

Participatory Educational Research (PER)  
Vol. 8(1), pp. 141-159, January 2021  
Available online at <http://www.perjournal.com>  
ISSN: 2148-6123  
<http://dx.doi.org/10.17275/per.21.8.8.1>

## The Broaden-and-Built Theory of Gratitude: Testing a Model of Well-Being and Resilience on Turkish College Students

Ferhat KARDAŞ\*

*Van YüzüncüYıl University, Faculty of Education, Department of Guidance and Counseling, Van, Turkey, ORCID: 0000-0003-3386-3956*

İlhan YALÇIN

*Ankara University, Faculty of Educational Sciences, Department of Guidance and Counseling, Ankara, Turkey; ORCID ID: 0000-0002-6407-9606*

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### Article history

**Received:**  
28.04.2020

**Received in revised form:**  
14.07.2020

**Accepted:**  
22.07.2020

### Key words:

Positive psychology,  
Well-being,  
Gratitude,  
Positive feelings,  
Resilience

The use of the positive psychology approach is increasing and this approach emerges as one of the sources that can effectively be used for the field of counseling. One of the main works of the positive psychology approach is the issue of positive emotions, development process of these emotions and benefits of positive emotions. The aim of the study was to test a hypothetical model developed to explain the effect mechanism of positive feelings on individuals' well-being and resilience. The sample consisted of 471 college students from three universities in Turkey. For data collection, Gratitude Scale, Life Orientation Test, Two-Dimensional Self-Esteem Scale, Multidimensional Perceived Social Support Scale, Balanced Measure of Psychological Needs Resilience Scale and Risk Factor Determining List were used. It was found that all the variables discussed in the model have significant positive relationships with each other. It was found that the proposed model was confirmed and the fit indices were found as at good level. Accordingly, gratitude as a positive emotion and a general life orientation, was found to contribute to the psychological needs satisfaction through the perceived social support and self esteem and need satisfaction enhances the individual's well-being and resilience levels. The research revealed that main proposals of Positive Activity Model and Broaden-and-Build Theory of Positive Emotions were validated. This validated model may be implemented with experimental researches. Besides, the proposed model may be tested among different samples.

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\* Correspondency: Phone: +90 444 5 065 (Ext: 21789), E-mail: kardas-90@hotmail.com

## **Introduction**

### ***Positive Psychology as the Science of Well-Being***

The history of humanity, in a sense, is the history of “human pursuit of happiness”. This pursuit, drawing the interest of many disciplines, has been one of the issues central to psychological research. However, in the history of mainstream psychology, happiness has generally been linked to the lack of negative factors that threaten mental health. The initial attempts to focus on the “how” aspect of happiness started with the advent of positive psychology. For Seligman (1999), remedial and curative psychological approaches have so far played an effective role in the therapy and pharmacological treatment of numerous major mental disorders. However, while touching the depths of negative aspects of human life, the science of psychology lost its connection with positive aspects of life, e.g. what makes it worth living, more satisfactory, enjoyable and productive. In the literature, positive psychology is defined as a field of study that focuses on preventing individuals’ mental health through programs contributing to improvement of positive individual traits, enhancement of positive experiences and enabling a boost in subjective well-being (Seligman and Csikszentmihalyi 2000), a scientific attempt to concentrate on ordinary strengths and human virtues and to find out what works and what is improving for an average person (Sheldon and King 2001), or a discipline that is interested in identifying processes and conditions that help individuals, groups and organizations to achieve development and functionality at the optimum level (Gable and Haidt 2005). These definitions indicate that positive psychology is essentially a discipline focusing on strengths to promote individuals’ development, life satisfaction and functionality.

### ***Different Perspectives on Well-Being***

A number of theoretical approaches have so far been developed to conceptualize well-being. The concept of well-being is often approached in the literature in connection with psychological well-being and subjective well-being. The literature presents perspectives defending that psychological well-being and subjective well-being are similar concepts (Kashdan, Biswas-Diener and King 2008) as well as perspectives arguing that there are significant differences between the two concepts (Waterman, Schwartz and Conti 2008). However, the overwhelming tendency in the literature is to distinguish between psychological and subjective well-being. Subjective well-being is experienced when individuals have more pleasant experiences and few unpleasant experiences, have more pleasure of life and less pain, and are more satisfied with their lives (Diener 2000). Subjective well-being is basically conceptualized as a cognitive assessment of life, focusing on greater life satisfaction, abundant positive emotions and a low level of negative affection, while psychological well-being approach defends that realization of human potentials is at the very core of well-being (Hefferon and Boniwell 2014). Discussions on psychological and subjective well-being are also predicated on the distinction between eudaimonia and hedonia, linking subjective well-being to hedonic approach and psychological well-being to eudemonic approach. However, with the growing body of research, the concept of flourishing replaced the concept of well-being. With regard to the use and definition of the concept of flourishing, the literature presents four different approaches: Huppert and So (2013), Keyes (2002), Seligman (2011), and Diener et al. (2010). In these approaches, the concept of well-being is associated with positive relationships, engagement, meaning and purpose in life, self-esteem and self-acceptance, positive emotions, competence, optimism, social



acceptance, autonomy, and personal growth (Hone, Jarden, Schofield and Duncan 2014). In this respect, the “Flourishing Scale”, developed to measure psychological well-being, consists of relationships, self-esteem and purpose dimensions (Diener et al. 2010). The concept of flourishing used by Diener et al. (2010) comprises the dimensions of having supportive and rewarding relationships, a purposeful and meaningful life, need for competence, need for relatedness and self-acceptance, contributing to the others happiness, being respected by others, being engaged and interested in one's self-respect, optimism, to feel competent in the activities which are important for the individuals. Encompassing the aspects of individual and social well-being, this definition suggests that the scope of flourishing is broader than those of psychological and subjective well-being.

