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Intentional and Non-Intentional Assessments of Emotion Experiences: Comparisons of Old and New Measures

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ABSTRACT

In two studies, we compared intentional and non-intentional measures of emotional well-being in terms of reliability and validity. In the first study, we expanded on the findings of Şimşek (2011) by showing that an intentional measure of emotional well-being, namely the Emotional Well-Being Scale, accounted for unique variance in both negative and positive mental health indicators above and beyond the variance accounted for by Larsen and Diener's Scales (1992), which measures all dimensions of affect circumplex. The correlated traits-correlated uniqueness model results showed that the original-intentional version of the Emotional Well-Being Scale explained more variance in the measurement model than the non-intentional version. The second study showed that the results were similar for the intentional vs. non-intentional versions of the Positive and Negative Affect Schedules (Watson, Clark & Tellegen, 1988). The intentional version of the Positive and Negative Affect Schedules accounted for more variance in the criteria than the non-intentional version.

ALTHOUGH INTENTIONALITY HAS BECOME ONE of the most important concepts of the philosophy of mind, it has received no attention from psychologists interested in emotional well-being (EWB), the affective dimension of subjective well-being (SWB). Intentionality was introduced by Husserl (1970) and refers to the content of mental states such as beliefs, desires, and emotions. According to Husserl, the basic characteristic of consciousness is its aboutness—that is, consciousness is always consciousness of something: It always has content.

Current theories of emotion, however, acknowledge that "intentionality" or "content" are irrelevant to the measurement, and they instead pay attention to "core affect" (Russell, 2003; Russell & Barrett, 1999), which is not considered to be about something. This paradigm conceptualizes affect into the pleasure-displeasure (valence) and activation-deactivation (arousal) axes, which reflect the structure of subjectively experienced emotion. Similarly, current measures of EWB take affective evaluations into account while ignoring the content, even though the concept of EWB refers directly to one's affective evaluations *about* life (Diener, 1984; Diener &

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Lucas, 2000). Such an approach to the measurement of emotional experience makes operational definitions inconsistent with the concept of EWB (Şimşek, 2009, 2011). In measuring affective evaluations of life, namely EWB, the content of affective evaluations has not been considered important, since current instruments measure only emotional experiences that have no referent. The Positive and Negative Affect Schedule—PANAS (Watson, Clark, & Tellegen, 1988), one of the most-cited measures for affective evaluations, for example, consists of affect terms and is designed to let participants state the frequency of their emotions in daily life. This issue is also valid for Larsen and Diener's (1992) EWB measure. However, the positive and negative affective evaluations measured by these scales are incongruent with the concept of SWB by definition because SWB consists of affect terms that do not refer to life itself, but rather to nothing explicitly.

This research aims to expand on the findings of Şimşek (2011) by showing that the inclusion of intentionality into the measurement of affect provides additional information that cannot be accounted for by the current non-intentional measures of EWB. Another aim of this research is to compare the incremental validity of the Emotional Well-Being Scale (EWBS—Şimşek, 2011) as an intentional measure of EWB with two well-known instruments as non-intentional measures of EWB, namely the Positive and Negative Affect Schedules (PANAS—Watson, Clark, & Tellegen, 1988) and Larsen and Diener's Scales (LDSs—Larsen & Diener, 1992). The present investigation additionally aims to give additional insights into the orthogonality of affective experience using more rigorous tests in a comprehensive design with Multitrait-Multimethod analysis strategy (MTMM).

Intentionality and EWB

More than 100 years ago, Everett (1898) argued that happiness cannot be acknowledged without considering intentionality. According to this view, judgments of happiness could not and should not be detached from the content. Goodman (1984), echoing Immanuel Kant, states that "Feeling without understanding is blind, and understanding without feeling is empty" (p. 8). In accordance with these acknowledgments, Reisenzein and Schonpflug (1992) conceive emotions as representational mental states by virtue of their content, which always refer to something in the world.

Moreover, the literature indicates that including intentionality into emotional evaluations makes them more *subjective*. Solomon (2006), for example, argues that a proper description of emotions is never accomplished without the content to which they refer. A proper description, he believes, should attach importance to content/object because of the fact that intentionality refers to both the object of emotion and its significance to the individual. It seems a prerequisite, then, to include intentionality into the evaluation to capture phenomenological features of one's EWB, since intentionality reflects one's directedness towards life via emotions. As Nussbaum (2001) suggested, aboutness inherent in emotions makes them phenomenal states, a way of seeing. Since SWB, whether emotional or cognitive, focuses on the

evaluation of one's life 'subjectively', intentionality seems to stand for more subjective ingredients of affective evaluations. Once content has been included into the measurement, the evaluations are more likely to involve the personal lenses of individuals.

The psychological research in emotion also suggests that the proper description of emotion experience should include intentionality. Reviewing the research on emotion, Barrett, Mesquita, Ochsner, and Gross (2007) conclude that:

> Core affect is not, in and of itself, sufficient for a mental representation of emotion. An experience of emotion is an intentional state—it is an affective state that is about something … a brief review of the literature makes clear that mental representations of emotion include representations of arousal as well as relational and situational contents. (p. 379)

Thus, when intentionality is taken into consideration, EWB, an affective representation of (the) life (as) perceived by the individual, can then be more fully assessed. One could argue that such an evaluation has potential advantages over the current, content-free evaluations, as it captures the private/subjective side of evaluation. Indeed, recent research by Şimşek (2011) showed that an intentional measure of EWB, the EWBS, accounted for unique variance into positive and negative mental health indicators above and beyond core affect measured by the PANAS and the Big Five personality dimensions.

Şimşek's (2011) research also gave some preliminary indications that when intentionality is taken into account, positive affect (PA) and negative affect (NA), measured by PANAS, can become non-orthogonal. It is a general inclination to assume that PA and NA are orthogonal and that these dimensions of affect are correlated weakly (Tellegen, Watson, & Clark, 1999; Watson & Tellegen, 1999). Russell and his colleagues (Carroll, Yik, Barrett, & Russell, 1999; Russell & Barrett, 1999; Russell, 2003; Russell & Carroll, 1999), however, argued that unidimensionality is a matter of choice from the affect circumplex, and they showed that the correlation between any group of positive and negative affect terms is dependent on the extent to which they are activated. The findings of Şimşek, thus, imply that intentionality could be another important issue in the orthogonality of affect.

Given that EWBS is the only intentional measure of EWB, the findings of Şimşek (2011) has significant implications for the measurement issues concerning the affective dimension of SWB. The research carried out by Şimşek, however, had its shortcomings First, given that the research carried out relied on the PANAS, measuring only activated positive and activated negative affect, it ignored the remaining 50% of the circumplex (Figure 1), which concerns deactivated affect. A stronger support could be obtained by a study in which intentionality explains additional variance in criteria beyond personality and non-intentional affect captured by both axes of the (valence and arousal) circumplex. Second, the study under discussion did not employ a non-intentional version of the EWBS in order to assess the effectiveness of intentionality in accounting for additional variance in criteria in a more robust way. The same issue was evident for PANAS, since there was no intentional version of PANAS employed in the study.
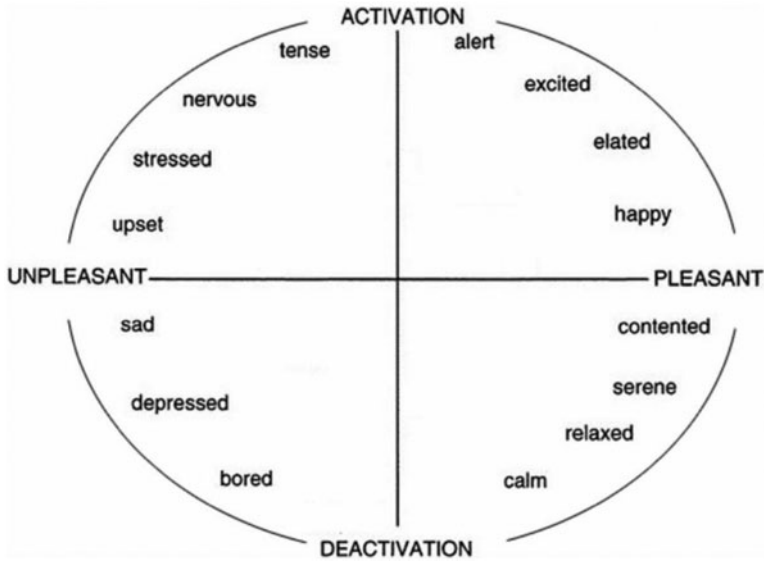
Figure 1. A graphical representation of affect circumplex.

