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Facility for sustained positive affect as an individual difference characteristic

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Abstract: A series of studies investigated a proposed new individual difference characteristic or trait, facility for sustained positive affect, consisting of tendencies that allow individuals to maintain a high level of positive mood. Exploratory and confirmatory factor analyses resulted in the creation of a measure, the self-congruent and new activities (SANA) scale which identified two core aspects of sustainable positive affect, engaging in self-congruent activities and engaging in new activities. A higher level of facility for sustainable affect, as operationalized by the SANA scale, was associated with maintenance of positive mood for a month, fewer symptoms of depression and anxiety, less negative affect, and more life satisfaction, relationship satisfaction, work satisfaction, mindfulness, personal expansion and growth, and emotional intelligence. The results provided initial evidence that facility to maintain positive affect may be an emotion-related individual difference characteristic.

Subjects: Personality; Affect/Emotion; Personality Tests & Assessments

Keywords: sustainable positive affect; self-congruent and new activities (SANA) scale; affect; personality, trait; mental health; well-being; mindfulness; emotional intelligence



ABOUT THE AUTHORS

Nicola S. Schutte and John M. Malouff are both associate professors of psychology at the University of New England in Australia. Nicola Schutte's research focuses on positive psychology constructs such as positive affect, emotional intelligence, and self-efficacy. With regard to emotional intelligence, she is interested in exploring the ways in which high emotional intelligence may lead to positive outcomes and approaches to increasing emotional intelligence. The study of self-efficacy provides a promising avenue for facilitating beneficial outcomes in a variety of behavioural realms. Positive affect is linked to many desirable life outcomes and she is interested in exploring approaches to understanding and increasing positive affect. John Malouff's research also focuses on positive psychology constructs such as self-efficacy and emotional intelligence. He has a special interest in evaluating the effectiveness of approaches intended to increase quality of life, such as evaluation of self-help materials.

PUBLIC INTEREST STATEMENT

The ability to maintain positive emotion may be a unique emotion-related trait, termed facility for sustainable positive affect. This trait has two core components, engaging in activities that are consistent with one's values or goals and involvement in new activities. Facility for sustainable affect is associated with maintenance of positive mood over time, fewer symptoms of depression and anxiety, less negative affect, and more life satisfaction, relationship satisfaction, work satisfaction, mindfulness, personal expansion and growth, and emotional intelligence. Even though evidence suggests that facility for sustainable positive affect is a somewhat stable characteristic, it may be possible to increase individuals' levels of sustainable positive affect and related beneficial outcomes.

1. Introduction

Individuals who typically experience high levels of positive affect have better mental and physical health, have better relationships (Lyubomirsky, King, & Diener, 2005; Steptoe, Dockray, & Wardle, 2009), and live longer (Diener & Chan, 2011). Increasing positive affect can assist in maintaining and increasing mental health (Fredrickson, Cohn, Coffey, Pek, & Finkel, 2008; Lyubomirsky, King et al., 2005; Seligman, Steen, Park, & Peterson, 2005; Wood & Tarrier, 2010). An obstacle in maintaining the benefits associated with increasing positive affect is the hedonic treadmill effect, which involves adaptation to positive conditions, resulting in a return to the previous affect states (Diener, Lucas, & Scollon, 2006).

1.1. Facility for sustained positive affect as a proposed individual difference characteristic

The current project explored whether people can engage in behavioral and cognitive activities to offset hedonic adaptation, leading to sustained positive affect, and whether the tendency to engage in these activities is an individual difference that is related to well-being indices. The project set out to create an initial operationalization of facility for sustained positive affect to begin to place it in the nomenclological framework of personality traits and life functioning.

Results of empirical studies as well as theoretical approaches aimed at understanding the nature of the development and maintenance of positive affect provide information regarding which behavioral and cognitive approaches may be beneficial in maintaining positive affect. Qualities such as engagement with life (Livingstone & Srivastava, 2012) and typical antecedent-focused emotion regulation (Gross & John, 2003) are correlated with higher positive affect.

Some empirical research indicates that positive affect need not return to baseline (Fredrickson, 2001; Fredrickson & Losada, 2005; Fredrickson et al., 2008; Lyubomirsky, Sheldon, & Schkade, 2005) as suggested by the hedonic treadmill model (Diener et al., 2006). This research for the most part has focused on specific interventions designed to help individuals maintain heightened levels of positive affect. For example, Fredrickson et al. (2008) found that a meditation-based intervention resulted in continued increasing levels of happiness for weeks after the intervention ended. Lyubomirsky, Sheldon et al. (2005) presented evidence that certain aspects of activities lead to positive affect increases that remain after months of follow-up assessments. Positive affect that stems from intentional (volitional) activities, including cognitive and behaviorally based activities, is most likely to lead to sustained gains in positive affect (Lyubomirsky, Sheldon et al., 2005). Activities that can be varied and intentional activities that are congruent with personal goals, abilities, and interests may be especially likely to lead to long-term positive affect (Lyubomirsky, Sheldon et al., 2005).

Theoretical perspectives on motivation and growth processes offer additional reasons to expect that specific behaviors can contribute to sustained positive affect. Intentional activities congruent with intrinsic motivation may relate to self-determination as described by Deci and Ryan (2008) and may be especially effective in sustaining positive affect as these may contribute to the self-congruent activities identified by Lyubomirsky, Sheldon et al. (2005).

Positive appraisal of events is associated with more positive affect (Folkman & Moskowitz, 2000; Gross & John, 2003) and can be viewed as a cognitive activity. Mindfulness is associated with greater positive affect, and interventions that intended to increase mindfulness increase positive affect (Schroevers & Brandsma, 2010). The acceptance and non-judgmental evaluation that are part of characteristic, or trait, mindfulness (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006; Brown & Ryan, 2003) may facilitate the maintenance of positive affect.

The broaden-and-build process that is activated by high levels of positive affect (Fredrickson, 2001; Fredrickson & Losada, 2005) also may counter the hedonic treadmill effect and lead to sustained positive affect. The broaden-and-build theory proposes that high levels of positive affect lead to a broadening of cognition and behavior, resulting in more divergent and creative thoughts and

more exploration. This broadening leads to more opportunities for building resources, such as personal resilience or social skills. These resources in turn lead to better life outcomes, such as better mental health or better relationships. Both the variety of cognitive and behavioral activity associated with broadening and resource building and the resulting positive life outcomes may lead to sustainable positive affect.

It may be that individuals naturally vary in an enduring way in the extent to which they engage in actions that tend to sustain positive affect. There are reasons to expect that actions that help sustain positive affect might be an individual difference characteristic. First, as well as being a state, positive affect may be an enduring individual difference characteristic (Diener & Chan, 2011; Diener et al., 2006; Diener & Seligman, 2002; Lyubomirsky, King et al., 2005; Lyubomirsky, Sheldon et al., 2005; Watson, Clark, & Tellegen, 1988). A large portion of variance in this individual difference characteristic may be due to biological set points for positive affect and life circumstances, but another portion of the variance may be explained by the activity of the individual (Lyubomirsky, Sheldon et al., 2005). One might expect that if such activities consistently contribute to characteristic positive affect, they might themselves comprise an identifiable individual difference characteristic or trait.

Other areas of research provide a model for conceptualizing a possible individual difference characteristic of capacity for sustainable positive affect leading to more experience of positive affect, which in turn leads to beneficial outcomes. The relationship between conscientiousness and key life outcomes (Conti & Heckman, 2014) provides an example of another individual difference characteristic creating a foundation for the development of beneficial outcomes.

