want to access specific feelings such as depression, a common goal of well-being researchers is to assess positive and negative feelings in general.

Another advantage of our scale is that the questions are framed in terms of the amount of time the respondent experiences each feeling, which appears to be more strongly related to well-being measures such as life satisfaction than is the intensity of those feelings (Diener et al. 1991). Furthermore, responses regarding the amount of time having an experience might be more comparable across respondents than is the intensity of feelings, which allows for more variability in interpretation than reporting time responses such as “always” and “never”. In addition, the scale is keyed to the last “4 weeks”, which is short enough to allow the respondent to recall actual experiences rather than rely on general

self-concept, yet is based on an adequate time period to avoid tapping only a short-term mood. In sum, we created the SPANE to improve on existing measures of feelings.

2 Methods

2.1 Measures

Flourishing Scale (FS). The Flourishing Scale consists of eight items describing important aspects of human functioning ranging from positive relationships, to feelings of competence, to having meaning and purpose in life. The scale was called Psychological Well-being in an earlier publication, but the name was changed to more accurately reflect the content because the scale includes content that goes beyond psychological well-being narrowly defined. Each item of the FS is answered on a 1–7 scale that ranges from Strong Disagreement to Strong Agreement. All items are phrased in a positive direction. Scores can range from 8 (Strong Disagreement with all items) to 56 (Strong Agreement with all items). High scores signify that respondents view themselves in positive terms in important areas of functioning. Although the scale does not separately provide measures of facets of well-being, it does yield an overview of positive functioning across diverse domains that are widely believed to be important. The Flourishing Scale is shown in the Sect. 4.

The Scale of Positive and Negative Experience (SPANE). This measure is a brief 12-item scale, with six items devoted to positive experiences and six items designed to assess negative experiences. Because the scale includes general positive and negative feelings, it assesses the full range of positive and negative experiences, including specific feelings that may have unique labels in particular cultures. Because of the general items included in the scale, it can assess not only the pleasant and unpleasant emotional feelings that are the focus of most scales, but also reflects other states such as interest, flow, positive engagement, and physical pleasure.

Each SPANE item is scored on a scale ranging from 1 to 5, where 1 represents “very rarely or never” and 5 represents “very often or always”. The positive and negative scales are scored separately because of the partial independence or separability of the two types of feelings. The summed positive score (SPANE-P) can range from 6 to 30, and the negative scale (SPANE-N) has the same range. The two scores can be combined by subtracting the negative score from the positive score, and the resulting SPANE-B scores can range from –24 to 24. The SPANE is shown in the Sect. 4.

2.2 Participants

Data collection occurred in the fall of 2008. The N’s for different analyses vary in size because a few participants had missing data, and because the ancillary scales were given at some locations but not at others. Of the total 689 respondents in the study, 468 reported being female, 175 reported being male, and the others omitted a response to this question.

Sample 1. Seventy-four respondents from the introductory psychology participant pool at the University of Illinois volunteered to participate in order to earn course bonus points. Participants answered the survey twice, approximately 1 month apart. Besides the new scales, respondents completed additional surveys for the purpose of examining convergent validity.

Sample 2. College of New Jersey had 86 respondents.

Sample 3. Singapore Management University had 181 participants.

Sample 4. California State University East Bay included 64 respondents.

Sample 5. Students at East Carolina University responded twice to the new scales, with 168 participants present on both occasions.

Sample 6. Students at the University of Virginia ($N = 116$) participated in the study.

2.3 Scale for Assessing Convergent Validity

We employed a number of well-being measures in order to determine the convergence of the new scales with established measures. For traditional subjective well-being, we included the Satisfaction with Life Scale (Diener et al. 1985), and at some locations, Fordyce's (1988) single item measure of happiness, which is answered on a 11-point scale ranging from "Extremely happy (feeling ecstatic, joyous, fantastic!)" to "Extremely unhappy (utterly depressed, completely down)". Lyubomirsky and Lepper's (1999) 4-item scale of happiness was also used at some universities. This scale (the SHS) asks how happy the respondent is using four items. We included Watson et al. PANAS (1988), which is the most widespread measure of positive and negative feelings. We also used at some locations Scheier, Carver, and Bridges' LOT-R (1994), which assesses optimism, and the UCLA Loneliness Scale (Russell 1996), which is a marker of poor social relationships. We also included Ryan and Deci's Basic Need Satisfaction Scale (BNS; 2000), which has 21 items to assess competence, supportive relationships, and autonomy. Finally, we administered the 54-item version of Ryff's (2008) scale, with 9 items to measure each of the following concepts: Autonomy, Growth, Mastery, Relationships, Self-esteem, and Purpose and Meaning. Thus, we can determine the associations of our new scales with a wide variety of other well-being measures.