Study 1

In light of the literature presented above, the possible scenarios and relevant analyses conducted in Study 1 were determined as follows: First, although Şimşek (2011) showed that scores on the EWBS accounted for additional variance in mental health indicators above and beyond personality and scores on PANAS, additional regression analyses were computed, controlling for PANAS scores in addition to personality for a replication of Şimşek's (2011) findings. Our first hypothesis (H1) is that "The scores on the EWBS will account for additional variance in mental health indicators above and beyond the scores on personality dimensions of the BFI and the scores on PA and NA."

Second, we expected that the EWBS would explain unique variance in mental health indicators beyond and above the scores on a measure that adequately represents all affect circumplex, namely activated positive-negative affect and deactivated positive-negative affect. In Study 1, thus, affect adjectives representing the whole affect circumplex, in addition to personality, were controlled statistically in a hierarchical regression analysis to determine the additional variance accounted for by EWBS. Consequently, our second hypothesis (H2) is that "The scores on the EBWS will explain unique variance in mental health indicators above and beyond the scores on the BFI factors and the scores on the LDSs."

Third, in order to compare EWBS to PANAS and a scale including items of the whole affect circumplex (LDSs), two additional regression analyses were computed in which the additional variance accounted for by PANAS or LDSs above and beyond personality and EWBS was determined. Our third (H3) and fourth (H4) hypotheses are as follows: "The scores on the PANAS will account for additional variance in mental health indicators above and beyond the scores on personality dimensions and the scores on EWBS."; and "The scores on the LDSs will account for additional

variance in mental health indicators above and beyond the scores on personality dimensions and the scores on EWBS."

Fourth, additional variance in the criteria explained by the intentional version of the EWBS was determined by regression analyses in which the scores on the non-intentional version were controlled statistically. Since our main concern was to compare the incremental validity of the intentional version of the EWBS in itself, we did not enter personality dimensions into these equations. Consequently, our fifth hypothesis (H5) is that "The scores on the EWBS will account for additional variance in mental health indicators above and beyond the scores on the non-intentional version of EWBS."

Finally, both intentional and non-intentional versions of the EWBS were used in this study, and these were treated as different methods for defining their influences on the measurement of affect using MTMM analysis strategy. The effect of intentionality on the measurement of affect was accomplished by testing correlated uniqueness models for the EWBS. Consequently, two competing models were tested using LISREL 8.80 (Jöreskog & Sörbom, 1993). Both models were identical with regard to covariances among error terms of the same method, namely intentional and non-intentional items of affective experience ("Sad" vs. "Sad about life"). The only difference between the models was that in the first model (correlated traits-correlated uniqueness—CTCU) the correlation between the positive and negative affect dimensions was freely estimated, while in the second model (orthogonal traits-correlated uniqueness—OTCU) the correlation was set to 0. This is especially important for the present study given that the orthogonality of positive and negative affect has been a controversial issue (Carroll, Yik, Barrett, & Russell, 1999; Russell & Barrett, 1999; Tellegen, Watson, & Clark, 1999; Watson & Tellegen, 1999). Consequently, the comparison of these models would indicate whether these factors are independent or interdependent. In an OTCU, the correlation between the factors is considered to be independent, while in a CTCU they are considered to be dependent. Our sixth hypothesis is that "The CTCU model would fit better to the data than the OTCU model."

Method

Participants and procedure

The participants were 124 undergraduate students (61 female, 63 male) from two universities in Turkey, with an age range of between 19 and 34 years, and a mean age of 23.16 (female: M = 22, SD = 2.95, male: M = 23.18, SD = 2.57).

To calculate the observed power for our multiple regressions, we took into account the observed probability level, the number of predictors, the observed R^2, and the sample size. The results suggested that for a liberal threshold of 0.05, about 100 subjects were required to achieve 90% power.

Two separate sessions were held for the completion of the measures, the first for the EWBS, the PANAS and the measures of personality and psychological

well-being: the second for the non-intentional version of the EWBS, the measures of psychopathology, life satisfaction, self-esteem and the LDSs. There was a 24 hour interval between the sessions.

Variables and measures

Intentional and Non-Intentional Versions of the EWBS: Intentional emotional well-being was measured by the EWBS (Şimşek, 2011). Initial development study was conducted on a sample of 334 undergraduate students and the exploratory factor analyses yielded two dimensions: The first, positive emotional well-being (PEWB), consisted of seven positive affective evaluations (e.g., "Life gives me pleasure"; "I feel at peace with life"; "I appreciate the life I lead"), accounting for 31.37% of the variance; the second, negative emotional well-being (NEWB), consisted of seven items (e.g., "I feel upset about my life"; "I worry about the life I lead"; "I feel I'm wasting my life") reflecting negative affective evaluations regarding life, accounting for additional 29.30% of the variance. These two dimensions accounted for 60.67% of the total variance. The results of confirmatory factor analysis showed that this two-factor structure yielded acceptable goodness of fit statistics. Cronbach's alpha internal consistency estimates for the two factors were .89 and .88, respectively. The correlation between the factors was defined as −.59. In this study, Cronbach's alpha internal consistency estimates were .92 for both factors.

A cross-validation study was also conducted by Şimşek (2011) on a data from 393 undergraduate students. The results showed that the items were loaded on the same factors, PEWB and NEWB, accounting for 27.48% and 26.99% of the variance, respectively. Both factors had internal consistency coefficients of .85.

A non-intentional version of the EWBS was created using 11 affect adjectives in the original scale, none of which directly referred to life. Since some of the items were not suitable for such a transformation, only five items of the PEWB and six items of the NEWB factors were transformed accordingly. Internal consistency estimates for the intentional PEWB and NEWB dimensions were found to be .62 and .89, respectively.

The Larsen and Diener's Scales (LDSs)

Participants also completed LDSs (1992), which produces the scores for activated unpleasant, unactivated unpleasant, activated pleasant, and unactivated pleasant dimensions. The affect adjectives in the scale were translated into Turkish using the emotion dictionary of the Levels of Emotional Awareness Scale (LEAS—Lane, Quinlan, Schwartz, Walker & Zeitlin, 1990). The LEAS and the emotion dictionary were adapted to Turkish by Kuzucu (2006, 2008). Responses are specified on a 5-point Likert-type scale, from 1 (never) to 5 (ever) for each emotion. The internal consistency for the LDSs was found to be .72 in the present study.

The Satisfaction with Life Scale (SWLS)

Life satisfaction was measured using Diener, Emmons, Larsen, and Griffin (1985) SWLS to identify individual differences concerning the cognitive evaluation of one's life. This scale is designed to enable individuals to evaluate their lives according to their own subjective criteria. The internal consistency of the scale was .87. Durak, Senol-Durak, and Gencoz (2010) translated the scale into Turkish and reported satisfactory internal consistencies (a = .86, .82). Cronbach's Alpha for this study was defined as .85.

The Rosenberg Delf-Esteem Scale (RSES)

The 10-item RSES, a commonly used measure of global self-esteem, was developed by Rosenberg (1965). The respondents' levels of agreement with 10 self-evaluative statements are averaged to produce an index of self-esteem. Responses are specified on a 5-point Likert-type scale. The RSES was first translated into Turkish by Tugrul (1994) who reported a Cronbach Alpha coefficient of .86. Cronbach's Alpha for the present study was defined as .89.

The Big Five Inventory (BFI)

The 44-item BFI (Benet-Martinez & John, 1998) was administered to assess five personality dimensions—neuroticism, extraversion, openness, agreeableness, and conscientiousness. Ratings are indicated on a scale from 1 (disagree strongly) to 5 (agree strongly) for each item. The scale was adapted into Turkish by Sumer, Lajunen, and Ozkan (2005), who reported Cronbach's Alpha reliabilities ranging from .64 to .77. The coefficients of Alpha for study 1 and study 2 were .79 and .76, respectively.

The Brief Symptom Inventory (BSI)

The BSI was developed by Derogatis (1992) as a shortened version of the SCL-90-R and was adapted to Turkish by Sahin and Durak (1994). It consists of 53 items rated on a 5-point, Likert-type scale anchored by 1 = not at all distressed to 5 = extremely distressed. The scale was developed in order to measure nine different mental health indicators, such as depression, interpersonal sensitivity, somatization, obsessive-compulsive disorder, anxiety, and paranoid thoughts. As a result of exploratory factor analysis, the adapted version of BSI revealed 5 subscales: *anxiety, depression, negative self, somatization*, and *hostility*. Only anxiety, depression, and negative self dimensions were used in the present study. The Cronbach alpha reliability coefficients were found to be acceptable, .95 to .96 for the Turkish form. The internal consistency coefficients for study 1 ranged from .87 to .91, and for study 2, from .85 to .87.