If individuals vary with regard to the extent to which they show behaviors and thoughts that help sustain positive affect, it may be possible to assess these actions as an individual difference characteristic. The present project draws on the results of prior correlational and intervention research, as well as the theoretical perspectives reviewed above, to explore whether (a) actions leading to sustained positive affect comprise an individual difference characteristic and (b) this characteristic can be validly assessed.

1.2. Overview of operationalization of facility for sustained positive affect and analyses

We drew on theory and research relating to positive affect to create a pool of items that might describe actions that contribute to sustaining positive affect. We collected information from community samples, comprising a total of 863 Australian adults to further operationalize and then began to validate the characteristic of facility for sustaining positive affect. Participants in each sample responded to these items assessing the tendency to show actions that may contribute to sustained positive affect. Because including all validation measures for all the participants would have resulted in a study that would have fatigued respondents and led them to discontinue, different measures were included for the different samples. We first describe the operationalization of the proposed individual difference characteristic of facility for sustained positive affect through the self-congruent and new activities (SANA) scale. Next, we present exploratory and confirmatory factor analyses which provide information on the factor structure of behavioral and cognitive activities that may comprise actions facilitating sustainable positive affect. The factor analyses are based on the responses of a total of 787 participants, 185 not included in any other studies and the participants from four of the samples which form the basis of subsequently described studies were not included (samples also contributing to Studies 2, 3, 4, and 5). Studies 2–5 allowed us to examine the validity of the characteristic and explored its place in the structure of human functioning.

2. Study 1: nature and measurement of actions facilitating positive affect

If facility for sustaining positive affect is an individual difference characteristic, then identifying initial connected behaviors and thoughts that comprise the characteristic is a step towards operationalizing this individual difference characteristic. Several theories as well as empirical findings suggest types of thoughts and behaviors that may sustain positive affect.

2.1. Item pool

We created an initial pool of 27 items representing various possible components of behavioral and cognitive actions that may lead to sustainable positive affect. Providing the foundation for the items were (1) the results of intervention studies, such as ones that have found that activities that are congruent with personal goals, abilities, and interests, and activities that can be varied may be especially likely to lead to long-term positive affect (Lyubomirsky, Sheldon et al., 2005) and (2) theoretical approaches to understanding the development and maintenance of positive affect, such as positive appraisal of events (Folkman & Moskowitz, 2000), actions related to intrinsic motivation as described by Deci and Ryan (2008), and actions relating to the broaden-and-build process (Fredrickson, 2001). We attempted to phrase all items so that they would be focused on behavioral and cognitive patterns. We expected that responses to the items would be intercorrelated and that responses might separate to some extent into sub-factors. Appendix A shows the item pool and the basis for each item.

2.2. Factor structure

A community sample of 787 participants, from various regions of Australia, obtained through electronic announcements on community websites, Facebook, and snowball recruitment rated each of the 27 items on a five-point scale on which a “1” denoted strong disagreement and a “5” denoted strong agreement. Subsets of participants also completed other measures, described in a later section, of constructs logically related to actions resulting in sustainable positive affect. See below for age and gender information describing the participants.

2.2.1. Exploratory factor analysis of item pool

We randomly selected half of the participants for the exploratory factor analysis (EFA), a sample of 379 individuals, including 260 women, with a mean age for the sample of 41.59, SD = 11.04 (other demographic information is not available). The EFA, done with SPSS 19, used maximum likelihood as the extraction method to identify interpretable factors underlying sustainable positive affect as represented by the pool of 27 items.

The Kaiser–Meyer–Olkin measure of sampling adequacy was .85, and Bartlett’s test of sphericity was significant at $p < .0001$, both results suggesting the sample was appropriate for EFA. The factor analysis produced eight eigenvalues of at least 1.0. These were 6.58, 1.95, 1.61, 1.41, 1.29, 1.22, 1.15, and 1.06. The approach of selecting the number of factors with eigenvalues of over 1 tends to suggest too many factors (Tabachnick & Fidell, 2007), and several of the eight factors had few high loading items, making identification of the nature of the factor difficult. According to Stevens (2002), a reasonable practice is to use a scree plot to select the number of factors, provided the sample size is greater than 200, as it was in the present sample. The scree plot suggested retaining two factors. A parallel analysis indicated eight factors. We tested two to seven factors and found that only the two-factor solution led to factors that had a number of high loading items and were interpretable.

An equamax rotation specifying two factors was used for the EFA. We hoped that this would result in factors different enough to lead to subscales that have differential validity and value. To allow the creation of a reasonably short scale with high loading items and to make factors as different as reasonably possible, we set the standard for a meaningful loading for an item at .45 or above, with the item not loading on the other factor at .30 or above.

Table 1 shows the loadings of items for the two factors. Labels for the factors are Factor 1 “Engaging in Self-Congruent Activities” and Factor 2 “Engaging in New Activities.” Factor 1 seems to measure aspects of applying self-determination so as to engage in activities one values and that are congruent with one’s sense of self. Factor 2 appears to measure engaging in new and varied activities. Each factor is consistent with a different theoretical view of actions that contribute to positive affect. For this two-factor solution, the amount of variance explained by each factor was 13.46 and 12.93, respectively.

Table 1. Factor loadings on items reflecting facilitation of sustainable positive affect

Items	Factor 1	Factor 2
Many of my activities have provided me with a sense of fulfillment year after year.	.60	.08
I do things that are important to me.	.53	.29
I think about how my activities bring me closer to my goals.	.51	.19
I think about how pointless it is to try to reach my goals.	-.51	-.19
Many of my activities draw on my talents.	.50	.27
Most of what I do is determined by me rather than by other people.	.47	.20
I try to vary how I do things to keep activities interesting.	.08	.68
To keep life interesting I make changes in my daily activities.	.06	.64
By being open to what is happening around me I keep life interesting.	.21	.56
I like to explore.	.23	.51
I try out new activities.	.21	.49
I seek out activities that give me a sense of fulfillment.	.46	.47*
I consider my strengths when deciding how I allocate my time.	.40	.28
Most of my activities are related to my goals.	.41	-.04
Most of my activities are consistent with my values.	.40	.27
I often find myself doing things in which I have little interest.	-.40	-.05
Many of my activities draw on my skills.	.39	.27
I seek out activities that make me happy.	.38	.30
I see new possibilities in the world around me.	.37	.43
I make the time to seek out activities that make me happy.	.36	.38
Many activities I enjoy at first bore me after a while.	-.34	.07
Most of what I do is determined by the situations in which I find myself rather than by me.	-.36	-.04
I make an effort to see the positive aspects of events.	.31	.44
Many of my activities focus on deepening my relationships with others.	.19	.28
I seek out individuals with whom I feel happy.	.17	.18
By being non-judgmental about what's happening around me I keep life interesting.	.13	.42
Once I find an activity I like, I stick to it without making changes.	.11	-.34

Note: Bold loadings indicate the factor and corresponding subscale to which an item was assigned.

*Because this item had high loadings on both factors, it was not used for either subscale.

A subscale consisting of items that loaded at over .45 on one factor but that did not load at over .30 on the other factor represented each of the two factors. The items comprising the subscales representing the two factors as shown in Table 1 were as follows: self-congruent activities (consisting of six items) and new activities (consisting of five items). The subscales were significantly correlated, $r(378) = .47, p = .001$, suggesting commonalities in the constructs assessed by the subscales. On the basis of these results, we computed a total scale score for the SANA scale, which comprised of the items from the two subscales. Table 2 shows the final scale. The total scale score consists of the average of the 11 items and the subscales consist of average of the items comprising the subscale.