### ***Resilience, Gratitude, Self-Esteem, Social Support and Need Satisfaction***

Another concept associated with well-being is *resilience*. Resilience, a phenomenon that has drawn the attention of scientists for long years, refers to the individual's ability to cope with challenges and to succeed in the face of adverse life conditions and risk factors. There are various definitions of resilience in the literature. The concept has been defined as getting good outcomes despite the presence of serious threats to development and adaptation (Masten 2001), having flexibility in the face of changing situational needs and ability to recover after a negative experience (Tugade et al. 2004), and positive adaptation to a context characterized by significant negative conditions (Luthar et al. 2000). Research suggests that individuals with greater resilience possess greater well-being and happiness (Cohn et al. 2009; Malkoç and Yalçın 2015).

*Gratitude* is another core concept that is related with this study. The word gratitude originally comes from “*gratia*” which means favor and grace in Latin, and from “*gratus*” which refers to something that gives pleasure and satisfaction. All derivations of this Latin word are associated with concepts such as “kindness, generosity, beauty of giving and receiving gifts or giving without expecting anything in return” (Emmons 2004). In the literature, there is no consensus on the definition or the framework of gratitude, and there is a variety of theoretical approaches to gratitude. Theoretical discussions suggest that the concept of gratitude has affective and cognitive aspects and is a complex construct in which both affection and cognition are dominant. Emmons (2004), one of the most prolific scientists focusing on gratitude, argues that gratitude is an emotion that essentially corresponds to satisfaction with a benefit or gain. A grateful person is aware that she/he has not done anything special to deserve what is given to her/him, and that it is a gratuitous giving. The benefit may be a gift or a gain; it may be a material or an emotional or spiritual benefit. Thus, given that gratitude is of “other-oriented” nature, one can feel gratitude towards other people, and towards God, animals or non-human beings including the universe. Wood, Froh and Geraghty (2010) contend that there are various aspects of gratitude, and that it needs to be conceptualized as a general life orientation rather than be reduced to interpersonal relations.

In the present study, other variables associated with individual well-being and resilience are *self-esteem*, *social support*, and *psychological need satisfaction*. Self-esteem has been a concept discussed with its various aspects since it was first coined by William James (1842-1919). Self-esteem refers to an individual's positive and negative attitudes towards oneself (Rosenberg 1965), and an individual's evaluation of one's own worth

and adequacy (Coopersmith 1967). Several studies in the literature demonstrate that self-esteem is closely associated with well-being. Social support, another variable in this study, has been defined as psychological and material support provided by social networks to help an individual cope with stress (Cohen 2004); emotional, informational and practical help from significant others such as family members, friends and colleagues (help actually received from others or perception that significant others are always ready to help) (Thoits 2010); and social and psychological support that an individual gets from their circle (Yıldırım 1997). There is a considerable amount of literature showing that social support plays an effective role in the solution of sociological and psychological problems, prevention and treatment of such problems, and coping with challenging situations (Yıldırım 1997). This suggests that people with many friends and family members are more likely to have a high level of subjective well-being (Diener and Ryan 2009). Psychological need satisfaction, yet another variable in this study is examined in association with self-determination theory. Self-determination theory, founded on traditional scientific methods, is a theory of motivation and personality that highlights the importance of transforming and developing internal sources in personality development and self-regulation. In this respect, the theory basically examines individuals' natural development tendencies, psychological needs that constitute the foundation of self-motivation and personal integrity, and conditions that make a positive contribution to these processes (Ryan and Deci 2000). A basic need, whether it be physiological or psychological, is defined as a state that motivates individuals to take action, contributes to health and well-being when satisfied, but causes pathology and ill-being when not (Ryan and Deci 2000). Several studies indicate that a person's psychological needs are categorized into three, i.e. innate, essential, and universal needs (Ryan and Deci 2000). Thusly, the basic needs of competence, autonomy and relatedness have to be satisfied to ensure that an individual experience ongoing integrity, well-being and "eudemonia" across the lifespan. It has been validated in both western and eastern cultures that there are three types of psychological needs (Deci et al. 2001). The literature suggests that basic psychological needs are associated with well-being and psychological health (Buunk and Nauta 2000; Ryan and Deci 2000; Deci et al. 2001; La Guardia, Ryan, Couchman and Deci 2000; Reis et al. 2000), and that disorders and the risk of pathology increase when these needs are not satisfied (Ryan and Deci 2000; Sheldon and Bettencourt 2002).

This extensive survey of literature shows that the variables of well-being, resilience, gratitude, social support, self-esteem and fulfillment of psychological needs are related to each other at varying levels and from varying aspects. In recent years, two approaches have been developed to understand the relationship between positive emotions and how certain activities contribute to enhancement of positive emotions – Positive Activities Model developed by Lyubomirsky and Layous (2013), and Broaden and Build Theory of Positive Emotions by Fredrickson (2001). Grounded on these two theories, this study examines the relationships among mentioned variables and proposes a hypothetical model.