The Positive and Negative Affect Schedules

The PANAS was developed by Watson, Clark, and Tellegen (1988) as a brief measure of general affect. Positive affect (PA) reflects the extent to which a person feels enthusiastic, active, and alert. High PA indicates a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy. Different scores can be obtained from the scale according to different time frames (moment, today, past few days, year, or general). The general time frame was used in the present research. The results of the factor analysis employed in the original scale yielded two dominant factors, accounting for the 68.7% variance in the general time frame. Internal consistency was .88 and .87 for PA and NA, respectively. The adaptation of the scale to Turkish was made by Gençöz (2000). Consistent with the original study, the result of the factor analysis revealed two factors, accounting for 44% of the total variance. Internal consistency for PANAS was .83 in the original study. Cronbach's alpha internal consistency estimate was .77 for this study.

The Psychological Well-Being Scales (PWBS)

The PWBS was developed by Ryff (1989). The scale consists of six dimensions: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. The scale was adapted to Turkish by Cenkseven (2004) with good internal consistencies ranging from .74 to .83. The coefficients in this study ranged from .69 to .80.

Results

Regression analyses

Means, standard deviations, and zero-order correlations for the 26 measured variables are shown in Table 1. It is worth mentioning here that the correlation between PEWB and NEWB decreased when non-intentional version of the EWBS was used. All skewness and kurtosis values were less than 1, indicating that there is no problem concerning normality assumption. Kolmogorov-Smirnov test was also used and results ($p > .05$) supported the normality. Additional to the normality assumption, another important requirement is the homgogenity of variance assumption (homoscedasticity). For testing homoscedasticity, The Breusch-Pagan Test for homoscedasticity (Hayes & Cai, 2007) was calculated; results showed that the calculated x^2 values ranged from 12.05 to 21.43 ($p < .001$), which means that the assumption was satisfied.

Multicollinearity is a data problem that may cause serious difficulty with the reliability of the estimates, and it occurs when two or more variables on the right-hand side of a regression model are highly correlated. Multicollinearity causes a multicollinearity problem because the standard errors of the regression coefficients become inflated (Groebner, Shannon, Fry & Smith, 2011) and consequently,

Table 1. Correlation matrix for study variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1. PA	34.1	5.7	—																									
2. NA	21.9	4.7	−.34	—																								
3. PEWB	24.1	6.5	.53	−.53	—																							
4. NEWB	13.5	6.4	−.41	.66	−.69	—																						
5. PEWB-NI	15.4	2.8	.48	−.35	.69	−.48	—																					
6. NEWB-NI	12.9	3.5	−.46	.65	−.65	.69	−.47	—																				
7. LDAP	14.6	2.9	.63	−.27	.55	−.35	.62	−.38	—																			
8. LDUU	13.3	3.6	−.49	.52	−.61	.55	−.43	.69	−.44	—																		
9. LDAU	13.6	3.4	−.42	.71	−.57	.65	−.43	.86	−.35	.70	—																	
10. LDUP	13.9	2.3	**.16**	−.22	.32	**−.10**	.39	−.19	**.15**	**−.05**	−.21	—																
11. Self-esteem	41.4	7.2	.48	−.55	.64	−.63	.51	−.68	.38	−.51	−.59	.20	—															
12. Life Satisfaction	14.4	4.3	.36	−.33	.68	−.57	.62	−.45	.44	−.41	−.40	.26	.51	—														
BSI																												
13. Depression	24.4	9.4	−.39	.60	−.57	.67	−.39	.76	−.26	.75	.70	**−.06**	−.45	−.69	—													
14. Anxiety	22.8	7.6	−.36	.70	−.53	.59	−.35	.66	−.25	.63	.67	**−.10**	−.41	−.65	.85	—												
15. Negative Self	21	7.8	−.38	.64	−.60	.65	−.38	.73	−.25	.65	.67	**−.11**	−.43	−.74	.89	.86	—											
PWB																												
16. Env. Mastery	30	3.8	.49	−.25	.53	−.28	.49	−.31	.37	−.34	−.23	.20	.45	.53	−.30	−.32	−.35	—										
17. Growth	32.3	3.9	.40	−.40	.46	−.37	.34	−.43	.31	−.50	−.47	**.11**	.49	.29	−.44	−.50	−.45	.35	—									
18. Pos. Relations	35.8	6.6	.49	−.50	.61	−.57	.43	−.51	.36	−.54	−.48	**.09**	.59	.51	−.59	−.60	−.63	.58	.51	—								
19. Purpose in Life	37.5	5.3	.50	−.37	.56	−.56	.44	−.38	.38	−.57	−.37	**.08**	.56	.45	−.56	−.54	−.54	.50	.57	.63	—							
20. Self Acceptance	32.2	6.5	.51	−.62	.75	−.69	.65	−.63	.51	−.53	−.57	.24	.74	.68	−.62	−.59	−.63	.60	.45	.63	.58	—						
21. Autonomy	28.9	4.8	.20	−.30	.31	−.20	**.13**	−.20	**.09**	.11	−.24	**.16**	.35	**.12**	−.23	−.26	−.32	.34	.25	.25	.20	.32	—					
PERSONALITY																												
22. Extraversion	27	5.8	.54	−.36	.46	−.31	.36	−.41	.57	−.39	−.42	**−.00**	.40	.35	−.34	−.40	−.36	.43	.34	.50	.30	.47	.30	—				
23. Agreeableness	34.3	4.9	.35	−.43	.39	−.33	.33	−.27	.31	−.40	−.34	**.07**	.26	.34	−.30	−.38	−.34	.48	.33	.64	.40	.42	**.08**	.28	—			
24. Consciousness	34.1	6	.59	−.27	.55	−.41	.46	−.37	.44	−.57	−.33	**.11**	.48	.43	−.47	−.45	−.46	.65	.39	.55	.70	.52	**.16**	.30	.46	—		
25. Neuroticism	20	5.6	−.41	.66	−.58	.49	−.43	.61	−.29	.52	.63	−.42	−.54	−.38	.59	.63	.61	−.48	−.44	−.56	−.43	−.63	−.44	−.42	−.40	−.47	—	
26. Openness	35.9	6.3	.43	−.26	.28	**−.16**	.32	−.21	.40	−.20	−.23	**.14**	.27	**.07**	−.19	−.22	−.22	.44	.39	.27	.34	.32	.32	.36	.33	.39	−.30	—

Note. N = 124. Correlations non significant at *p* = .05 are in boldface.

PA = Positive Affect, *NA* = Negative Affect, *PEWB* = Positive Emotional Well-Being, *NEWB* = Negative Emotional Well-Being, *PEWB-NI* = Non-Intentional Positive Emotional Well-Being, *NEWB-NI* = Non-Intentional Negative Emotional Well-Being, *BSI* = Brief Symptom Inventory, *PWB* = Psychological Well-Being, *Env. Mastery* = Environmental Mastery, *Pos. Relations* = Positive Relations with Others.

the (resulting) regression coefficients of the independent variables were inaccurate (Zainodin & Yap, 2013). In the literature, several methods have been suggested to detect the problem of multicollinearity, such as condition Index and Variance inflation factor (VIF) (Alin, 2010). VIF and condition index values were found to be lower than the critical values, 10 and 30, respectively (O'Brien, 2007) for all regression analyses in Study 1.

Two separate regression analyses were conducted to test whether the PEWB and NEWB scores accounted for unique variance in both positive and negative mental health indicators above and beyond personality and the scores on PANAS or LDSs. In the first regression model, the scores on PEWB and NEWB were included into the third block of a hierarchical regression equation in which the five factors of personality composed the first block, and PA and NA factors of the PANAS the second. In the second regression equation, the scores on PEWB and NEWB were included into the third block of a hierarchical regression equation, in which the five factors of personality composed the first block, and four factors of the LDSs the second.

The results of the first regression analysis (Table 2) showed that the increments in prediction were statistically significant for seven of the 12 criteria, with a range of 4% to 24% additional variance. The largest increase in R^2 was realized by adding the two factors of EWBS to the equation for life satisfaction. The increment was also significant for self-esteem, depression, and negative self. After the personality and affect measure scores were controlled statistically, the EWBS also explained a considerable amount of the variance in purpose in life, positive relations with others, and self-acceptance dimensions of psychological well-being. The environmental mastery, growth and autonomy dimensions of psychological well-being, as well as anxiety, were not predicted by the EWBS scores.