2.2.2 Mean scores and Cronbach's alpha for the total scale and the subscales

Table 3 shows the mean scores for the scale and its subscales. For the EFA sample, Cronbach's alpha for the total scale consisting of 11 items was .80. Subscale Cronbach's alphas were .72 for self-congruent activities and .78 for new activities.

Table 2. SANA scale: please rate how much you agree with each of the following items

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1. I like to explore.	1	2	3	4	5
2. I do things that are important to me.	1	2	3	4	5
3. I try to vary how I do things to keep activities interesting.	1	2	3	4	5
4. I think about how pointless it is to try to reach my goals.	1	2	3	4	5
5. To keep life interesting I make changes in my daily activities.	1	2	3	4	5
6. Many of my activities draw on my talents.	1	2	3	4	5
7. I try out new activities.	1	2	3	4	5
8. Many of my activities have provided me with a sense of fulfillment year after year.	1	2	3	4	5
9. I think about how my activities bring me closer to my goals.	1	2	3	4	5
10. Most of what I do is determined by me rather than by other people.	1	2	3	4	5
11. By being open to what is happening around me I keep life interesting.	1	2	3	4	5

Scoring: Total scale: all item ratings summed with item 4 reverse coded, then divided by 11; Engaging in self-congruent activities subscale: items 2, 4 (reverse coded), 6, 8, 9, 10 summed, then divided by 6; Engaging in new activities subscale: items 1, 3, 5, 7, 11 summed, then divided by 5.

2.2.3. Age and gender

For this sample, there was no significant relationship between age and scale scores. The Pearson's *r* correlations with age were as follows: total SANA scale score, .04; engaging in self-congruent activities subscale, .02; and engaging in new activities subscale, .04. There were no significant differences between women and men as assessed by independent groups' *t*-tests. The non-significant *t* values were as follows: total SANA scale score, $t(378) = .96$; engaging in self-congruent activities subscale, $t(378) = .53$; and engaging in new activities subscale, $t(378) = 1.37$. Table 3 shows women's and men's mean scores and standard deviations.

Table 3. Means for facility for sustainable positive affect and subscales for each study

	Study	Age	Measures		
			Facility for sustainable positive affect	Self-congruent activities	New activities
1 E*	379 (260)	41.59	3.75 (.49)	3.76 (.55)	3.70 (.65)
	Women	40.79	3.76 (.46)	3.79 (.85)	3.72 (.59)
	Men	42.37	3.73 (.47)	3.77 (.56)	3.10 (.65)
1 C*	408 (269)	41.10	3.78 (.46)	3.80 (.53)	3.76 (.57)
	Women	40.79	3.79 (.45)	3.81 (.53)	3.77 (.56)
	Men	44.38	3.77 (.46)	3.79 (.53)	3.76 (.57)
2	178 (129)	38.51	3.74 (.46)	3.78 (.55)	3.69 (.57)
3	162 (103)	42.99	3.82 (.45)	3.83 (.54)	3.80 (.57)
4	124 (94)	40.11	3.74 (.46)	3.78 (.56)	3.74 (.58)
5	138 (94)	45.78	3.78 (.41)	3.77 (.45)	3.73 (.55)

*E = exploratory factor analysis group; C = CFA group.

2.3. Confirmatory factor analysis

The confirmatory factor analysis (CFA) was based on the item responses of 408 (269 women; mean age of 41.10, SD = 11.89; other demographic information is not available) randomly selected participants whose responses did not contribute to the EFA. The purpose of the CFA was to evaluate with another sample the fit of the factor structure identified in the EFA. The CFA examined the model of observed items contributing to self-congruent and engaging in new activities as latent, correlated variables.

For various reasons, some experts recommend using parcel scores rather than individual items for CFA (Rae, 2008). These reasons include that parcels tend to be more normally distributed than individual items, they tend to have greater reliability, they are associated with better model fit, and they provide a lower ratio of indicator to sample size (Schmitt, Golubovich, & Leong, 2010). Other experts argue that researchers can lose interpretative value by using parcels, which could possibly mask item effects (Meade & Kroustalis, 2006). We conducted confirmatory factor analyses using parcels and not using parcels. First, following the suggestion of Schmitt et al. (2010), we randomly created parcels of two or three items for each subscale (three items and three items for self-congruent, and three items and two items for engaging in new activities). Summing the scores on the items in each parcel led to parcel scores. The model fit indices for the CFA using parcels were as follows: $\chi^2/df = 0.30$, $p = .29$, CFI = 1.00, TLI = 1.02, and RMSEA = .00 (.00, .12). Good fit is indicated by CFI and TLI values of .95 or higher, and a RMSEA of .05 or less; and acceptable fit is indicated by CFI and TLI values of .90 or higher and a RMSEA of .08 or less (McDonald & Ho, 2002). Thus, the parcel-based CFA showed a good fit for the two-factor model of sustainable positive affect. We also compared the two-factor model with a single-factor model, using the same parcels. The χ^2 difference was 59.57, significant at $p < .001$, indicating that the two-factor model was a significantly better fit to the data. Following the suggestions of Meade and Kroustalis (2006), we also conducted a CFA using items rather than parcels. The model fit indices were as follows: $\chi^2/df = 2.76$, $p = .01$, CFI = .91, TLI = .86, and RMSEA = .06 (.052, .08). Thus, the item-based CFA showed a marginally acceptable fit.

2.3.1. Mean scores, Cronbach's alpha for the total scale and the subscales, and correlation of subscales

Table 3 shows the mean scores for the scale and its subscales. For the CFA sample, Cronbach's alpha for the total scale consisting of 11 items was .80. Subscale Cronbach's alphas were .70 for self-congruent activities and .76 for new activities.

2.3.2. Age and gender differences

For this sample, there was also no significant relationship between age and scale scores. The Pearson's r correlations with age were as follows: total SANA scale score, $-.01$; engaging in self-congruent activities subscale, $-.04$; engaging in new activities subscale, $.04$. There were also no significant differences between women and men as assessed by independent groups t -tests. The non-significant t values were as follows: total SANA scale score, $t(407) = .27$; engaging in self-congruent activities subscale, $t(407) = .77$; engaging in new activities subscale, $t(407) = .97$. Table 3 shows women and men's mean scores and standard deviations.

3. Validation and exploration of the place of facility for sustainable positive affect in human functioning

3.1. Study 2: The relationship between of facility for sustainable positive affect, mood, and symptoms related to mental health

Individuals with a greater facility for sustainable positive affect should experience more positive affect, in general. As more positive affect has previously been found to be moderately associated with less negative affect (Watson et al., 1988), one might expect individuals with a greater facility for sustainable positive affect to score lower on negative affect. Low positive affect is related to symptoms of poorer mental health, including depression and anxiety (Clark & Watson, 1991) and more severe stress reactions (Folkman & Moskowitz, 2000). Thus, one might expect that individuals with a greater

facility for sustainable positive affect would experience fewer symptoms of depression and anxiety and less severe stress reactions. The value of examining sustainable positive affect in relation to low positive affect and mental health is that it offers the possibility of insight into an alternative upward spiral that leads from sustainable positive affect, to more positive affect, to better mental health.

A community sample, recruited through electronic announcements and snowball recruitment, of 178 participants from different regions of Australia (129 women and 49 men, mean age = 38.51, SD = 11.20) completed the SANA measure, measures of positive and negative affect, and measures of symptoms of depression, anxiety, and stress online.

3.1.1. Measures

3.1.1.1. Facility for sustainable positive affect. Facility for sustainable positive affect was assessed by the 11-item SANA scale, the development of which is described in a previous section of this article. In the present sample, Cronbach's alpha for the total scale was .79. Subscale Cronbach's alphas were .71 for self-congruent activities and .74 for new activities.