### ***The Positive Activity Model***

The literature abounds with studies showing that there exists a wide range of factors and activities promote well-being. However, there are scant research findings and theoretical foundations regarding how these factors function to affect well-being. One of the relevant approaches is the Positive Activities Model developed by



Lyubomirsky and Layous (2013). This model intends to explain which characteristics of activities and persons contribute to maximum effectiveness and which mechanisms play a role in this process. The variables that constitute features of activities are their dosage, in other words frequency and timing, sequence, variety, and social support provided during an activity. Research findings suggest that it is important to find the most effective match between activities and personal features, that is, to determine activities that render an optimal person-activity fit. The Positive Activities Model holds that positive activities carried out to increase well-being function through some mediating activities. In this respect, positive activities increase individuals' well-being by enhancing their positive emotions, thoughts, and behaviors increasing their level of need satisfaction. In this process, it is of particular importance to ensure the optimal match between personal characteristics and different variables related to the activity. This model shows that need satisfaction is a variable that impacts well-being, and that an increase in positive emotions, thoughts and behaviors raises the level of well-being.

Another theoretical approach that intends to explain how positive emotions influence well-being is the Broaden and Build Theory of Positive Emotions, developed by Fredrickson (2001).

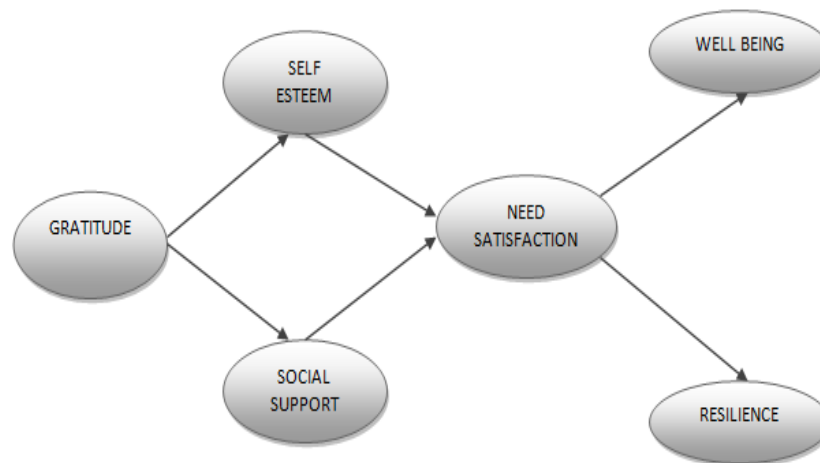
### ***The Broaden-and-Build Theory of Positive Emotions***

The Broaden-and-Build Theory of Positive Emotions defends that positive emotions broaden individuals' momentary thought and behavior repertoire, allowing them to think and behave flexibly when required. This lays the foundation of social, cognitive, physical and psychological resources for individuals. On the other hand, negative emotions narrow individuals' momentary thought and behavior repertoire, inciting them to decide and act swiftly. Positive emotions do not have such an effect. In contrast to negative emotions, positive emotions such as joy, interest, contentment, pride, and love broaden individual's thought and action repertoire and help them discover more ideas and actions. For instance, as positive emotions, interest and curiosity encourage individuals to research, gain new knowledge and experience, and use these for personality development. Contentment helps individuals enjoy the present moment and develop new perspectives of self and the world by integrating what they gain in that moment. Pride arising after success urges individuals to share their experience with others, and by doing so, lays the ground for future achievements (Fredrickson 2001). There is continuing research on positive emotions and personal resources falling under the scope of this theory. New emotions and resources have been added. In Fredrickson (2003), the personal resources are physical, intellectual, social, and psychological. Learning new knowledge and developing problem-solving skills are intellectual resources; developing coordination skills and developing strength and cardiovascular health are physical resources; strengthening interpersonal bonds and establishing new bonds are social resources; and developing resilience and developing identity and sense of orientation are psychological resources. Although positive emotions that the theory includes are diversifying, major positive emotions that constitute its basis are joy, contentment, pride, love, interest, and curiosity. Fredrickson (2004) further suggests that gratitude is a positive emotion that broadens thought and behavior repertoire and thereupon paves the way for building personal resources and increasing well-being.

### The Relationship Between Model Variables

The variables in this study are based on an extensive survey of literature. The relationship between variables were examined in the survey of literature to identify the predictor, predicted and mediating variables. Gratitude has been found to be directly or indirectly related with well-being (Boehm et al. 2011; Kong et al. 2015; Lyubomirsky et al. 2011; Lyubomirsky et al. 2005; Sin and Lyubomirsky 2009; Wood et al. 2008), resilience (Fredrickson et al. 2003), social support (Chen et al. 2012; Kong et al. 2015), satisfaction of psychological needs (Boehm et al. 2011), and self-esteem and self-efficacy (Kashdan et al. 2006; Kong et al. 2015; Li et al. 2012; Strelan 2007).

Furthermore, research findings on the relationship of self-esteem and social support with well-being and resilience are provided above in section 1.3. Taking as a point of departure these empirical data and theoretical discussions particularly the Positive Activities Model (Lyubomirsky and Layous 2013) and the Broaden-and-Build Theory of Positive Emotions (Fredrickson 2001), this study proposes a hypothetical model (see Figure 1).