The results of the second regression analysis are shown in Table 3, which indicate that PEWB and NEWB scores accounted for additional variance in both positive and negative mental health indicators beyond that already captured by personality dimensions and affect circumplex represented by the LDSs. Results were statistically significant for nine of the twelve criteria, which explained an additional 2 to 15% of the variance. This additional variance was shown to be significant when self-esteem, depression, anxiety, and negative self were the criteria. The EWBS also explained a considerable amount of the variance in purpose in life, environmental mastery, positive relations, and self-acceptance dimensions of psychological well-being. The growth and autonomy dimensions of psychological well-being were not predicted significantly by the EWBS scores.

To obtain a clearer picture, the reverse situations were considered to see whether non-intentional affect adjectives used in the PANAS and all-affect circumplex accounted for unique variance in the criteria after personality and EWBS scores were controlled. In these third and fourth regression analyses, the PANAS or LDSs scores, respectively, were entered into the third block of hierarchical regression models in which five factors of personality (were) included into the first block and EWBS into the second block. The results of the third regression analysis are presented in Table 4

Table 2. Hierarchical multiple regressions: Personality, positive affect, negative affect and EWB as predictors of positive and negative mental health indicators.

	Self Esteem β	Life Satisfaction β	Depression β	Anxiety β	Negative Self β	Env. Mastery β	Growth β	Positive Relations β	Purpose in Life β	Self Acceptance β	Autonomy β
Step 1											
E	.18*	.21*	−.17	−.12	−.09	.15*	.12	.28**	.09	.21**	.12
N	−.41**	−.16	.47**	.48**	.50**	−.13	−.27**	−.23**	−.09	−.39**	−.44**
O	−.02	−.22*	.107	.06	.06	.11	.19*	−.12	.03	.00	.21
A	.20	.14	−.01	−.08	−.05	.13	.08	.42**	.04	.10	−.14
C	.20*	.30**	−.22*	−.17	−.17	.43**	.08	.17*	.58**	.18*	−.10
F	(5, 109) 13.1**	(5, 109) 9.2**	(2, 108) 14.9**	(5, 109) 17.5**	(5, 109) 16.8**	(5, 108) 25.4**	(5, 108) 9.8**	(5, 108) 32.2**	(5, 109) 22.9***	(5, 107) 20.2**	(5, 109) 8.8**
ΔR^2	.37	.297	.4	.44	.48	.54	.31	.59	.51	.48	.28
Step 2											
PA	.11	.08	−.04	.11	.03	.01	.08	.06	.09	.100	−.5
NA	−.39**	−.12	.37**	.55**	.39**	.12	−.21	−.09	−.20*	−.349*	−.07
F	(2, 107) 9.1**	(2, 107) .93	(2, 106) 7.3**	(2, 107) 20.5**	(2, 109) 8.3**	(2, 106) .90	(2, 106) 2.4	(2, 106) .98	(2, 107) 3.3*	(2, 105) 8.2*	(2, 107) .27
$Adj R^2$	.43	.26	.44	.57	.48	.51	.3	.58	.51	.52	.24
ΔR^2	.09	.01	.07	.15	.07	.00	.03	.00	.02	.07	.00
Step 3											
PEWB	.02	.48**	.02	.03	−.08	.24*	.17	.05	.05	.33*	.16
NEWB	.39**	−.33**	.39**	.19	.27**	.11	−.07	−.24*	−.20**	−.25**	.01
F	(2, 105) 11.1**	(2, 105) 28.8***	(2, 104) 9.9**	(2, 105) 2.2	(2, 105) 6.3**	(2, 104) 2.8	(2, 104) 1.87	(2, 104) 6.*	(2, 105) 9.1**	(2, 103) 20.8**	(2, 105) .91
$Adj R^2$	.52	.51	.52	.58	.52	.53	.31	.61	.58	.65	.24
ΔR^2	.09	.25	.08	.01	.05	.02	.02	.04	.07	.12	.01

Note. $N = 124$.
* $p < .05$; ** $p < .01$.
E = Extraversion, N = Neuroticism, A = Agreeableness, C = Consciousness, O = Openness. PA = Positive Affect, NA = Negative Affect, PEWB = Positive Emotional Well-Being, NEWB = Negative Emotional Well-Being, Env. Mastery = Environmental Mastery.

Table 3. Hierarchical multiple regressions: Personality, affect circumplex and EWB as predictors of positive and negative mental health indicators.

	Self Esteem β	Life Satisfaction β	Depression β	Anxiety β	Negative Self β	Env. Mastery β	Growth β	Positive Relations β	Purpose in Life β	Self Acceptance β	Autonomy β
Step 1											
E	.16*	.22*	−.10	−.14	−.11	.09	.07	.26**	.05	.20**	.09
N	−.41***	−.29*	.45**	.47**	.48***	−.47***	−.27*	−.23*	−.11	−.41***	−.47***
O	−.00	−.24*	.08	.06	.05	.24**	.18*	−.17	.02	.00	.24**
A	−.07	.15	.02	−.09	−.04	−.17	.08	.41**	.06	.10	−.17
C	.24*	.27*	−.28*	−.16	−.20*	−.09	.13	.21*	.59	.20*	−.09
F	(5, 109) 13.9***	(5, 109) 10.1**	(5, 108) 14.9**	(5, 109) 16.9**	(5, 109) 16.8***	(5, 108) 26.2**	(5, 108) 9.6***	(5, 108) 31.9**	(5, 109) 23.2**	(5, 107) 21.7**	(5, 109) 9.7**
ΔR^2	.39	.31	.41	.43	.43	.54	.30	.59	.51	.50	.30
Step 2											
LDAP	.03	.19	.12	.14	.15	−.13	−.02	−.09	−.01	.19*	−.13
LDUU	−.03	−.05	.50**	.20	.28*	.10	−.26*	−.07	−.26*	.00	.10
LDAU	−.380*	−.13	.22*	.33*	.25*	−.04	−.18	−.05	.02	−.18	−.04
LDUP	.03	.23*	.11	.10	.08	−.02	−.03	−.01	−.00	.03	−.02
F	(4, 105) 4.5*	(4, 105) 4.3*	(4, 104) 20.1**	(4, 105) 8.9**	(4, 105) 8.6*	(4, 104) 2.3	(4, 104) 3.9*	(4, 104) .72	(4, 105) 2	(4, 103) 2.7*	(4, 105) .69
$Adj\ R^2$	.43	.36	.63	.54	.53	.55	.34	.57	.51	.51	.26
ΔR^2	.09	.09	.25	.14	.14	.03	.09	.59	.03	.04	.03
Step 3											
PEWB	.18	.37*	.01	.01	−.14	.29*	.16	.12	.01	.31*	.29*
NEWB	−.32**	−.29*	.30**	.21*	.22*	.09	−.05	−.25*	−.38	−.31**	.01
F	(2, 103) 11.7***	(2, 103) 17.8***	(2, 102) 8.2**	(2, 103) 3.1*	(2, 103) 6.6*	(2, 102) 3.5*	(2, 102) 1.3	(2, 102) 8.3**	(2, 103) 1**	(2, 101) 22.2**	(2, 103) 2.8
$Adj\ R^2$	.53	.51	.68	.56	.58	.57	.35	.63	.59	.65	.29
ΔR^2	.10	.15	.05	.02	.05	.02	.01	.06	.07	.13	.03

Note. N = 124.

* $p < .05$; ** $p < .01$.

E = Extraversion, N = Neuroticism, A = Agreeableness, C = Consciousness, O = Openness, LDAP = Larsen & Diener's Scale Activated Pleasant, LDUU = Larsen & Diener's Scale Unactivated Unpleasant, LDAU = Larsen & Diener's Scale Activated Unpleasant, LDUP = Larsen & Diener's Scale Unactivated Pleasant, PEWB = Positive Emotional Well-Being, NEWB = Negative Emotional Well-Being, Env. Mastery = Environmental Mastery.

Table 4. Hierarchical multiple regressions: Personality, EWB and positive affect negative affect as predictors of positive and negative mental health indicators.