3.1.1.2. Positive and negative affect. The positive and negative affect scales (PANAS; Watson et al., 1988) assessed positive and negative affects. The PANAS consists of emotion descriptors (such as "enthusiastic" for the positive affect scale and "guilty" for the negative affect scale). The PANAS has different instructions for different time periods, ranging from how the respondent feels at the moment (state affect) to how the respondent generally feels (trait affect). The general (trait) instructions were used. Internal consistency for the scales using the trait instructions has ranged from .85 to .88, eight-week test-retest reliability ranged from .68 to .71, and the scales have shown evidence of construct validity, including expected associations with other measures of mood (Watson et al., 1988). In the present sample, Cronbach's alpha for the positive affect scale was .84, and Alpha for the negative affect scale was .91.

3.1.1.3. Symptoms of depression, anxiety, and stress. The short-form Depression Anxiety and Stress Scale (DASS-21) assesses symptoms of depression, anxiety, and stress as separate dimensions (Henry & Crawford, 2005). Internal consistency of the scales as assessed by Cronbach's alpha has been reported at .94 for depression, .87 for anxiety, and .91 for stress, and the scales have evidence of construct validity (Antony, Bieling, Cox, Enns & Swinson, 1998; Henry & Crawford, 2005). In the present sample, Cronbach's alpha for the depression dimension was .86, alpha for the anxiety dimension was .76, and alpha for stress was .79.

3.1.2. Results

3.1.2.1. Descriptive statistics. Table 3 shows the mean scores for the SANA scale and its subscales. Mean scores for the other main variables were as follows: positive affect (Mean = 30.88, SD = 5.35), negative affect (Mean = 16.79, SD = 5.52), depression (Mean = 11.66, SD = 5.08), anxiety (Mean = 10.93, SD = 4.32), and stress (Mean = 15.33, SD = 5.09).

3.1.2.2. Validity analyses. Table 4 shows the intercorrelations of the main variables. As one would expect of the construct, higher scores on facility for sustainable positive affect were significantly associated with more positive affect and less negative affect. Higher scores on facility for sustainable positive affect were also associated with significantly fewer symptoms of depression and anxiety, but not with symptoms of stress. To assess construct validity through an expected pattern of relationships, we used a test recommended by Field (2013, p. 287) to test whether the correlation (.60) between facility for sustainable positive affect and positive affect was higher than the correlation (-.33) between facility for sustainable positive affect and negative affect. The difference was statistically significant, $t(175) = 11.18, p < .001$, showing the expected pattern of relationships. The correlations of the two subscales with the criterion measures were not significantly different from each other.

Table 4. Correlations between facility for sustainable positive affect, positive and negative affect, and symptoms of depression, anxiety, and stress (Study 2, N = 178)

Measures	Total facility for sustainable positive affect	Engaging in self-congruent activities	Engaging in new activities	Positive affect	Negative affect	Depression	Anxiety	Stress
Positive affect	.60**	.53**	.49**	–				
Negative affect	–.33**	–.32**	–.25**	–.07	–			
Depression	–.38**	–.36**	–.28**	–.37**	.50**	–		
Anxiety	–.25*	–.23**	–.19*	–.20*	.51**	.56**	–	
Stress	.02	.05	.05	–.10	.47**	.50**	.58**	–

* $p = .05$.

** $p = .01$.

Note: There were no significant differences between subscale (self-congruent activities and engaging in new activities) correlations and the criterion measures.

3.2. Study 3: The relationship between facility for sustainable positive affect and subjective well-being and the interaction between facility for sustainable positive affect and maintenance of positive affect over time

Individuals with a greater facility for sustainable positive affect should experience more subjective well-being. Greater life satisfaction as well as high positive affect and low negative affect are often used as indices of subjective well-being (Lyubomirsky, King et al., 2005). The present analysis examined the association between facility for sustained positive affect and life satisfaction and set out to replicate the relationships found in the previous sample regarding the association between greater facility for sustainable positive affect and positive and negative affect. This part of the project also examined the association between facility for sustainable positive affect and satisfaction in the life domains of relationships and work. The value of examining sustainable positive affect in relation to positive affect and satisfaction is that it offers the possibility of insight into what might prompt an upward spiral that leads from sustainable positive affect, to more positive affect, to satisfaction.

Finally, one would expect that individuals with a greater facility for sustainable positive affect would be more likely to maintain high positive affect over time. The premise underlying this prediction is that individuals with higher levels of sustainable positive affect as well as being more likely to experience positive affect would experience less of the hedonic treadmill effect (Diener et al., 2006) and be more likely to experience positive affect over time. Thus, this part of the project examined the interaction between facility for sustainable positive affect and maintenance of positive affect over a one-month period.

A community sample, recruited through electronic announcements and snowball recruitment, of 162 Australian residents (103 women and 59 men, mean age = 42.99, SD = 10.37) completed the SANA measure, measures of positive and negative affect, and measures of life satisfaction, relationship satisfaction, and work satisfaction online. Participants only completed the measure of relationship satisfaction if they were currently in a partner relationship ($N = 119$) and the measure of work satisfaction if they were currently participating in paid or volunteer work ($N = 137$). A subsample of 59 of the participants completed the SANA measure and the positive affect measure twice, with a one-month interval between completions.

3.2.1. Measures

3.2.1.1. Facility for sustainable positive affect. Facility for sustainable positive affect was assessed by the SANA scale, the development of which is described in a previous section of this article. In this sample, Cronbach's alpha for the total scale was .79. Subscale Cronbach's alphas were .68 for self-congruent activities and .78 for new activities.

3.2.1.2. *Positive and negative affect.* The PANAS (Watson et al., 1988) assessed positive and negative affects. This scale is described in the previous section. In the present sample, Cronbach's alpha for the positive affect scale was .84, and Alpha for the negative affect scale was .89.

3.2.1.3. *Satisfaction with life.* The satisfaction with life scale (Diener, Emmons, Larsen, & Griffin, 1985) is a measure of global life satisfaction. The internal consistency of the measure ranges from .82 to .87, and the scale shows evidence of construct validity through associations with theoretically related constructs, including other aspects of subjective well-being (Pavot & Diener, 1993). In the present sample, Cronbach's alpha was .90.

3.2.1.4. *Relationship satisfaction.* The relationship assessment scale (Hendrick, 1988) is a global measure of relationship satisfaction. The measure has good internal consistency ranging from .86 to .91 and evidence of validity through association with other indicators of relationship satisfaction (Hendrick, 1988; Vaughn & Matyastik-Baier, 1999). In the present sample, Cronbach's alpha was .95.

3.2.1.5. *Work satisfaction.* The abridged job in general scale (Russell et al., 2004) is a global measure of satisfaction with work. The scale has internal consistency of .85 and evidence of validity through correlations with related constructs in previous research (Russell et al., 2004). In the present sample, Cronbach's alpha was .89.

3.2.2. Results

3.2.2.1. *Descriptive statistics.* Table 3 shows the mean scores for the SANA scale and its subscales. Scores for the other main variables were as follows: positive affect (Mean = 31.056, SD = 5.08), negative affect (Mean = 15.32, SD = 5.00), general life satisfaction (Mean = 24.80, SD = 6.53), relationship satisfaction (Mean = 31.44, SD = 7.87), and work satisfaction (Mean = 19.88, SD = 3.72).

3.2.2.2. *Test-retest reliability.* Fifty-nine participants completed the SANA scale again after a one-month interval to provide information regarding the stability of facility for sustained positive affect as assessed by the scale. Test-retest reliability as assessed by Pearson's r was as follows: total facility for sustainable positive affect, .72; engaging in self-congruent activities subscale, .65; and engaging in new activities subscale, .69.