**Fig.1**The Hypothetical Model

This model suggests that gratitude has a significantly positive effect on social support and self-esteem. Several studies mentioned above provide evidence that more intensive gratitude feeling and greater inclination for gratitude lead to greater satisfaction from interpersonal relations, more positive evaluation of human behaviors, and inclination to make friends easily and to improve existing relationships. This shows that gratitude increases social support resources and strengthens perceived social support. This finding led to the proposition that “gratitude increases perceived social support and self-esteem”. Previous research also focused on the correlation between psychological need satisfaction and other variables. Research findings summarized above suggest that higher level of perceived social support, self-liking and self-esteem contributes to the satisfaction of psychological needs, i.e. autonomy, competence, and relatedness. Previous research further shows that psychological need satisfaction is associated with resilience and well-being of individuals. To sum up, gratitude increases perceived social support and positive self-assessment, leading to enhancement of self-esteem; self-esteem promotes the satisfaction of psychological needs such as autonomy, competence and relatedness; satisfaction of psychological needs is conducive to boosting resilience and psychological well-being. In consideration of these propositions, the present study

tested a hypothetical model. For the purpose of this study, a multiple mediation model is preferred in place of a single mediation model. The contention is that multiple mediation model yields more significant results than single mediation model and contributes to understanding of relative significance of variables (Kong et al. 2015).

The model proposed in this study is likely to have theoretical and practical implications as it addresses to multiple variables interrelated with each other, examines the relationship of positive emotions with personal resources and well-being taking the effect of mediating variables into account, and is one of the comprehensive models related with these variables in the Turkish culture. Some interrelations in this model were examined previously in a number of studies. Some are addressed for the first time hereinon the basis of pertinent data reported in the literature. To our knowledge, no studies to date have examined all variables together. Considering the theoretical foundations of this study we arrive at the conclusion that it is important to carry out research based on the proposition that positive emotions broaden thought-behavior repertoire and build personal resources.

## Methods

### *Participants and Procedure*

This study was conducted with 471 students from three public universities in Ankara, Turkey. In the sample, 75.2% of the participants were women, and 24.8% men. The participants' age ranged between 17 to 32 with a mean of 20.61 ( $S_x \pm 1.67$ ). Convenience sampling was used to select the participants. Students from different disciplines were included in the study.

## Measures

### *Flourishing Scale*

The Flourishing Scale is an instrument designed to measure components of positive relationships, self-esteem, and perception of purposeful and meaningful life. The 8-item measure was developed by Diener et al. (2010) and adapted into Turkish by Telef (2013). For the original version of the scale, the researchers obtained a one-dimensional construct with an internal consistency of .87, explaining 53% of the variance, and found that item factor loads ranged between .61 and .77. We found the internal consistency coefficient of the scale as .86 in the present study.

### *Resilience Scale and Risk Factors Determination List*

The Resilience Scale was developed by Wagnild and Young (1993) to measure the ability to recover after an adverse experience. It was translated into Turkish by Terzi (2006). To use the Resilience Scale, researchers ask participants to fill out a 29-item Risk Factors Determination List. Resilience score is calculated for participants that mark at least one factor.

In the present study, the item-total correlation for item 11 of the Resilience Scale was significantly lower than the acceptable level. Thus, this item was excluded from the scale, and the internal consistency was .93 when the reliability analysis was reperformed. The following fit values were obtained for the 23-item version of

measurement model of the scale: Goodness of fit  $\chi^2$ : 1031.78, degree of freedom: 228, root mean square error of approximation (RMSEA): .087, comparative fit index (CFI): .96, incremental fit index (IFI): .96, relative fit index (RFI): .94, non-normed fit index (NNFI): .96, and standardized root mean square residual (SRMR): .057.

### ***Multidimensional Scale of Perceived Social Support (MSPSS)***

This scale is an instrument designed to assess subjectively the sufficiency of perceived social support from some sources, namely family, friends and a significant other. The measurement tool developed by Zimet et al. (1988) consists of 24 items rated on a 7-point Likert scale. The revised version of the scale used in this study was tested for reliability and validity by Eker, Arkar and Yaldız (2001). The Cronbach's alpha internal consistency coefficient of the adapted version was .89 ( $p < .01$ ). In the present study, the Cronbach's alpha internal consistency coefficient is .87 ( $p < .01$ ).

### ***Two-Dimensional Self-Esteem Scale***

The Two-Dimensional Self-Esteem Scale is an instrument designed to measure self-esteem based on self-liking and self-competence. This measurement tool developed by Tafarodi and Swann (2001) consists of 16 items, 8 of which are scored reversely, rated on a 5-point Likert scale. Each of self-liking and self-competence dimensions of the scale comprises 8 items. Higher scores refer to higher level of self-liking and self-competence. The scale was adapted into Turkish by Doğan (2011). In the adapted version, the Cronbach's alpha internal consistency coefficient was .83 for self-liking and .74 for self-competence. The test-retest validity was .72 for both dimensions. Consistent with these, in the present study, the Cronbach's alpha internal consistency coefficient is .85 ( $p < .01$ ) for self-liking dimension, and .75 ( $p < .01$ ) for self-competence dimension.