3 Results

Table 1 presents the basic psychometric statistics for the scales, as well as the ranges on each scale. The Cronbach alphas of the scales are good, and the temporal reliabilities are moderately high, showing some change across a 1-month period. As expected, flourishing was somewhat more stable over time than were feelings. The alphas show the internal consistency of the items, but a factor analysis of the items is needed as well because even a high alpha is consistent with the existence of more than one factor in a scale. A principal axis factor analysis of the Flourishing Scale revealed one strong factor with an eigenvalue of 4.24, accounting for 53 percent of the variance in the items, and no other eigenvalue above 1.0. The factor loadings ranged from .61 to .77. Thus, one strong factor characterizes the Flourishing Scale. In order to further explore the dimensionality of the scales, we examined the commonalities from the factor analyses as well as item-total correlations and alphas if items were deleted, and these are shown in Table 2.

We also subjected the SPANE to a principal axis factor analysis, separately for the positive and negative items. SPANE-P produced one strong factor with an eigenvalue above 1.0 (3.69), accounting for 61 percent of the variance in the scale items. The loadings varied from .58 to .81. The SPANE-N had one strong eigenvalue above one (3.19) that accounted for 53 percent of the variance in the scale. The factor loadings varied from .49 to .78. The negative and positive scales correlated $r = -.60$ ($N = 682$, $p < .001$) with each other, a value higher than some measures of emotions because the SPANE is more saturated with the valence dimension of the emotion circumplex.

Table 1 Psychometric statistics of the scales

	Mean (SD)	Cronbach's alpha	Temporal stability	Scale range
<i>Flourishing scale (8 items)</i>				
FS	44.97 (6.56)	.87	.71	8 to 56
<i>SPANE (feelings)</i>				
P (positive; 6 items)	22.05 (3.73)	.87	.62	6 to 30
N (negative; 6 items)	15.36 (3.95)	.81	.63	6 to 30
B (balance; 12 items)	6.69 (6.88)	.89	.68	−24 to 24

Standard deviations of the scale scores are shown in parentheses. Missing data reduced the N's to a few below the total sample size of 689, so that the sample sizes above varied from 681 to 688 for alphas, means, and standard deviations. N's for temporal stabilities varied from 257 to 261

Table 2 Internal reliability of scales

Flourishing scale	Commonalities	Corrected item-total correlation	Alpha if item deleted
Purpose and meaning	.60	.71	.85
Relationships supportive	.42	.60	.86
Engaged	.46	.63	.85
Contribute to others	.48	.64	.85
Competence	.43	.61	.86
Good person	.53	.67	.85
Optimistic	.41	.59	.86
Respected	.38	.57	.86
<i>Positive feelings</i>			
Good	.58	.70	.84
Positive	.58	.69	.84
Pleasant	.50	.66	.85
Joy	.58	.55	.87
Happy	.66	.74	.84
Contented	.34	.70	.84
<i>Negative feelings</i>			
Negative	.60	.66	.76
Bad	.61	.67	.76
Unpleasant	.45	.59	.78
Sad	.53	.65	.77
Angry	.25	.47	.81
Afraid	.24	.45	.81

Table 3 Flourishing scale norms in terms of percentile rankings (range 8–56)

Score	Percentile
25	1
29	3
32	5
34	7
36	10
37	13
38	15
39	18
40	21
41	24
42	28
43	33
44	39
45	44
46	53
47	60
48	70
49	77
50	83
51	87
52	90
53	93
54	96
55	98
56	100

Note: Selected values are given for the scales. Percentiles are based on six college student samples

Tables 3 and 4 present norms for the scales in terms of percentiles, so that readers can determine what individual scores signify. Table 3 presents the norms for the Flourishing Scale and Table 4 presents the percentile norms for the SPANE.

Table 5 shows the correlations of the Flourishing Scale with the Ryff Scales of Psychological Well-being and Deci and Ryan's Basic Need Satisfaction in General scale. As can be seen, the Flourishing Scale correlated at substantial levels with the other well-being measures, with the exception of Ryff's autonomy scale, which correlates at lower levels with most of the other scales. The Flourishing Scale was most strongly associated with competence/mastery, least strongly with autonomy, and substantially with the other scales.

Table 6 gives the N's for each of the six locations where data were collected, as well as the means and standard deviations for the Flourishing and SPANE subscales for each University. As can be seen, respondents in Singapore scored the lowest well-being on all three scales. Men and women did not score significantly differently on the scales.

Table 7 presents the correlations of the SPANE with several other scales of feelings. As can be seen, the SPANE subscales correlated substantially with the PANAS scales, as well as the other brief measures of positive feelings.