3.2.2.3. *Validity analyses:* Higher scores on facility for sustainable positive affect were significantly associated with more positive affect and less negative affect. As one would expect of the construct, higher scores on facility for sustainable positive affect were associated with significantly more global life satisfaction, greater relationship satisfaction, and greater work satisfaction (see Table 5).

To assess an expected divergent pattern of relationships, we used a test recommended by Field (2013) to test whether the correlation between facility for sustainable positive affect and positive affect was higher than the correlation between facility for sustainable positive affect and negative affect. The difference was statistically significant, $t(159) = 11.27$, $p < .001$, showing divergent validity.

The level of correlations with satisfaction measures was mostly higher for the self-congruent activities subscale than for the new activities subscale. Statistical comparisons using the test recommended by Field (2013) showed that the differences were significantly different for negative affect, life satisfaction, and work satisfaction, but not for positive affect or relationship satisfaction.

In a test of predictive validity, a regression-based moderation analysis examined whether high positive affect experienced by individuals with greater facility for sustainable positive affect was more likely to be maintained over a one-month period. After controlling for positive affect at pre-test, sustainable positive affect predicted positive affect one month later ($b = .41$, $SE_b = .14$, $\beta = .43$, $p = .04$) To further investigate this effect, after conversion to centered scores, an interaction term was

Table 5. Correlations between facility for sustainable positive affect and well-being measures (Study 3, N = 162)

Measures	Total facility for sustainable positive affect	Engaging in self-congruent activities	Engaging in new activities	Positive affect	Negative affect	Global life satisfaction	Relationship satisfaction	Work satisfaction
Positive affect	.63**	.55**	.49**	-				
Negative affect	-.34**	-.37***	-.14	-.10	-			
Global life satisfaction	.51**	.57***	.24**	.46**	-.60**	-		
Relationship satisfaction	.29**	.26**	.20*	.31**	-.36**	.61**	-	
Work satisfaction	.44**	.57***	.18*	.47**	-.33**	.52**	.20*	-

* $p = .05$.

** $p = .01$.

*Self-congruent activities correlation higher than new activities correlation at $p = .05$.

**Self-congruent activities correlation higher than new activities correlation at $p = .01$.

created for the product of sustainable positive affect and positive affect at pre-test. This interaction predicted significant variance in positive affect one month later in addition to individual contributions of sustainable positive affect and positive affect as individual constructs ($b = 1.11$, $SE_b = .49$, $\beta = .21$, $p = .03$), indicating that those who at the start of the month scored high in facility for sustainable positive affect were more likely to maintain high positive affect at follow-up. A comparison of participants sorted into four groups (through a median split of positive affect scores both for pre- and post-test) showed a significant difference between groups, $F(3,56) = 17.30$, $p = .001$. Mean facility for sustaining positive affect scores and standard deviations were as follows for the four groups: low positive affect both pre- and post-test, 3.54 (.42); high positive affect pre- and post-test, 4.06 (.39); high positive affect at pre- and low positive affect at post-test, 3.74 (.27); and low positive affect at pre- and high positive affect at post-test, 4.02 (.36).

3.3. Study 4: The relationship between facility for sustainable positive affect and conceptually related characteristics

Though proposed to be a unique individual difference construct, facility for sustainable positive affect has components that may overlap with previously studied characteristics. These include mindfulness, agentic qualities of personal expansion and growth, and emotional intelligence. For example, the acceptance and non-judgmental evaluation of the self and world that are aspects of mindfulness (Brown & Ryan, 2003) may relate to individuals' ability to achieve adaptive perceptions that allow them to sustain positive affect. Tendencies toward growth and expansion may create variety and satisfaction that sustain positive affect. The ability to understand, utilize, and manage emotions in the self and others that are a hallmark of emotional intelligence (Neubauer & Freudenthaler, 2005; Mayer, Salovey, & Caruso, 2008) may be related to individuals' ability to sustain positive emotions. This part of the project examined the association between facility for sustainable positive affect and these characteristics to test the hypothesis that they would be related to but not redundant with facility for sustainable positive affect.

A community sample, recruited through electronic announcements and snowball recruitment, of 124 Australian residents (94 women and 30 men, with two individuals not reporting gender, mean age = 40.11, $SD = 10.19$) completed the SANA scale as well as measures of mindfulness, personal expansion, growth, and emotional intelligence online.

3.3.1. Measures

3.3.1.1. *Facility for sustainable positive affect.* Facility for sustainable positive affect was assessed by the SANA scale, the development of which is described in a previous section of this article. In this sample, Cronbach's alpha for the total scale was .85. Subscale Cronbach's alphas were .81 for self-congruent activities and .76 for new activities.

3.3.1.2. *Mindfulness.* The characteristic of mindfulness was assessed with the short form of the Freiburg mindfulness inventory (Kohls, Sauer, & Walach, 2009; Walach, Buchheld, Buttenmuller, Kleinknecht, & Schmidt, 2006). The scale assesses the extent to which individuals focus on the present in a non-evaluative manner. The measure has evidence of internal consistency, with a Cronbach's alpha of .86, and evidence of validity such as associations with years of practice of meditation (Kohls et al., 2009). In the present sample, Cronbach's alpha was .81.

3.3.1.3. *Personal growth.* The personal growth initiative scale (Robitschek, 1999) assesses active intentional personal growth. This is conceptualized as active and intentional involvement in changing and developing. Internal consistency ranges from .78 to .90 and the measure has evidence of validity (Robitschek, 1999). In the present sample, Cronbach's alpha was .88.

3.3.1.4. *Personal expansion.* The personal expansion questionnaire (Gordon & Luo, 2011) assesses individuals' tendency to grow through augmentation in both familiar and new domains of life. The measure has internal consistency of between .75 and .78 and has evidence of validity (Gordon & Luo, 2011). In the present sample, Cronbach's alpha was .66.

3.3.1.5. *Emotional intelligence.* The assessing emotions scale (Schutte et al., 1998; Schutte, Malouff, & Bhullar, 2009) measures trait emotional intelligence. The scale assesses how well respondents typically identify, understand, regulate, and harness emotions in themselves and others. In previous research, the scale has shown internal consistency of between .87 and .90, and evidence of construct validity through association with theoretically related constructs (Schutte et al., 1998; Schutte et al., 2009). In the present sample, Cronbach's alpha is .86.

3.3.2. Results

3.3.2.1. *Descriptive statistics.* Table 3 shows the mean scores for the scale and its subscales. Scores for the other main variables were as follows: mindfulness (Mean = 36.81, SD = 5.78), emotional intelligence (Mean = 126.94, SD = 10.84), personal growth (Mean = 38.73, SD = 8.19), and personal expansion (Mean = 39.60, SD = 4.31).

3.3.2.2. *Validity analyses.* Tests of convergent construct validity found that higher scores on facility for sustainable positive affect were significantly associated with greater mindfulness, more personal growth, more personal expansion, and higher emotional intelligence (see Table 6). Self-congruent activities' subscale scores were more highly related than new activities to growth and emotional intelligence.