	Self Esteem β	Life Satisfaction β	Depression β	Anxiety β	Negative Self β	Env. Mastery β	Growth β	Positive Relations β	Purpose in Life β	Self Acceptance β	Autonomy β
Step 1											
E	.18*	.21*	−.11	−.12	−.09	.15*	.12	.28**	.09	.21**	.12
N	−.41**	−.16	.47**	.48**	.50**	−.13	−.27**	−.23**	−.09	−.39**	−.44**
O	−.02	−.22*	.10	.06	.06	.11	.19*	−.12	.03	.00	.21*
A	−.04	.14	−.01	−.08	−.05	.13	.08	.42**	.04	.10	−.14
C	.20*	.30**	−.22*	−.17	−.17	.43**	.08	.17*	.58**	.18*	−.10
F	(5, 109) 13.1**	(5, 109) 9.21**	(5, 108) 14.9**	(5, 109) 17.5**	(5, 109) 16.8**	(5, 108) 25.4**	(5, 108) 9.8**	(5, 108) 32.2**	(5, 109) 22.9**	(5, 107) 20.2**	(5, 109) 8.8**
Δ R²	.37	.29	.40	.44	.43	.54	.31	.04	.51	.48	.28
Step 2											
PEWB	.17	.48**	.03	.06	−.06	.25*	.17	.06	.05	.33**	.15
NEWB	−.40**	−.26**	.45**	.37**	.36**	.15	−.14	−.22**	−.34**	−.31**	.00
F	(5,109) 20.1**	(2, 107) 28.7**	(2, 106) 16.3**	(2, 107) 9.5**	(2, 107) 12.5**	(2, 106) 3.3*	(2, 106) 3.6*	(2, 106) 7**	(2, 107) 13.1**	(2, 105) 31**	(2, 107) .91
Adj R²	.51	.51	.51	.49	.51	.54	.31	.62	.58	.67	.25
Δ R²	.17	.24	.13	.08	.10	.02	.04	.04	.09	.19	.01
Step 3											
PA	.03	−.05	.01	.14	.08	−.00	.04	.01	.03	.00	−.07
NA	−.18	.16	.15	.45**	.22*	.10	−.14	.05	−.00	−.13	−.05
F	(2, 105) 1.6	(2, 105) 1.3	(2, 104)1	(2, 105) 11.8**	(2, 105) 2.6	(2, 104) .53	(2, 104) .73	(2, 104) .17	(2, 105) .07	(2, 103) 1.1	(2, 105) .28
Adj R²	.52	.51	.52	.58	.52	.53	.31	.61	.57	.65	.25
Δ R²	.01	.01	.00	.08	.02	.00	.00	.00	.00	.00	.00

Note. N = 124.
* p <.05; ** p <.01.
E = Extraversion, N = Neuroticism, A = Agreeableness, C = Consciousness, O = Openness. PA = Positive Affect, NA = Negative Affect, PEWB = Positive Emotional Well-Being, NEWB = Negative Emotional Well-Being, Env. Mastery = Environmental Mastery.

and showed that, in all criterion variables, PANAS scores only accounted for additional variance significantly for anxiety. Results were not statistically significant for ten of the 12 criteria.

According to the results of the fourth regression analysis, after the personality and EWBS scores were statistically controlled, LDSs accounted for additional variance significantly in only four criteria: depression, negative self, anxiety, and growth (Table 5). Self-esteem, life satisfaction, purpose in life, positive relations, environmental mastery, self-acceptance and autonomy were not significantly predicted by LDSs scores.

Regression analyses were conducted to see whether the intentional version of the EWBS accounts for additional variance in the criteria above and beyond the scores on the non-intentional version. The results of these regression analyses are shown in Table 6. According to the results, intentional PEWB and NEWB scores explained a greater amount of the variance in positive mental health indicators of life satisfaction, environmental mastery, autonomy, positive relations, purpose in life and self-acceptance.

Finally, MTMM analyses were conducted to understand the effect of intentionality on the measurement of affective experience from a different perspective. A test of the CTCU model for the EWBS resulted in an acceptable fit to the data: $\chi^2(158, N = 124) = 234.78, p < .05$; CFI $= .98$; RMSEA $= .063$ (90 percent confidence interval for RMSEA $= 0.045-0.079$). The results of the OTCU model [$\chi^2(159, N = 124) = 293.69, p < .05$; CFI $= .96$; RMSEA $= .083$ (90% confidence interval for RMSEA $= 0.068-0.098$)] was shown to be worse than the first by a chi-square difference test (58.91, 1: $p < .01$). The standardized parameter estimates for the CTCU model are represented in Figure 2.

As can be seen from the results, with the exception of one affect item in the EWBS, all of the loadings of the intentional measures of affect were higher than the non-intentional ones, indicating that they are more reliable indicators of affective experience. The average amount of variance accounted for by intentional items in PEWB was .67, while only .30 for non-intentional items. The average amount of variance accounted for by intentional items in NEWB, on the other hand, was .41, compared to, .36 for non-intentional items. However, the correlations among the errors were higher in the intentional items (ranging from .01 to .42) than non-intentional ones (ranging from .01 to .17), which indicate greater measurement bias for the items of the intentional version of the EWBS. Finally, the correlation between PEWB and NEWB was higher ($r = -.87$) than usual, rejecting the orthogonality of these factors when method effects are taken into consideration.

Study 2

In Study 2, we focused on PANAS, using both the intentional and non-intentional versions. Since an intentional measure of activated positive and activated negative affect was not used in the previous research by Şimşek, the orthogonality of these

Table 5. Hierarchical multiple regressions: Personality, EWB and affect circumplex as predictors of positive and negative mental health indicators.

	Self Esteem β	Life Satisfaction β	Depression β	Anxiety β	Negative Self β	Env. Mastery β	Growth β	Positive Relations β	Purpose in Life β	Self Acceptance β	Autonomy β
Step 1											
E	.16	.22*	−.10	−.14	−.11	.15*	.07	.26**	.05	.20**	.09
N	−.41**	−.22*	.45**	.47**	.48**	−.16*	−.27**	−.22**	−.11	−.41**	−.47**
O	.00	−.24**	.08	.06	.05	.10	.18*	−.12	.02	.00	.24**
A	−.07	.15	.02	−.09	−.04	.15*	.08	.41**	.06	.10	−.17
C	.24**	.27*	−.28**	−.16	−.20*	.42**	.13	.21**	.59**	.20*	−.09
F	(5, 109) 13.9**	(5, 109) 10.1**	(5, 108) 14.9**	(5, 109) 16.9**	(5, 109) 16.4**	(5, 108) 26.2**	(5, 108) 9.6**	(5, 108) 31.9**	(5, 109) 23.2**	(5, 107) 21.7**	(5, 109) 9.7**
$\triangle R^2$	.39	.31	.41	.43	.43	.54	.30	.59	.51	.50	.30
Step 2											
PEWB	.18	.48**	.00	.06	−.07	.24*	.15	.06	.03	.32**	.15
NEWB	−.39	−.22*	.45**	.37**	.35**	.18*	−.16	−.24*	−.35**	−.30**	.00
F	(2, 107) 20.1**	(2, 107) 24.8**	(2, 106) 15.8**	(2, 107) 8.8**	(2, 107) 11.6**	(2, 106) 3.3*	(2, 106) 3.9*	(2, 106) 7.9**	(2, 107) 12.4**	(2, 105) 29.7**	(2, 107) .97
Adj R^2	.52	.50	.51	.48	.50	.54	.31	.62	.58	.66	.27
$\triangle R^2$	.16	.21	.13	.08	.10	.02	.04	.05	.09	.17	.01
Step 3											
LDAP	−.04	.08	.15*	.16	.21*	−.13	−.06	−.14	−.58	.09	−.19
LDUU	.01	.03	.49**	.19	.24*	.07	−.22	−.03	−.24**	.08	.16
LDAU	−.21	.35	.08	.23*	.14	.18	−.14	.07	.19	−.01	−.02
LDUP	.02	.17*	.08	.08	.09	.04	−.05	−.02	.01	−.01	−.09
F	(4, 103) 1.9	(4, 103) 1.7	(4, 102) 14.9**	(4, 103) 5.6**	(4, 103) 5.9**	(4, 102) 2.4	(4, 102) 2.5*	(4, 102) 1	(4, 103) 1.5	(4, 101) .51	(4, 103) 1.6
Adj R^2	.53	.51	.68	.56	.58	.571	.35	.62	.59	.65	.29
$\triangle R^2$	.02	.03	.16	.08	.08	.03	.05	.01	.02	.06	.04

Note. $N = 124$.

* $p < .05$; ** $p < .01$.

E = Extraversion, N = Neuroticism, A = Agreeableness, C = Consciousness, O = Openness, $LDAP$ = Larsen & Diener's Scale Activated Pleasant, $LDUU$ = Larsen & Diener's Scale Unactivated Unpleasant, $LDAU$ = Larsen & Diener's Scale Activated Unpleasant, $LDUP$ = Larsen & Diener's Scale Unactivated Pleasant, $PEWB$ = Positive Emotional Well-Being, $NEWB$ = Negative Emotional Well-Being, $Env.$ Mastery = Environmental Mastery.