### ***Gratitude Scale***

A comprehensive literature review shows that the gratitude is conceptualized in different forms; as general personality trait, as a life orientation, as an emotion that occurs in different situations depending on general tendency, or in some cases, as an emotion occurs independent of the personality (Kardaş & Yalçın, 2018). However, despite these researches and conceptual discussions, according to Wood et al. (2010), these definitions about gratitude do not sufficiently cover the dimensions that people express as a source of gratitude. Hence, Wood et al. (2010), who conducted various researches on gratitude, state that gratitude can be re-conceptualized in terms of a general life orientation. Accordingly, the tendency of gratitude is part of the general tendency to recognize and appreciate positive things in life. Evidence supporting this conceptualization was obtained from a study by Wood et al. (2008) in which they examined three measuring instruments for gratitude. Wood, Maltby, Stewart, and Joseph (2008), in their study of these scales, examined all sub-scales of three scales commonly used in the literature and found that these 12 sub-dimensions measured eight distinct characteristics of gratitude. Accordingly, the researchers stated that gratitude can be re-conceptualized as life orientation through these common characteristics of gratitude. In this context, a new measure of gratitude was developed on the Turkish culture.

The Gratitude Scale developed by Kardaş and Yalçın (2019) was used in this study to





measure gratitude. The scale is a 5-point Likert-type scale comprises 25 items and 6 subscales. Higher scores refer to higher levels of gratitude. University students were recruited as participants to develop the scale. Validity and reliability testing showed that gratitude is a multidimensional construct consisting of the following subdimensions: positive social comparison, focusing on positive, appreciating contributions of family and others, feelings of abundance, gratitude for simple things and expressing gratitude. In the original study, the Cronbach's alpha internal consistency coefficient was .88 for the total score, .82 for positive social comparison, .73 for focusing on the positive, .72 for appreciating contributions of family and others, .70 for feeling of abundance, .76 for gratitude for simple things, and .72 for expressing gratitude. After test-retest analysis, Cronbach's alpha internal consistency coefficient was 0.73 ( $p < 0.01$ ). In the present study, the Cronbach's alpha of the Gratitude Scale is .88 ( $p < .01$ ).

### ***The Balanced Measure of Psychological Needs Scale***

The Balanced Measure of Psychological Needs Scale, developed by Sheldon and Hilpert (2012), has satisfaction and dissatisfaction dimensions to measure fulfillment of psychological needs. In this 18-item instrument rated on a 5-point Likert scale, 9 items are scored positively and 9 items negatively. The construct allows measurement with three dimensions, i.e. relatedness, competence and autonomy, and with six dimensions where these three needs are measured under satisfaction and dissatisfaction dimensions. Responses of 324 university students were used to test the original scale for validity and reliability. The internal consistency coefficients were .78, .79 and .78 respectively for relatedness, competence and autonomy subscales of the three-dimensional scale. The internal consistency coefficients were .71, .85, .71, .70, .69 and .70 respectively for relatedness satisfaction and dissatisfaction, competence satisfaction and dissatisfaction and autonomy satisfaction and dissatisfaction subscales of the six-dimensional scale. The scale adapted to Turkish by Kardaş and Yalçın (2018) was used in the present study. University students were recruited in the adaptation process. Both models were tested in the adaptation process, and the results showed that fit values were within the acceptable range. The internal consistency coefficients were .70, .71 and .74 respectively for relatedness, competence, and autonomy subscales of the three-dimensional model. The internal consistency coefficient is .73 for relatedness satisfaction, .68 for relatedness dissatisfaction, .70 for competence satisfaction, .63 for competence dissatisfaction, .63 for autonomy satisfaction and .72 for autonomy dissatisfaction in the six-dimensional model.

### ***Statistical Analysis***

In the first place, descriptive statistics was used for data analyses. We tested the assumption of univariate and multivariate normality, linearity, and homogeneity, and determined that participants that cause multicollinearity. We excluded the participants that did not meet these assumptions. We then conducted confirmatory factor analysis to test the reliability of each measurement instrument used in the study and tested their measurement models. We used the Pearson's product-moment correlation coefficient to examine the linear correlation between variables and found that all variables are significantly correlated – which is a requirement for constructing a model. After having confirmed measurement models of instruments, we tested the measurement model of our hypothetical model and found that all values were acceptable. We finally analyzed the hypothetical model through structural equation modelling (SEM) and reported the

results. Table 1 presents the model fit indices taken as criteria to assess the fitness in scale analyses.

**Table 1.** Model fit indices

| Fit Index   | Good Fit   | Acceptable Fit |
|-------------|------------|----------------|
| $\chi^2/sd$ | $\leq 2$   | 2-5            |
| RMSEA       | $\leq .05$ | $\leq .08$     |
| RMR         | $\leq .05$ | $\leq .08$     |
| GFI         | $\geq .95$ | $\geq .90$     |
| CFI         | $\geq .90$ | $\geq .85$     |
| NNF         | $\geq .95$ | $\geq .90$     |
| NNFI        | $\geq .95$ | $\geq .90$     |