3.4. Study 5: The relationship between facility for sustainable positive affect and the Big Five personality characteristics

The five personality dimensions of extraversion, agreeableness, conscientiousness, neuroticism, and openness underpin much human functioning (John & Srivastava, 1999; McCrae & Costa, 1997). To be optimally useful, a proposed new individual difference characteristic such as facility for sustainable positive affect will not substantially duplicate these five personality dimensions. Facility for sustainable positive affect might be related to extraversion, as extraversion is associated with experience of positive affect (McCrae & Costa, 1997). One might expect facility for sustainable positive affect also to be somewhat related to the Big Five characteristic of openness as this

Table 6. Correlations between facility for sustainable positive affect, growth, expansion, and emotional intelligence (Study 4, N = 124)

Measures	Total facility for sustainable positive affect	Engaging in self-congruent activities subscale	Engaging in new activities subscale	Mindfulness	Growth	Expansion	Emotional intelligence
Mindfulness	.49**	.47**	.38**	–			
Growth	.66**	.68**	.42**	.48**	–		
Expansion	.61**	.49**	.56**	.46**	.43**	–	
Emotional intelligence	.51**	.56**	.34**	.53**	.47**	.41**	–

* $p = .05$.

** $p = .01$.

characteristic is defined by willingness to engage with new ideas and experiences, and such engagement might facilitate sustained positive affect. Facility for sustainable positive affect might also be associated with lower levels of neuroticism as positive affect is to some extent inconsistent with neuroticism. This part of the project examined the relationship between facility for sustainable positive affect and each of the Big Five dimensions, and whether facility for sustained positive affect has variance not explained by the Big Five dimensions.

A community sample, recruited through electronic announcements and snowball recruitment of 138 Australian residents (94 women and 44 men; mean age = 45.78, SD = 10.32), completed the SANA scale as well as a measure of the Big Five personality dimensions online.

3.4.1. Measures

3.4.1.1. Facility for sustainable positive affect. Facility for sustainable positive affect was assessed by the 11-item SANA scale, the development of which is described in a previous section of this article. In this sample, Cronbach’s alpha for the total scale was .72. Subscale Cronbach’s alphas were .58 for self-congruent activities and .73 for new activities.

3.4.1.2. Big Five personality dimensions. The Big Five Inventory (John & Srivastava, 1999) assesses each of the Big Five personality dimensions. The average internal consistency for each of the five scales comprising the Big Five Inventory tends to be above .80, and validity evidence includes strong associations of scale scores with scales from other Big Five measures assessing the same personality dimensions and the association of scale scores with peer ratings of equivalent personality dimensions (John & Srivastava, 1999). In the present sample, Cronbach’s alpha for each of the five dimensions was as follows: extraversion (.87), agreeableness (.78), conscientiousness (.79), neuroticism (.81), and openness (.77).

3.4.2. Results

3.4.2.1. Descriptive statistics. Table 3 shows the mean scores for the SANA scale and its subscales. Mean scores for the other main variables were: openness (Mean = 35.04, SD = 5.40), extraversion (Mean = 27.04, SD = 5.70), agreeableness (Mean = 34.36, SD = 4.21), conscientiousness (Mean = 33.62, SD = 4.71), and neuroticism (Mean = 21.56, SD = 4.94).

3.4.2.2. Validity analyses. Greater facility for sustainable positive affect was significantly associated with more openness, extraversion, agreeableness and conscientiousness, and with less neuroticism (see Table 7). The largest overlap in variance was between total facility for sustainable positive affect

Table 7. Correlations between facility for sustainable positive affect and the Big Five dimensions (Study 5, N = 138)

Measures	Total facility for sustainable positive affect	Engaging in self-congruent activities subscale	Engaging in new activities subscale	Openness	Extraversion	Agreeableness	Conscientiousness	Neuroticism
Openness	.44**	.25**	.48**	–				
Extraversion	.28**	.16	.31**	.14	–			
Agreeableness	.21*	.23*	.12	–.02	.08	–		
Conscientiousness	.24*	.37**	.02	–.02	.08	.23*	–	
Neuroticism	–.36**	–.39**	–.21*	–.10	–.25**	–.38**	–.27**	–

* $p = .05$.

** $p = .01$.

and openness, with 19% shared variance, and low neuroticism, with shared 13% shared variance. A multiple regression analysis examined how much common variance total facility for sustainable positive affect shared with all Big Five characteristics entered in one block as a predictor. The R of .59, with an R^2 of .35, indicated facility for sustainable affect shares only moderate variance with all Big Five dimensions combined.

The two subscales showed different patterns of correlations overall, and the difference in their respective correlations with conscientiousness and openness was statistically significant. Self-congruent activities correlated significantly more highly than new activities with conscientiousness, while new activities correlated significantly more highly with openness.

4. Discussion

The present research investigated whether there is an individual difference characteristic related to maintaining positive affect. The aims of the project were to begin to operationalize this characteristic and examine the relationship of the characteristic with functioning in realms such as mental health and well-being outcomes as well as other characteristics one might expect to be connected to the construct.

Findings from intervention studies designed to prolong the experience of positive affect (e.g. Lyubomirsky, Sheldon et al., 2005), theories relating to positive affect (Deci & Ryan, 2008; Fredrickson & Losada, 2005), and correlational studies of variables associated with positive affect (Livingstone & Srivastava, 2012) provided the basis for a pool of items representing behaviors and cognitions that may be related to maintaining high positive affect. These behaviors and cognitions represent paths potentially leading to positive affect rather than being themselves markers of positive affect.

Factor analyses of individuals' ratings of these items indicated that two related dimensions, labeled engaging in self-congruent activities and engaging in new activities, underlie the items. These two dimensions encompass many of the behaviors and cognitions that have been suggested by research (Livingstone & Srivastava, 2012; Lyubomirsky, Sheldon et al., 2005; Seligman et al., 2005) and theory (Deci & Ryan, 2008; Fredrickson & Losada, 2005) relating to maintaining positive affect.

On the basis of the results of EFA, we created a measure (the SANA scale) which comprised of 11 high loading items. CFA provided support for use of both total scale scores and scores on two subscales, engaging in self-congruent activities and engaging in new activities. The internal consistency of the total measure ranged from .80 to .85. Internal consistency of the engaging in self-congruent activities subscale ranged from .70 to .83 and internal consistency of the engaging in new activities

subscale ranged from .76 to .84. One month test–retest reliability showed stability, with values of .72 for the total scale, .65 for the engaging in self-congruent activities subscale, and .69 for the engaging in new activities subscale. However, the test–retest reliability result was based on a small sample, providing limited information regarding stability over time (see Watson, 2004) and thus provides only preliminary information regarding the temporal stability and trait features of the total scale and the subscales.

The individual difference characteristic of facility for sustained positive affect, as assessed by the SANA scale, showed relationships with other constructs that one would expect of such an individual difference characteristic. These included associations with the following theoretically related constructs: (1) more experienced positive affect (Studies 2 and 3), (2) greater mindfulness, (3) more personal growth, (4) more personal expansion, (5) higher emotional intelligence, (6) greater life satisfaction, (7) greater work satisfaction, (8) greater relationship satisfaction, (9) lower negative affect, (10) fewer symptoms of depression, and (11) fewer symptoms of anxiety. The construct assessed by the SANA scale may indeed promote positive affect and may also encourage a general approach to life related to various good outcomes in addition to positive affect. Experienced positive affect may be a path from facility for sustained positive affect to these outcomes, but there may also be other paths from this facility to beneficial outcomes.

Facility for sustained positive affect shared variances of 36 and 40% with experienced positive affect across two studies. If facility for sustained positive affect is indeed a facilitator of positive affect, one would expect such overlap in variance. The percent of shared variance indicates that facility for sustained positive affect is related to but not redundant with actual experience of positive affect. The possible relationship between the individual difference characteristic of facility for sustained positive affect and experienced positive affect may be similar in nature to the Big Five individual difference characteristics underlying emotional, cognitive, and behavioral patterns that combine to give rise to psychopathology.