Table 6. Hierarchical multiple regressions: EWB—non intentional and EWB—intentional as predictors of positive and negative mental health indicators.

	Self Esteem β	Life Satisfaction β	Depression β	Anxiety β	Negative Self β	Env. Mastery β	Growth β	Positive Relations β	Purpose in Life β	Self Acceptance β	Autonomy β
Step 1											
PEWB-NI	.23**	.53**	− .04	− .04	− .04	.44**	.17	.24**	.33**	.45**	.05
NEWB-NI	− .57**	− .19**	.74**	.64**	.72**	− .10	− .35**	− .39**	− 22*	− .41**	− .17
F	(2, 121) 64.6**	(2, 121) 43.9**	(2, 129) 84	(2, 121) 48.8**	(2, 121) 73.1**	(2, 119) 20.1**	(2, 120)16.4**	(2, 120) 26.5**	(2, 121) 18.7**	(2, 119) 75.7**	(2, 121) 2.7
∆R²	.50	.40	.57	.43	.54	.24	.20	.29	.22	.55	.02
Step 2											
PEWB-I	.19	.37**	− .05	− .12	− .19	.49**	.29*	.37**	.31*	.33**	.43**
NEWB-I	− .18*	− .25**	.26**	.22*	.20*	.18	.00	− .25*	− .39**	− .27**	.02
F	(2, 119) 6*	(2, 119) 14.9**	(2, 118) 6.36**	(2, 119) 4.5*	(2, 119) 7.3**	(2, 117) 7.3**	(2, 118) 2.7	(2, 118) 12.3**	(2, 119) 15.3**	(2, 117) 19.4**	(2, 119) 4.7*
Adj R²	.55	.52	.61	.47	.59	.32	.23	.41	.38	.66	.09
∆ R²	.05	.12	.04	.04	.05	.08	.03	.12	.16	.11	.07

Note. N = 343.
* p <.05; ** p <.01.
PEWB-NI = Non-intentional Positive Emotional Well-Being, NEWB-NI = Non-intentional Negative Emotional Well-Being, PEWB-I = Intentional Positive Emotional Well-Being, NEWB-I = Intentional Negative Emotional Well-Being, Env. Mastery = Environmental Mastery.
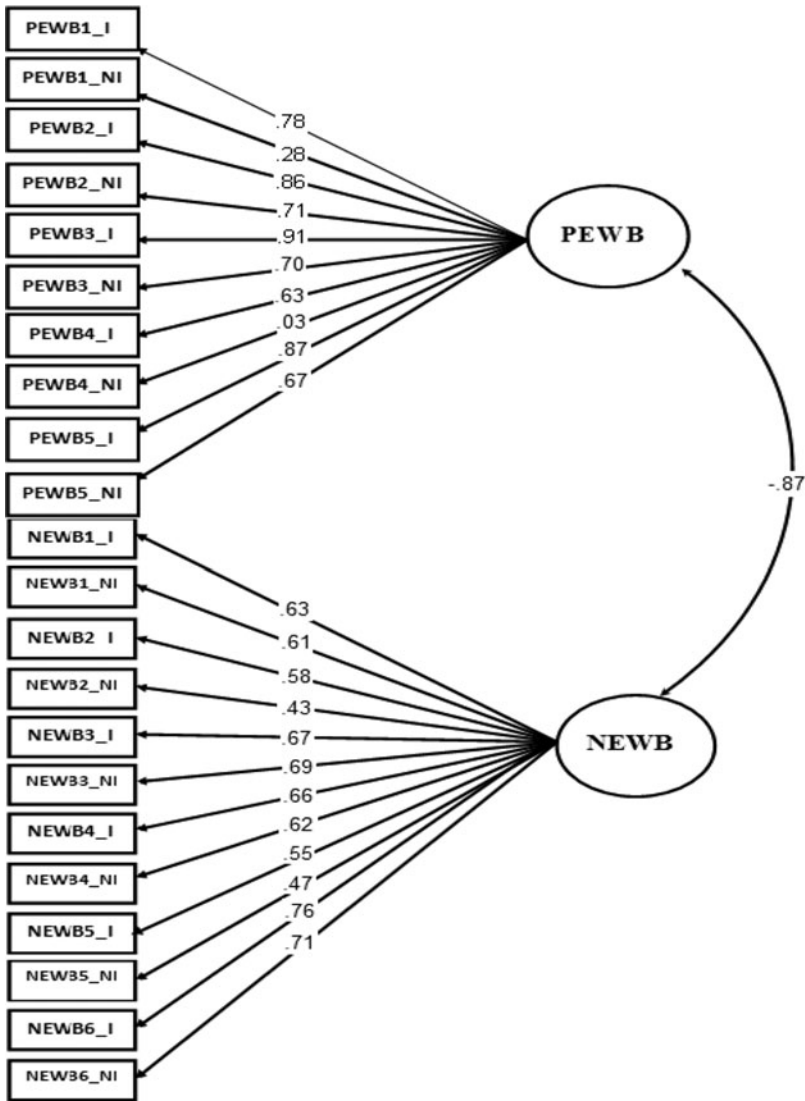
Figure 2. CTCU model results for the EWBS. *Note.* Loadings of the intentional and non-intentional items are represented in a successive manner for the ease of representation; Error covariances among the intentional and non-intentional items were not represented; PEWB = Positive emotional well-being, NEWB = Negative emotional well-being, I = Intentional, NI = Non-intentional.

dimensions could not be assessed accordingly. Thus, affect adjectives of PANAS were transformed in such a way that they made reference to life and thus became intentional. As some of the adjectives were not suitable for the intentional version, at least in the target language, only 11 items were transformed in this way. For example, the affect adjective "Sad" was rewritten as "I am sad about my life." Thus, the additional variance in the criteria accounted for by the intentional version of PANAS was determined by a regression analyses in which scores on the non-intentional version were controlled statistically. Our seventh hypothesis (H7) is that "The scores on the

intentional version of PANAS will account for variance in mental health indicators above and beyond the scores on the non-intentional version of PANAS."

Second, since both intentional and non-intentional versions of the PANAS were used in this study, they were represented as method effects in a MTMM analysis to determine their effects on the measurement of affect. Moreover, it would be possible to understand whether PA and NA are non-orthogonal when method effects are taken into consideration. As indicated in the first study, the comparison of the CTCU and OTCU models would indicate whether positive and negative affect are independent or interdependent. In an OTCU, the correlation between the factors is considered to be independent, while in a CTCU they are considered to be dependent. Consequently, our eighth hypothesis (H8) is that "The CTCU model would fit better to the data than the OTCU model."

Method

Participants and procedure

The participants were 343 undergraduate students (197 female, 145 male) from two different universities in Turkey. The age of the participants ranged between 18 and 34 years with a mean age of 20 (female: $M = 20$, SD = 2.91, male: $M = 20$, $SD = 1.26$).

Measures

An intentional version of PANAS, the BSI and RSES were completed in one session, followed the next day by a second session in which the measures of psychological well-being, life satisfaction, and the original version of PANAS were completed. Internal consistency for the SWLS was found to be .82, and it was .87 for the RSES, .85 and .92 for PA and NA dimensions of PANAS, respectively. The internal consistencies ranged from .85 to .87 for the dimensions of BSI, and from .72 to .81 for those of the PWBS.

Internal consistencies for the 11-item intentional version of PANAS dimensions were .83 for PA and .78 for NA. Internal consistencies for the non-intentional version of the PANAS dimensions were .70 and .75, where the items correspond to those in the 11-item intentional version.