## Results

### *Descriptive and Correlation Analyses*

**Table 2** Means, standard deviations, and correlations among study variables

|                             | N   | M      | SD    | 1 | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      |
|-----------------------------|-----|--------|-------|---|--------|--------|--------|--------|--------|--------|--------|--------|
| 1. Psychological Well-Being | 471 | 41.98  | 7.26  | - | ,697** | ,552** | ,614** | ,566** | ,430** | ,512** | ,539** | ,474** |
| 2. Resilience               | 471 | 121.82 | 18.70 |   | -      | ,354** | ,644** | ,646** | ,365** | ,387** | ,595** | ,430** |
| 3. Gratitude                | 471 | 95.19  | 10.73 |   |        | -      | ,350** | ,191** | ,397** | ,462** | ,252** | ,344** |
| 4. Self-Liking              | 471 | 28.92  | 5.32  |   |        |        | -      | ,658** | ,364** | ,520** | ,566** | ,497** |
| 5. Self-Competence          | 471 | 24.99  | 4.09  |   |        |        |        | -      | ,276** | ,361** | ,618** | ,435** |
| 6. Social Support           | 471 | 62.28  | 13.54 |   |        |        |        |        | -      | ,462** | ,261** | ,318** |
| 7. Relatedness              | 471 | 23.03  | 3.12  |   |        |        |        |        |        | -      | ,459** | ,418** |
| 8. Competence               | 471 | 20.82  | 3.35  |   |        |        |        |        |        |        | -      | ,433** |
| 9. Autonomy                 | 471 | 20.14  | 3.54  |   |        |        |        |        |        |        |        | -      |

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows that there is a significantly high or moderate positive correlation between all variables included in the hypothetical model studied in this research. The results indicate that psychological well-being is positively correlated at the moderate or high level with gratitude, self-liking and self-competence dimensions of self-esteem, perceived social support, relatedness, competence, autonomy and resilience. In the same vein, resilience – the other independent variable of the study – is positively correlated at the moderate or high level with gratitude, self-liking and self-competence dimensions of self-esteem, perceived social support, relatedness, competence, autonomy and psychological well-being.

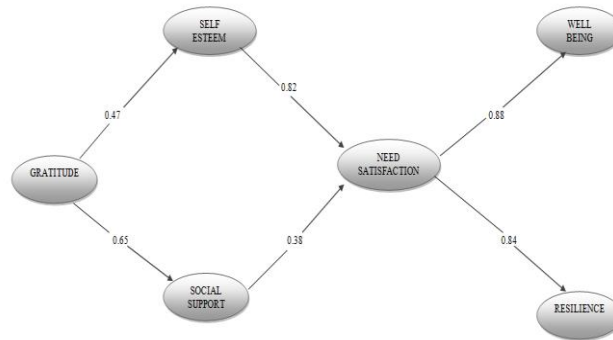
### *Results of the Measurement Model*

In this study, before conducting structural modeling test, we tested whether the measurement model was confirmed. The analyses yielded the following results. Goodness of fit  $\chi^2/sd$ : 3.44, root mean square error of approximation (RMSEA): .072, comparative fit index (CFI): .96, incremental fit index (IFI): .95, relative fit index (RFI):



.93, non-normed fit index (NNFI): .95, and standardized root mean square residual (SRMR): .069. The results suggest that fit values of this measurement model are good enough to test the structural model.

**The Structural Model**



**Fig.2**The Structural Model

**Table 3.** Fit values for the model

| Fit Indices | Values |
|-------------|--------|
| X/Sd        | 3.66   |
| RMSEA       | .075   |
| SRMR        | .073   |
| CFI         | .96    |
| NNFI        | .96    |
| IFI         | .96    |
| RFI         | .94    |

Fit values of the proposed model, as also shown in Figure 3, are as follows. Goodness of fit  $\chi^2/sd$ : 3.66, root mean square error of approximation (RMSEA): .074, comparative fit index (CFI): .96, incremental fit index (IFI): .96, relative fit index (RFI): .94, non-normed fit index (NNFI): .96, and standardized root mean square residual (SRMR): .073. These values indicate that the proposed alternative model has good fit values, and that the model is acceptable. The statistical significance of the relationship between latent variables of this model was predicted with reference to t values and standardized beta coefficients. The results are provided in Table 4.

**Table 4.** Standardized values and t values for the model

| Structural Relationships      | Standardized Coefficients ( $\beta$ ) | t Values |
|-------------------------------|---------------------------------------|----------|
| Gratitude → Self-Esteem       | 0.47                                  | 8.47     |
| Gratitude → Social Support    | 0.65                                  | 10.17    |
| Self-Esteem → Satisfaction    | 0.82                                  | 9.23     |
| Social Support → Satisfaction | 0.38                                  | 6.84     |
| Satisfaction → Well-Being     | 0.88                                  | 8.84     |
| Satisfaction → Resilience     | 0.84                                  | 8.46     |

The model shows that gratitude significantly predicts self-esteem ( $\beta=.47$ ,  $t=8.47$ ,  $p<.01$ ) and perceived social support ( $\beta=.65$ ,  $t=10.17$ ,  $p<.01$ ). Furthermore, self-esteem ( $\beta=.82$ ,  $t=9.23$ ,  $p<.01$ ) and social support ( $\beta=.38$ ,  $t=6.84$ ,  $p<.01$ ) significantly predict need satisfaction, and need satisfaction significantly predicts well-being ( $\beta=.88$ ,  $t=8.84$ ,  $p<.01$ ) and resilience ( $\beta=.84$ ,  $t=8.46$ ,  $p<.01$ ).

## **Discussion**

This study was conducted to test a hypothetical model developed based on the literature. The analyses results confirmed the model, showing that the fitness values were good. This part of the study provides a discussion of research findings with regard to relationships between variables and the model test, as well as similar findings in the literature.