Table 8 presents the correlations of the Flourishing Scale and SPANE with selected other measures of well-being such as the Satisfaction with Life Scale (see Pavot and Diener 1993, 2008 for reviews). As can be seen, the scales correlate at substantial levels with the other measures, except at a more modest level with the Loneliness scale.

Table 4 SPANE scale norms in terms of percentile rankings

Scale	Score	Percentile
SPANE-P (range 6–30)	12	1
	13	2
	14	3
	15	5
	16	7
	17	12
	18	18
	19	24
	20	31
	21	41
	22	51
	23	62
	24	76
	25	83
	26	90
	27	94
	28	97
	29	98
	30	100
SPANE-N (range 6–30)	6	1
	7	2
	8	4
	9	6
	10	10
	11	16
	12	25
	13	33
	14	43
	15	52
	16	63
	17	73
	18	80
	19	85
20	89	
21	93	
22	96	
23	98	
24	99	
27	100	
SPANE-B (range –24 to 24)	–9	1
	–8	2
	–7	3
	–6	4
	–5	6
	–4	8
	–3	11
	–2	13
	–1	15
	0	18
	1	22
2	25	

Table 4 continued

Scale	Score	Percentile
	3	29
	4	33
	5	40
	6	46
	7	53
	8	59
	9	65
	10	71
	11	77
	12	82
	13	85
	14	89
	15	91
	16	93
	17	95
	18	96
	19	97
	20	98
	21	99
	23	100

Note: Only selected values are given for the scales. The other percentiles can be approximated by interpolating the percentile for the figures that are shown

Table 5 Correlations of psychological well-being and flourishing

	FS	BNS			Ryff					
		Comp	Rel	Aut	Aut	Mast	Grow	Rel	Purp	SA
<i>Basic need satisfaction</i>										
Competency	.67									
Relatedness	.64	.60								
Autonomy	.54	.60	.56							
<i>Ryff scales</i>										
Autonomy	.43	.38	.32	.59						
Mastery	.73	.71	.62	.60	.44					
Growth	.67	.58	.51	.53	.50	.59				
Relationships	.65	.68	.78	.63	.35	.69	.49			
Purpose	.63	.59	.42	.56	.53	.67	.63	.54		
Self-acceptance	.70	.74	.64	.59	.54	.72	.63	.71	.64	

N's for the flourishing scale and the BNS scales varied from 527 to 530, and with the Ryff scales the *N* was 74

4 Discussion

The two new measures presented here are promising, although more validity work is needed. For one thing, it will be important to determine the associations of the scales with nonself-report assessments of the same concepts, for example from informants, and also to use the scales to predict nonself-report behaviors. It will also be desirable to develop norms for other groups beyond college students, and to establish the stability of the scales over longer time periods beyond 1 month.

Table 6 Descriptive statistics by location

Locations	N	Means and standard deviations		
		Flourishing	SPANE-P	SPANE-N
Singapore	181	42.6 (6.4)	20.8 (3.6)	17.0 (4.0)
East Carolina	168	48.1 (4.9)	23.1 (3.2)	14.5 (3.6)
Virginia	116	43.2 (7.8)	21.9 (4.0)	14.2 (4.0)
New Jersey	86	46.6 (5.0)	23.0 (3.7)	14.6 (3.9)
Illinois	74	45.6 (6.4)	22.3 (4.0)	15.5 (3.5)
California	64	43.8 (6.0)	21.6 (3.6)	15.9 (3.7)

Table 7 Correlations of feelings scales

	SPANE-P	SPANE-N	SPANE-B	PANAS-PA	PANAS-NA	PANAS-BAL
PANAS-PA	.61 N = 505	-.44 N = 499	.58 N = 499			
PANAS-NA	-.46 N = 504	.70 N = 498	-.65 N = 498	-.31 N = 502		
PANAS-BAL	.66 N = 502	-.70 N = 496	.76 N = 496	.81 N = 502	-.81 N = 502	
SHS	.56 N = 209	-.48 N = 205	.58 N = 205	.50 N = 207	-.42 N = 207	.57 N = 206
Fordyce	.55 N = 602	-.45 N = 598	.57 N = 597	.55 N = 419	-.49 N = 418	.65 N = 416

All p 's < .001

Table 8 Construct validity: convergence with other relevant scales

Relevant other measures	Flourishing scale (FS)	SPANE-P	SPANE-N	SPANE-B
Satisfaction with life scale	.62 N = 680	.58 N = 686	-.46 N = 682	.57 N = 681
LOT (low score is optimistic)	-.59 N = 346	-.58 N = 350	.51 N = 346	.61 N = 346
UCLA loneliness	-.28 N = 527	-.32 N = 531	.29 N = 527	-.34 N = 526
Cantril's ladder	.57 N = 531	.62 N = 536	-.48 N = 532	.61 N = 531

Note: All p 's < .001

The brief Flourishing Scale performed well, with high reliabilities and high convergence with similar scales. It correlated strongly with the summed scores for the other psychological well-being scales, at .78 and .73. Thus, the FS yields a good assessment of

overall self-reported psychological well-being, although it does not assess the individual components of social–psychological well-being. If an overall psychological well-being score is needed, and a brief scale is desirable, the FS appears to be adequate. If separate component scores are needed, additional scales should be used.