Results

Means, standard deviations and correlations of the measured variables in Study 2 are represented in Table 7. All skewness and kurtosis values were less than 1, indicating that there was no problem concerning normality assumption. VIF and condition index values were also calculated for the regression analysis, and no threat was found given that VIF value was less than 10, and Condition Index value was less than 30

Table 7. Correlation m=matrix for study 2 variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. PA-I	17.1	3.6	—														
2. NA-I	10.2	3	−.51	—													
3. PA-NI	16.1	3.1	.60	−.21	—												
4. NA-NI	11.8	3.2	−.34	.53	−.18	—											
5. Self-esteem	39.8	7	.53	−.48	.38	−.38	—										
6. Life Satisfaction	14.1	4	.54	−.39	.39	−.28	.41	—									
BSI																	
7. Depression	25.2	8.6	−.46	.60	−.25	.53	−.48	−.32	—								
8. Anxiety	23.4	7.6	−.38	.59	−.20	.59	−.48	−.24	.82	—							
9. Negative Self	21.5	7.2	−.39	.53	−.19	.53	−.51	−.23	.76	.76	—						
PWB																	
10. Environmental Mastery	31.3	4.8	.52	−.45	.43	−.45	.52	.52	−.47	−.46	−.37	—					
11. Growth	35	4.3	.31	−.32	.29	−.27	.36	.20	−.33	−.37	−.35	.45	—				
12. Pos. Relations	35.9	6	.32	−.31	.33	−.37	.39	.25	−.34	−.38	−.50	.47	.41	—			
13. Purpose in Life	36.2	4.8	.34	−.43	.25	−.37	.46	.33	−.42	−.45	−.41	.56	.46	.43	—		
14. Self Acceptance	31.4	5.6	.61	−.50	.51	−.49	.59	.63	−.41	−.42	−.44	.63	.37	.51	.51	—	
14. Self Acceptance	31.4	5.6	.61	−.50	.51	−.49	.59	.63	−.41	−.42	−.44	.63	.37	.51	.51	—	
15. Autonomy	29.5	5	.42	−.27	.39	−.31	.42	.23	−.31	−.32	−.31	.44	.40	.18	.25	.45	—

Note. N = 343. All correlations are significant at *p* = .05.
PA-I = Intentional Positive Affect, *NA-I* = Intentional Negative Affect, *PA-NI* = Non-Intentional Positive Affect, *NA-NI* = Non-Intentional Negative Affect, *BSI* = Brief Symptom Inventory, *PWB* = Psychological Well-Being, *Pos. Relations* = Positive Relations with Others.

(O'Brien, 2007). It is clear from Table 7 that the correlation between PA and NA was much higher when intentional.

Regression analyses were conducted to test whether the scores on the intentional PANAS accounted for unique variance in both positive and negative mental health indicators after the non-intentional PANAS scores were controlled statistically (Table 8). As can be seen from the results, intentional PANAS scores explained a greater amount of the variance, especially in self-esteem, life satisfaction, depression, anxiety, negative self, and self-acceptance.

A test of CTCU model for the PANAS resulted in better goodness of fit statistics [$\chi^2(158, N = 343) = 422.68, p < .05$; CFI = .95; RMSEA = .070 (90 percent confidence interval for RMSEA = 0.062–0.078)] than OTCU model [$\chi^2(159, N = 343) = 530.53, p < .05$; CFI = .93; RMSEA = .083 (90 percent confidence interval for RMSEA = 0.075–0.090)], validated by a chi-square difference test (107.85, 1: p<.01). The standardized parameter estimates for the CTCU models for both scales are represented in Figure 3.

Based on the PANAS results, it is clear that all loadings of the intentional items of affect were higher than those of the non-intentional items, highlighting again their superiority as indicators of affective experience. The average amount of variance accounted for by intentional items in PA was .52, compared to .14 for non-intentional items. The average amount of variance accounted for by intentional items in NA, on the other hand, was .37 compared to .17 for non-intentional items.

The correlations among the errors were lower for the intentional items (ranged from .01 to .16) than the non-intentional ones (ranged from .01 to .43). Similar to the results of the EWBS, the correlation between PA and NA ($r = .70$) indicated these dimensions cannot be accepted as orthogonal.

Discussion

The present study contributed to the knowledge in a relatively new area of research, namely intentional measurement of EWB. Earlier research by Şimşek (2011) provided preliminary findings that intentional measurement of affect would contribute to our understanding of well-being. Şimşek showed that his intentional measure of EWB, the EWBS, accounted for unique variance in mental health above and beyond a non-intentional measure of general affect (PANAS).

However, a more rigorous test related to the effects of intentionality requires taking into account deactivated negative and positive affect, in addition to the activated positive and negative affect inherent in PANAS. Moreover, in this research, a non-intentional version of the EWBS and an intentional version of the PANAS were used in order to compare the differential effects of intentional and non-intentional versions in accounting for unique variance in mental health indicators. We were also able to evaluate the effect of intentionality on the measurement of affective experience using MTMM methodology.

First of all, the results of the hierarchical regression analyses in Study 1 showed that the EWBS accounted for remarkable unique variance in both positive and

Table 8. Hierarchical multiple regressions: PANAS—intentional and PANAS—non intentional as predictors of positive and negative mental health indicators.

	Self Esteem β	Life Satisfaction β	Depression β	Anxiety β	Negative Self β	Env. Mastery β	Growth β	Positive Relations β	Purpose β	Self Acceptance β	Autonomy β
Step 1											
PA-NI	.32**	.35**	− .16**	− .10*	− .11**	.37**	.24**	.28**	.17**	.43**	.35**
NA-NI	− .33**	− .23**	.50**	.57**	.52**	− .38**	− .22**	− .31**	− .34**	− .42**	− .25**
F	(2, 301) 54.1**	(2, 291) 39.3***	(2, 295) 68.4**	(2, 291) 81.5**	2, 296) 64.5**	(2, 289) 78.3**	(2, 293) 22.6**	(2, 288) 40.7**	(2, 290) 31.1**	(2, 285) 11**	(2, 294) 42.6**
ΔR^2	.26	.20	.31	.35	.29	.35	.12	.21	.17	.43	.22
Step 2											
PA-I	.29**	.35**	− .20**	− .08	− .17	.23**	.11	.12	.07	.30**	.19**
NA-I	− .23**	− .15*	.33**	.33**	.29**	− .12*	− .15*	− .10	− .26	− .15	.00
F	(2, 299) 30.1**	(2, 289) 23.7**	(2, 293) 36.4**	(2, 289) 26.3**	(2, 294) 25.5**	(2, 287) 13.7**	(2, 291) 5.89**	(2, 286) 4.22*	(2, 288) 11**	(2, 283) 25.9**	(2, 292) 3.9*
$Adj R^2$	.38	.31	.44	.45	.39	.40	.15	.23	.22	.52	.24
ΔR^2	.12	.11	.13	.10	.10	.05	.03	.02	.05	.09	.02

Note. N = 343.
* p < .05; ** p < .01.
PA-NI = Non-Intentional Positive Affect, NA-NI = Non-Intentional Negative Affect, PA-I = Intentional Positive Affect, NA-I = Intentional Negative Affect, Env. Mastery = Environmental Mastery.
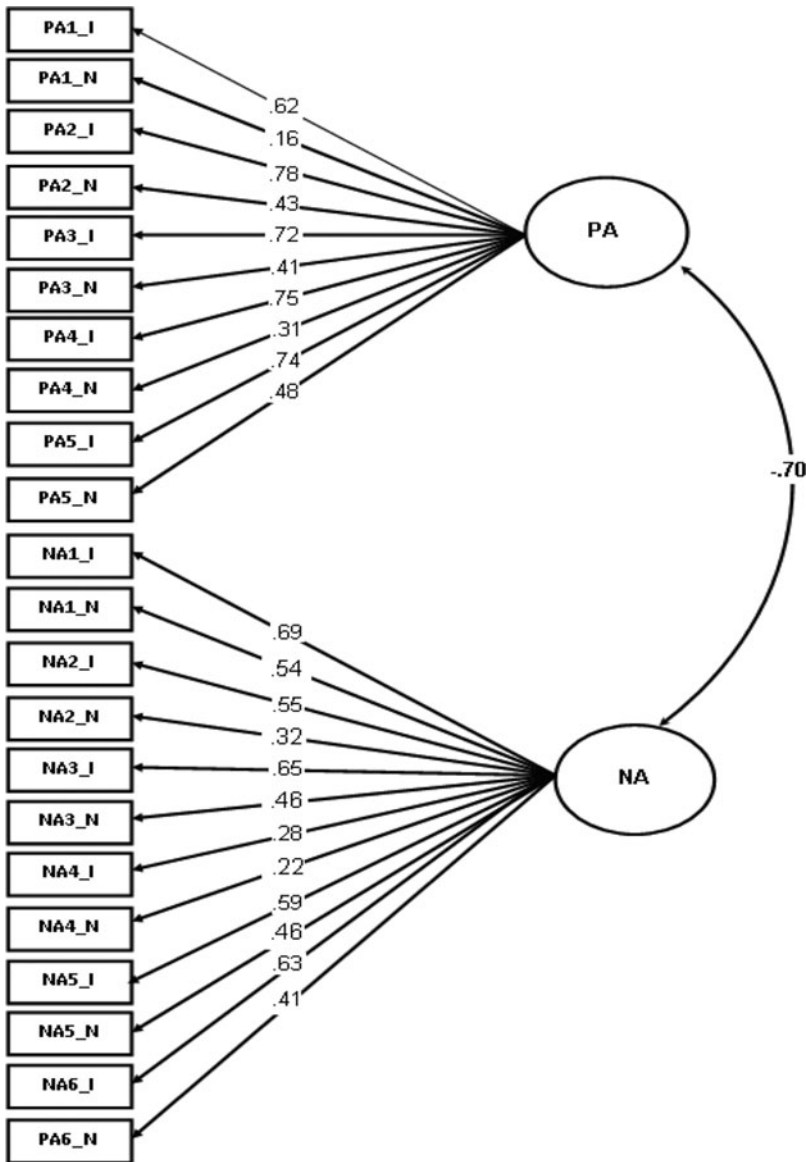
Figure 3. CTCU model results for the PANAS. *Note.* Loadings of the intentional and non-intentional items are represented in a successive manner for the ease of representation; Error covariances among the intentional and non-intentional items were not represented; PA = Positive affect, NA = Negative affect, I = Intentional, N = Non-intentional.