The study shows that the variables of gratitude, self-esteem, social support, psychological need satisfaction, psychological well-being and resilience are correlated with each other through some variables. Results indicate that psychological well-being and resilience – the main dependent variables of this study – are significantly correlated. This finding is corroborated by several studies that focused on the correlation between well-being and resilience (Carver et al. 2010; Martinek and Hellison 1997; Souri and Hasanirad 2011; Yu and Zhang 2007). This research further suggests that feeling gratitude is positively related with other variables and has significantly positive influences on psychological well-being and resilience through mediating variables. This result is supported in the literature. Previous research demonstrates that gratitude enhances positive emotions (Emmons and McCullough 2003; Fredrickson 2004; Lyubomirsky et al. 2005), promotes optimism (Emmons and McCullough 2003; Froh et al. 2009), helps individuals prevent depression and stress (Wood et al., 2008), and encourages individuals to reinterpret negative life experiences and to increase resilience (Fredrickson et al., 2003). Our results further provide evidence that perceived social support has a positive correlation with well-being and resilience by means of need satisfaction. Positive correlation was reported between social support and well-being in the literature (Lönnqvist and Deters 2016; Gençöz and Özlale 2004; Yalçın 2011). Similarly, social support has been found to contribute to stress management (Cohen and Wills 1985). Self-esteem is another trait that is positively correlated with well-being and resilience by the mediation of need satisfaction. The research findings clearly indicate that self-esteem is a significant predictor of well-being and resilience, and that self-esteem affects these two traits through need satisfaction. The literature presents similar findings. Comparable studies show that self-esteem is related with well-being (Ayyash-Abdo and Alamuddin 2007; Vacek et al. 2010) and with resilience (Yu and Zhang 2007). Our results also prove that psychological need satisfaction is positively related with well-being. This is consistent with several studies in the literature (Chen, Yao, and Yan 2014; Mack et al. 2011; Milyavskaya and Koestner 2011; Sheldon and Niemiec 2006).

These findings corroborate that variables in the model have a significant positive relationship with each other. This is compatible with the major paradigm that underlies positive psychology. The findings further support the interaction between positive emotions included in this study and personal sources.



Structural equation modeling results of the hypothetical model indicate a good model fit. These results confirm the model developed in consideration of theoretical discussions and empirical findings in the literature. Findings of the present study show that gratitude has a significant positive correlation with psychological well-being and resilience, which are personal sources. This corroborates the propositions in the Positive Activities Model and the Broaden-and-Build Theory of Positive Emotions – two theoretical approaches that constitute the theoretical foundation of this study. Thus, gratitude, as a positive emotion, increases perceived social support from others. This is explained by the fact that grateful people adopt a positive attitude towards themselves, other people, and the life. The nature of gratitude enables grateful people to have stronger social relations, develop positive opinions of the self and have higher perceived self-competence as they generally focus on positive aspects of the life and events, make positive social comparisons, develop awareness of family members' and friends' contribution to their life and share this awareness with them, appreciate even the smallest things in life, and focus on what they possess rather than what they do not possess. These factors contribute to the satisfaction of psychological needs. With greater satisfaction of psychological needs, individuals have higher well-being which involves such dimensions as positive relationships, goals, participation, self-acceptance, self-esteem, competence, and social contribution. Furthermore, individuals with higher psychological need satisfaction are more resilient than others. Therefore, gratitude, perceived social support, self-esteem and psychological need satisfaction help individuals deal more strongly with challenges of life, recover more easily after a negative experience, and gain strength when doing these.

This fits previous findings that individuals with more intensive positive emotions have higher satisfaction of life as positive emotions allow them to develop positive perception of the self and to develop new sources to cope with challenges (Cohn et al. 2009). Fredrickson (2001), focusing on the effects of positive emotions on resilience, concludes that more resilient individuals achieve faster cardiovascular recovery than individuals with negative emotions. Thus, positive emotions enhance resilience by enabling individuals to be more powerful and robust when they are faced with a challenge. Thanks to positive emotions, individuals tend to think more flexibly and creatively to cope with a negative situation in a more effective manner. Over time, this allows them to recover more easily and rapidly after a problem and to develop psychological endurance in the face of adversities.

Findings of the present study corroborate propositions of the Broaden-and-built Theory of Positive Emotions. Fredrickson, Tugade, Waugh and Larkin (2003) examined individuals' resilience and various emotions following the September 11<sup>th</sup> terrorist attacks. They found that positive emotions play a fully mediating role in the relationship between pre-crisis resilience and post-crisis development of depressive symptoms. Positive emotions further play a fully mediating role in the relationship between pre-crisis resilience and post-crisis development of personal sources. In other words, the research reveals that positive emotions prevent resilient individuals from developing depression symptoms on the one hand and help them build personal sources such as life satisfaction, optimism and peace on the other hand. In a similar study, Cohn, Fredrickson, Brown, Mikels and Conway (2009) measured 86 students' positive emotions every day for one month and assessed their life satisfaction and resilience at the beginning and end of the study. The research findings suggest that positive emotions have significant effects on increasing both life satisfaction and resilience. The research

further shows that negative emotions do not interfere with effects of positive emotions, positive emotions mediate the initial and final levels of resilience, change in resilience mediates the relationship between positive emotions and life satisfaction, and positive emotions contribute to life satisfaction by strengthening personal sources. The above-summarized findings of two studies are consistent with findings of the model proposed in this study.