The SPANE performed well in terms of reliability and convergent validity with other measures of emotion, well-being, happiness, and life satisfaction. The scale has advantages over other measures of feelings. Because of the inclusion of feelings such as “positive” and “negative”, it can assess all positive and negative feelings, not just specific feelings. Furthermore, it reflects the fact that some feelings are considered valuable by some and less desirable by others because it assesses the respondent’s categorization of the desirability and pleasantness of the feelings. The scale should perform well across societies because it is based on the respondent’s evaluations of their feelings, which might vary across cultures. In addition, the scale can reflect feelings such as physical pleasure, engagement, interest, pain, and boredom that are omitted from most measures of feelings. The measure reflects a range of feelings, regardless of whether they are low or high in arousal. The SPANE refers to the time people experience feelings, with the benefit that this aspect of feelings best predicts long-term well-being, and also it might be more validly reported across respondents. Although more research is needed on the SPANE, it should be valid in many research and applied situations.

It is interesting to note in Table 2 that for the SPANE-N the items with the lowest commonalities and item-total correlations were “afraid” and “angry”, two of the specific emotions that are included on most measures of feelings. In contrast, items such as “bad” and “negative” seemed to strongly reflect the negative feelings. This is informative because it suggests that many specific negative emotions might not fully capture the range of negative feelings. These findings suggest that one form of a very short scale of six items would be to only present the three general negative and positive items.

The initial psychometric data we collected here are encouraging, but obviously more work is needed. We had only student samples, and therefore, broader samples should be a high priority for future study. Another priority for future research is to analyze the degree to which the new scales and existent scales differ and converge across cultures and groups. Finally, a major issue for well-being research is to examine the sources of unique and common variance in the scales. Across types of well-being there is sizeable convergence of the measures, and the source of this overlap, as well as the unique contributions of the scales, is an important direction for study.

Appendix

Scale of Positive and Negative Experience

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Please think about what you have been doing and experiencing during the past 4 weeks. Then report how much you experienced each of the following feelings, using the scale below. For each item, select a number from 1 to 5, and indicate that number on your response sheet.

1. Very rarely or never
2. Rarely
3. Sometimes

4. Often
5. Very often or always

Positive
 Negative
 Good
 Bad
 Pleasant
 Unpleasant
 Happy
 Sad
 Afraid
 Joyful
 Angry
 Contented

Scoring: The measure can be used to derive an overall affect balance score, but can also be divided into positive and negative feelings scales.

Positive feelings (SPANE-P): Add the scores, varying from 1 to 5, for the six items: positive, good, pleasant, happy, joyful, and contented. The score can vary from 6 (lowest possible) to 30 (highest positive feelings score).

Negative feelings (SPANE-N): Add the scores, varying from 1 to 5, for the six items: negative, bad, unpleasant, sad, afraid, and angry. The score can vary from 6 (lowest possible) to 30 (highest negative feelings score).

Affect balance (SPANE-B): The negative feelings score is subtracted from the positive feelings score, and the resultant difference score can vary from -24 (unhappiest possible) to 24 (highest affect balance possible). A respondent with a very high score of 24 reports that she or he rarely or never experiences any of the negative feelings, and very often or always has all of the positive feelings.

Flourishing Scale

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Below are eight statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

7. Strongly agree
6. Agree
5. Slightly agree
4. Mixed or neither agree nor disagree
3. Slightly disagree
2. Disagree
1. Strongly disagree

I lead a purposeful and meaningful life
 My social relationships are supportive and rewarding
 I am engaged and interested in my daily activities
 I actively contribute to the happiness and well-being of others
 I am competent and capable in the activities that are important to me

I am a good person and live a good life
 I am optimistic about my future
 People respect me

Scoring: Add the responses, varying from 1 to 7, for all eight items. The possible range of scores is from 8 (lowest possible) to 56 (highest PWB possible). A high score represents a person with many psychological resources and strengths.

Permission for Using the Scales

Although copyrighted, the SPANE and Flourishing Scale may be used as long as proper credit is given. Permission is not needed to employ the scales and requests to use the scales will not be answered on an individual basis because permission is granted here. This article should be used as the citation for the scales, and this note provides evidence that permission to use the scales is granted.

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