Individuals high in facility for sustained positive affect showed greater maintenance of positive affect over a one-month period. This finding suggests that facility for sustained positive affect may indeed facilitate experiencing positive affect. The broaden-and-build theory holds that positive affect may build resources. Facility for sustained positive affect may be one such resource. From the vantage point of the broaden-and-build theory, one can propose a bidirectional and synergistic relationship between positive affect and facility for sustained positive affect.

Evidence for the possible unique role of the proposed individual difference characteristic included the findings that scores on facility for sustained positive affect were more highly correlated with positive affect than with negative affect and were not so highly correlated with Big Five scores as to be redundant to the Big Five. The shared variance between the SANA scores and the combined Big Five dimensions was .35. Further, the shared variance of scores on facility for sustained positive affect with positive affect (.36 and .40) was not so high as to suggest that the two concepts are redundant. Also, conceptually, there is differentiation between the constructs as the focus of the items comprising the SANA scale are on actions, while the measure of positive affect focuses on internal experience.

These findings provide some initial evidence that facility for sustainable positive affect is a unique individual difference characteristic. However, not all of the findings were as hypothesized. For instance, sustainable positive affect, as operationalized by the SANA scale, was not significantly related to lower perceived stress, which as measured by the DASS (Henry & Crawford, 2005), indicates high arousal and irritability.

Among the Big Five characteristics, openness had the strongest association with sustainable positive affect. One might have expected extraversion to have that position because it is commonly found to have high association with positive affect (McCrae & Costa, 1997). One possible implication

of the finding is that openness might contribute substantially to positive affect if the openness is directed toward openness to new experiences and to possibilities within oneself. The association with openness may have been due, in part, to similarity of items assessing openness and facility for sustained affect. Future research might explore further the overlap or integration of facility for sustained affect with personality as a whole, such as, for example, through the lens of a personality circumplex (Hofstee, de Raad, & Goldberg, 1992).

The factor analyses suggested that facility for sustainable positive affect may be comprised of two components, reflected by two subscales. The engaging in self-congruent activities and engaging in new activities subscales overall showed similar patterns of relationships with other constructs, with the engaging in self-congruent activities subscale, in general, showing stronger relationships with construct validation variables. In several analyses, however, the subscales showed differing patterns of associations, suggesting that the two components of sustainable positive affect may have somewhat different nature and utility. For example, engaging in self-congruent activities was strongly associated with work satisfaction, while the engaging in new activities was not. It could be that goal and interest-congruent activity at work is more relevant for work satisfaction than having the opportunity for variety in work life. Engaging in new activities was more strongly correlated with personal expansion through involvement in familiar and new domains than engaging in self-congruent activities. This finding is consistent with a conceptual interpretation that suggests that engaging in new activities leads to broadening. In the framework of the Big Five model, the engaging in self-congruent activities was more strongly associated with high conscientiousness, while engaging in new activities was more strongly associated with high openness. If similar differences are found in future studies, they might indicate important differences in effects of different types of behaviors that tend to sustain positive affect.

Facility for sustained positive affect was not significantly associated with either age or gender. Hence, one can draw a preliminary conclusion that the basic nature of the construct is about the same regardless of age or gender.

4.1. Limitations

A limitation of the studies involves the use of Australian community samples. The findings might not generalize to much different cultures. Most of the studies involved participants completing multiple measures; the resulting correlations may have been inflated to some extent by response biases. However, the comparison of scores of meditators and non-meditators provided a different type of validity not as likely to be affected by response biases, though expectancy effects may have influenced responding. A related limitation is that the studies relied on self-report data, which do not always correlate with other sources of information. On a conceptual level of limitations, some of the items comprising the sustainable affect measure may intertwine ratings of actions with outcomes.

4.2. Future directions

Future research might explore further the nature of facility for sustainable affect and its measurement and address possible limitations of the present research. The factor structure of the characteristic and its measure might be examined in further factor analyses. Future research might explore the connection between the characteristic and possibly related tendencies, such as goal concordance, perceiving purpose in life, broad-minded coping, and sensation seeking. Analyses of the factor structure of facility for sustainable affect might be explored with different samples. Future studies might explore whether sustainable affect can be increased through interventions and whether such increases are associated with increases in characteristics found to be associated with facility for sustainable affect in the present research. Outcomes that might change as a result of such interventions include positive affect, symptoms of depression, life satisfaction, and work satisfaction. Such research might also investigate what intervention strategies are most effective in increasing facility for sustainable positive affect. Future research might also include more behavioral outcomes. For example, just as the Big Five personality dimensions are related to behaviors with social significance (Paunonen, 2003), so might facility for sustained positive affect be related to such behavioral

outcomes. Other research might address aspects of measurement of sustainable positive affect, for example, by asking close ones to rate behaviors and expressed thoughts of individuals. Future studies might examine the individual difference characteristic of sustainable positive affect in other populations, including other nations and specific groups, such as individuals who have been diagnosed with a disorder or who belong to a certain occupation.

Facility for sustainable positive affect is conceptualized as an individual difference characteristic with some temporal stability, but might be changeable through interventions. An analogy can be found in research on cognitive reappraisal interventions resulting in a change in characteristic pessimistic explanatory style, which in turn leads to decreases in symptoms of depression (Seligman et al., 1988). The sub-components found in the present research to comprise facility for sustainable affect may provide leads regarding how to increase the characteristic of sustainable positive affect in research exploring such intervention effects. Additionally, this proposed individual difference characteristic might provide insight into who might fully engage with interventions and who might need support to engage with interventions.

In conclusion, the results of the project provided initial evidence that facility to maintain positive affect may be an emotion-related individual difference characteristic. Its place in the framework of personality and life outcomes remains to be further explored.

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References

- Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales in clinical groups and a community sample. *Psychological Assessment*, 10, 176–181.
- Baer, R. A., Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, 13, 27–45.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822–848.
- Clark, L. A., & Watson, D. (1991). Tripartite model of anxiety and depression: Psychometric evidence and taxonomic implications. *Journal of Abnormal Psychology*, 100, 316–336.
- Conti, G., & Heckman, J. J. (2014). Understanding conscientiousness across the life course: An economic perspective. *Developmental Psychology*, 50, 1451–1459.
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie canadienne*, 49, 182–185.
- Diener, E., & Chan, M. Y. (2011). Happy people live longer: Subjective well-being contributes to health and longevity. *Applied Psychology: Health and Well-Being*, 3, 1–43.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49, 71–75.
- Diener, E., Lucas, R. E., & Scollon, C. N. (2006). Beyond the hedonic treadmill: Revising the adaptation theory of well-being. *American Psychologist*, 61, 305–314.
- Diener, E., & Seligman, M. E. P. (2002). Very happy people. *Psychological Science*, 13, 81–84.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Thousand Oaks, CA: Sage.
- Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist*, 55, 647–654.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218–226.
- Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., & Finkel, S. M. (2008). Open hearts build lives: Positive emotions, induced through loving-kindness meditation, build consequential personal resources. *Journal of Personality and Social Psychology*, 95, 1045–1062.
- Fredrickson, B. L., & Losada, M. F. (2005). Positive affect and the complex dynamics of human flourishing. *American Psychologist*, 60, 678–686.
- Gordon, C. L., & Luo, S. (2011). The personal expansion questionnaire: Measuring one's tendency to expand through novelty and augmentation. *Personality and Individual Differences*, 51, 89–94.
- Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348–362.
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family*, 50, 93–98.
- Henry, J. D., & Crawford, J. R. (2005). The short-form version of the Depression Anxiety Stress Scales (DASS-21): Construct validity and normative data in a large non-clinical sample. *British Journal of Clinical Psychology*, 44, 227–239.
- Hofstee, W. K. B., de Raad, B., & Goldberg, L. R. (1992). Integration of the big five and circumplex approaches to trait structure. *Journal of Personality and Social Psychology*, 63, 146–163.
- John, O. J., & Srivastava, S. (1999). The big five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin, & O. P. John (Eds.), *Handbook of personality: Theory and research* (pp. 102–138). New York, NY: Guilford.