negative mental health indicators even after personality and the scores on PANAS were controlled statistically. These results replicated Şimşek's (2011) findings and showed that the unique variance explained by the EWBS was significant for life satisfaction, self-acceptance, self-esteem, depression, purpose in life, negative self, and positive relations with others. Additional analyses showed, moreover, that the EWBS accounted for unique variance in most of the criteria, though to a lesser degree, even after both personality and the scores on the whole affect circumplex were controlled. In these regression equations, the unique variance accounted for by the EWBS was

significant for life satisfaction, self-acceptance, self-esteem, purpose in life, positive relations with others, depression, and negative self.

It is evident from these regression analyses that EWBS accounted for additional variance in virtually identical variables independent of the alternative measures of non-intentional affect (PANAS and LDSs), although the variance accounted for was lower when all circumplex were controlled statistically. When the regression analyses were repeated inversely, the results showed that PANAS accounted for additional variance only for anxiety when the scores of personality and EWBS were controlled. LDSs similarly accounted for additional variance only in negative mental health indicators such as depression, anxiety, and negative self, for the lone exception being growth ($\Delta R^2 = .05$).

Thus, EWBS was shown to be effective in accounting for the variance in both positive and negative mental health variables, while the non-intentional measures were effective in accounting for variance mainly in negative mental health. These results indicate that as an intentional measure of emotional well-being, EWBS was more efficient in assessing positive mental health, while PANAS and LDSs were more useful in accounting for the variance in the indicators of mental illness.

These results are very intriguing, since these two scales are among the most important measurement tools used to assess the happiness levels of individuals. It would be unwise to argue that PANAS and LDSs are irrelevant to mental health. It is possible, however, in light of these results, to make the case that non-intentional measures of affect are more relevant to mental illness as opposed to mental health or well-being. As Lambie and Marcel (2002) stated, there is no general agreement among theorists about the content of emotion experience. However, the issue of content is less problematic here, because we distinguished between core affect on one hand and the intentional emotion experience related to life as experienced by the individual on the other. Given that the non-intentional measures of affect refer to the assessment of mood, it is natural to find these measures to be more associated with mood disorders such as anxiety and depression. Such findings strongly support Şimşek's (2011) argument that the measurement of EWB should take into account its subject matter, life itself, in order to achieve an understanding of subjective emotional well-being. Earlier research (Robinson & Kirkeby, 2005) indeed showed that the evaluations of life—e.g., life satisfaction, have an effect on the processing of emotion experience.

As indicated before, the content of the emotion cannot be differentiated from the emotion experiences themselves. Current non-intentional measures of affect are limited because of their focus on core affect as a way of understanding the universal structure of emotional experiences while ignoring the personal/individual ingredients. SWB, however, is differentiated from other constructs of well-being—e.g., psychological well-being—by its direct focus on individual's perceptions of their lives. SWB, by definition, focuses on private and phenomenal characteristics of the human experiential world without dependence on grand Western theories (Diener, 1984). As we mentioned before, personal commitments to the world or its constituents could probably be assured by taking intentionality into account. Barrett,

Mesquita, Ochsner, and Gross (2007) similarly indicated that a thorough representation of emotion experience can only be assured by taking its intentional nature into account.

Such a measurement of affective experience could also be important in clinical settings given that a thorough understanding of clients' emotions is dependent upon the context to which these emotions are experienced. As Greenberg and Paivio (2003) stated, some emotions are related to the surrounding world, while others are related to the self and require distinctly different types of interventions. Similarly, an emotion experience toward one's life (e.g., worry) is quite distinct from the same experience when assessed by calculating its frequency without any reference. Such a distinction could also be important for the clients to be conscious of because these emotions could give much information about the referent when intentional, e.g., one's life. It is clear that feeling worry frequently is very different from feeling worry about one's life and such a conceptualization would give the client the opportunity to assess his/her emotions contextually and to get acquainted with his/her phenomenal world more consciously. According to Nussbaum (2001), for example, intentionality should not be considered merely as an act of intending or a mechanical type of directedness. Rather, it refers to the personal engagements with the world (Nussbaum, 2001; Solomon 2006), which Lewis and Todd (2005) call "emotional interpretation" and Goldie (2004) refers to as "extraspective knowledge" (e.g., feeling towards). The basic idea behind these considerations is that, thanks to intentionality, emotions become individual lenses through which we are tuned to life itself. In other words, intentionality is considered to be a requirement for any affect state to be subjective or phenomenal.

Şimşek (2011) pointed out that the aim of Husserl (1970) was to bring mental states into the empirical domain through the use of intentionality. Without assuring the intentionality inherited in mental states, consciousness would be considered to have a metaphysical nature. It is clear that the same situation is valid for the mysterious nature of a core affect that is objectless and impossible to observe directly in real life. More specifically, the average frequency of general affective experiences does not make it equal to happiness, or SWB, of individuals. This is an abstraction made by researchers and not a natural reflection of an individual about life. Including intentionality into the assessment of affect appears to make it more concrete and relevant to the circumstances of the individual, and thus more suitable for reflecting individual or phenomenological differences in assessing subjective evaluations of life. Given that subjective well-being or happiness is dependent on the perception of individuals in the definition of what constitutes a good life, intentionality helps ensure that individual stances towards life have been incorporated into the measurement.

The uniqueness analyses also showed that the intentional versions of the items are more reliable indicators of EWB than non-intentional ones. In the analyses on the items of EWB and PANAS, intentional items had stronger factor loadings than non-intentional versions of the same affective experience ("sad" vs. "sad about life"). The results of the uniqueness analyses additionally provided important

support for the idea that the orthogonality of positive and negative affect dimensions is dependent on intentionality. Although the research has shown that the strength of correlation between the dimensions can change according to specific circumstances (Larsen, McGraw, & Cacioppo, 2001; Reich, Zautra, & Davis, 2003), it is known to be dependent on the affect adjectives chosen (Russell, 2003) when measured under normal conditions. The results provided by the present research showed that intentionality increased the dependency between the dimensions, independent of their location in the affect circumplex. When the affect/emotion terms used in the scales—i.e., the original EWBS and intentional version of PANAS (taking life as an obvious referent)—positive and negative evaluations shared more variance than those of affect terms measuring general affectivity which have no referent.

Since the current measures consider affective well-being as general emotional reactions of individuals, the independence between positive and negative evaluations could have emerged as a result of the lack of a referent. When there is no referent on which attention is focused, the most obvious context would probably be the valence of the affect terms. This non-intentional nature of affect measures forces individuals to make their evaluations in a vacuum, which may also make positive and negative affect terms appear unipolar. The valence inherited in affect adjectives, consequently, could easily be regarded as being independent of each other in such an evaluation. Although the present research has provided important material concerning emotional experience and intentionality link, it has some limitations. First, the data comes from self-report measures. Future research should incorporate MTMM analysis strategy with multi-informant data in order to control bias in the measurement. Although we used a form of MTMM methodology in both studies, we did not use multi-informant data, and treated intentionality as method effects in our uniqueness models. CTCU models provided no clear view about the bias related to intentionality, and a more comprehensive picture can only be achieved using multi-informant data. Second limitation is the use of general time frames to measure emotion experience, which produces a general picture that may change when the focus is on momentary affect. Third, the exclusive use of university students in the current studies means that the results cannot be automatically generalized to other groups. Fourth limitation was a limited number of participants in Study 1, which decreases the power of the regression analyses. Finally, participants filled out the questionnaires across two consecutive days because different versions of the same questionnaire (intentional and non-intentional) are used at the same time. The reason was to eliminate the possibility that the participants could try to be consistent across different versions. Nevertheless, such an application could be resulted in order or time effects. Such a possibility should take into consideration in the future research.

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