- Kohls, S., Sauer, S., & Walach, H. (2009). Facets of mindfulness: Results of an online study investigating the Freiburg Mindfulness Inventory. *Personality and Individual Differences*, 46, 224–230. and well-being. *Current Psychology*, 28, 21–31.
- Livingstone, K. M., & Srivastava, S. (2012). Up-regulating positive emotions in everyday life: Strategies, individual differences, and associations with positive emotion and well-being. *Journal of Research in Personality*, 46, 504–516.
- Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success? *Psychological Bulletin*, 131, 803–855.
- Lyubomirsky, S., Sheldon, K. M., & Schkade, D. (2005). Pursuing happiness: The architecture of sustainable change. *Review of General Psychology*, 9, 111–131.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability or eclectic traits? *American Psychologist*, 63, 503–517.
- McCrae, R. R., & Costa, P. T. (1997). Personality trait structure as a human universal. *American Psychologist*, 52, 509–516.
- McDonald, R. P., & Ho, M. H. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods*, 7, 64–82.
- Meade, A. W., & Kroustalis, C. M. (2006). Problems with item parceling for confirmatory factor analytic tests of measurement invariance. *Organizational Research Methods*, 9, 369–403.
- Neubauer, A. C., & Freudenthaler, H. H. (2005). Models of emotional intelligence. In R. Schultz, & R. D. Roberts (Eds.), *Emotional intelligence: An international handbook* (pp. 31–50). Cambridge, MA: Hogrefe.
- Paunonen, S. (2003). Big five factors of personality and replicated predictions of behavior. *Journal of Personality and Social Psychology*, 84, 411–424.
- Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, 5, 164–172.
- Rae, G. (2008). A note on using alpha and stratified alpha to estimate the reliability of a test composed of item parcels. *British Journal of Mathematical and Statistical Psychology*, 61, 515–525.
- Robitschek, C. (1999). Further validation of the personal growth initiative scale. *Measurement and Evaluation in Counseling and Development*, 31, 197–210.
- Russell, S. S., Spitzmuller, C., Lin, L. F., Stanton, J. M., Smith, P. C., & Ironson, G. H. (2004). Shorter can also be better: The abridged job in general scale. *Educational and Psychological Measurement*, 64, 878–893.
- Schmitt, N., & Golubovich, J., & Leong, F. T. (2010). Impact of measurement invariance on construct correlations, mean differences, and relations with external correlates: An illustrative example using big five and RIASEC measures. *Assessment*, 18, 412–427.
- Schroevers, M. J., & Brandsma, R. (2010). Is learning mindfulness associated with improved affect after mindfulness-based cognitive therapy? *British Journal of Psychology*, 101, 95–107.
- Schutte, N. S., Malouff, J. M., & Bhullar, N. (2009). The Assessing Emotions Scale. In J. D. A. Parker, D. Saklofske, & C. Stough (Eds.), *The Assessment of Emotional Intelligence* (pp. 119–134). New York, NY: Springer.
- Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences*, 25, 167–177.
- Seligman, M. E., Castellon, C., Cacciola, J., Schulman, P., Luborsky, L., Ollive, M., & Downing, R. (1988). Explanatory style change during cognitive therapy for unipolar depression. *Journal of Abnormal Psychology*, 97, 13–18.
- Seligman, M. E. P., Steen, T. A., Park, N., & Peterson, C. P. (2005). Positive psychology progress: Empirical validation of interventions. *American Psychologist*, 60, 410–421.
- Steptoe, A., Dockray, S., & Wardle, J. (2009). Positive affect and psychobiological processes relevant to health. *Journal of Personality*, 77, 1747–1776.
- Stevens, J. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Erlbaum.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). New York, NY: HarperCollins.
- Vaughn, M. J., & Baier, M. E. (1999). Reliability and validity of the relationship assessment scale. *The American Journal of Family Therapy*, 27, 137–147.
- Walach, H., Buchheld, N., Buettenmüller, V., Kleinknecht, N., & Schmidt, S. (2006). Measuring mindfulness—the Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences*, 40, 1543–1555.
- Watson, D. (2004). Stability versus change, dependability versus error: Issues in the assessment of personality over time. *Journal of Research in Personality*, 38, 319–350.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063–1070.
- Wood, A. M., & Tarrier, N. (2010). Positive clinical psychology: A new vision and strategy for integrated research and practice. *Clinical Psychology Review*, 30, 819–829.

Appendix A

Pool of items of behaviors and thoughts facilitating sustainable positive affect with empirical or theoretical source of the concept underlying the item.

Item	Underlying concept
1. I seek out activities that make me happy.	1. Seeking positive affect, broaden-and-build theory
2. Most of what I do is determined by the situations in which I find myself rather than by me.*	2. Intentional activity, correlation/intervention studies; autonomy motivation, and SDT**
3. Most of my activities are related to my goals.	3. Goal-congruent activity, correlation, and intervention studies
4. I seek out individuals with whom I feel happy.	4. Seeking positive affect, broaden and build, relationship motivation, and SDT
5. I often find myself doing things in which I have little interest.*	5. Interest-congruent activity, correlation, and intervention studies
6. I see new possibilities.	6. Cognitive appraisal
7. Many of my activities draw on special skills I have.	7. Ability congruency, correlation/intervention studies, competency motivation, and SDT
8. I like to explore.	8. Engaging in new activities, correlation/intervention studies, and broaden and build)
9. I try to do things that are important to me.	9. Value-congruent activity, correlation, and intervention studies
10. Many activities I enjoy at first bore me after a while.*	10. Broaden and build, seeking positive affect
11. Most of my activities are consistent with my values.	11. Value-congruent activity, correlation, and intervention studies
12. I try to vary how I do things to keep activities interesting.	12. Engaging in new activities and intervention studies
13. By being non-judgmental about what's happening around me I keep life interesting.	13. Mindfulness
14. I make the time to seek out activities that make me happy.	14. Broaden and build, seeking positive affect
15. I make an effort to see the positive aspects of events.	15. Cognitive appraisal
16. To keep life interesting I make changes in my daily activities.	16. Engaging in new activities and intervention studies
17. I seek out activities that give me a sense of fulfillment.	17. Goal-congruent activity, correlation, and intervention studies; SDT
18. I think about how pointless it is to try to reach my goals.*	18. Cognitive appraisal, goal-congruent activity, correlation/intervention studies, and SDT
19. Many of my activities draw on my talents.	19. Ability-congruent activity, correlation/intervention studies; competency, and SDT
20. I consider my strengths when deciding how I allocate my time.	20. Ability-congruent activity, correlation/intervention studies, competency, and SDT
21. I try out new activities.	21. Engaging in new activities, intervention studies, and broaden and build
22. Once I find an activity I like, I stick to it without making changes.*	22. Engaging in new activities and intervention studies
23. Many of my activities have provided me with a sense of fulfillment year after year.	23. SDT
24. I think about how my activities bring me closer to my goals.	24. Cognitive appraisal, goal congruency, correlation/intervention studies, and SDT
25. Most of what I do is determined by me rather than by other people.	25. Intentional activity, intervention studies, autonomy motivation, and SDT
26. By being open to what is happening around me I keep life interesting.	26. Mindfulness
27. Many of my activities focus on deepening my relationships with others.	27. Relationship motivation and SDT

*Reverse coded.

**SDT = Self Determination Theory.



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