This study also focuses on the mediating role of self-esteem and social support in the relationship between gratitude and well-being. Lin (2016) examined the mediating role of social support in the relationship between gratitude and well-being, using structural equation modeling. The study, conducted with Taiwanese university students, showed that social support plays a partially mediating role between gratitude and well-being. Wood et al. (2008) also found that social support plays a mediating role in the relationship between gratitude and well-being. Along with perceived social support, self-esteem is a mediating variable that predict the relationship between gratitude and well-being. Using variables similar to those in our hypothetical model, Kong, Ding and Zhao (2015) studied the relationship among gratitude, self-esteem, social support and life satisfaction with a sample of Chinese university students. Their research findings indicate that social support plays a fully mediating role in the relationship between gratitude and life satisfaction, and that gratitude predicts life satisfaction by the mediation of social support and self-esteem. The research further shows that life satisfaction contributes to well-being as a mediating variable. Consistent with this, Froh, Yurkewicz and Kashdan (2009) tested the relationship among subjective well-being, gratitude, prosocial behavior, physical symptoms, and social support with a group of adolescents. They found a positive correlation between gratitude and positive affection, life satisfaction, optimism, social support and prosocial behavior. The research further points to the mediating effect of relationship satisfaction on the relationship between gratitude and physical indicators.

The study was carried out on Turkish university students. The findings are important both for the sample of university students and for the measurement of well-being and happiness at the national level and keeping records. In this respect, it is thought that repeating the same model through a similar sample group in different countries can make important contributions to the literature in understanding the intercultural dimension of happiness.

Findings of the present study, the structural model tested, and other studies in the literature consistent with our findings clearly show that gratitude, social support, self-esteem, resilience and well-being have a positive correlation with each other. According to the model tested here, the variables are related with each other.

### **Limitations and Contributions**

This study was conducted to test a model that we developed on the basis of the positive psychology literature, and the model proved to have goodness of fit values. For the purpose of this study, data were collected from university students, and structural equation modeling was used for data analyses. The research findings provide some implications for researchers and practitioners.

It would be beneficial for the practitioners to carry out studies on positive emotions such as gratitude and optimism in individuals in various ways such as psychological



counseling, psychoeducation programs, seminars and workshops with the individual and the group. That being said, since the characteristics such as gratitude and optimism are also considered as personality tendency in the literature, doing these studies especially on positive emotions in early childhood may create more permanent effects. In the psychological counseling process, the emergence and development of positive emotions can be achieved by using techniques such as relaxation during counseling, by encouraging the clients to participate in the activities e.g. sharing past memories they like (Fredrickson et al., 2003). Social support and self-esteem are determined as strong mediator variables in proposed well-being and resilience model. In this context, it is thought that strengthening social support networks and improving the person's two-dimensional self-esteem may provide important benefits in order to ensure psychological need satisfaction and increase resilience and well-being. Finally, the concept of gratitude, which has become an important issue with the positive psychology approach, seems to be an important and useful power to be used in improving the mental health of individuals. In this context, it is thought that more research and application related to this concept on different age groups will be useful. However, a number of potential limitations need to be considered. The model was tested only with university students from Turkey. Thus, the findings may not be generalized to different sample groups and cultures. We consider that similar studies may be conducted, using this model, with different groups including children, adolescents, adults and the elderly, individuals with chronic diseases and individuals with disabilities, and that a similar research design may be used to test the model indifferent cultures, with a view to assessing the effects of positive emotions on these groups and cultures from different aspects.

Another limitation lies in the fact that, unlike experimental research findings, the model proposed here does not provide causal relationships. Further work is needed to test the model with experimental research designs and to use it in intervention studies. In this respect, practitioners may endeavor to unveil and enhance positive emotions such as gratitude in counseling and intervention activities. Practitioners may use relaxation and relieving techniques during counseling sessions, encourage counselees to participate in activities they enjoy, and ask them to remember and share good memories to help them discover and increase positive emotions (Fredrickson et al. 2003). In a similar fashion, counselors can inspire counselees to feel gratitude and thus increase their well-being through such activities as keeping gratitude diaries, writing gratitude letters to people who did a favor in the past, developing awareness of positive aspects of life, and appreciating a favor or a help.

In this study, only quantitative methods and self-report measurement instruments were used to collect data. Further studies may be based on mixed-methods design and incorporate qualitative data, collect data through longitudinal studies, or adopt methods such as mood tracking in the long term.

The model proposed in this study takes gratitude as a predictor variable, and social support, self-esteem and need satisfaction as mediating variables. It is possible to work with various positive emotions in consideration of theories used in research. It is recommended that further research focuses on other positive emotions such as joy, peace, belief, and curiosity, and examines how these emotions contribute to well-being. In the literature, there are studies in which coping or problem-solving methods were taken as mediating variables. We believe that our research may serve as a base for

future studies with different mediating variables. For instance, a study may focus on the mediating role of cognitive flexibility between positive emotions and personal sources based on the Broaden-and-Build Theory of Positive Emotions.

### **Acknowledgement**

This study is derived from the doctoral dissertation at Ankara University Educational Sciences Institute. The study did not receive financial support from anywhere, and there were no conflicts of interest among the authors. The study was carried out in accordance with ethical principles and all steps regarding the process were approved and documented by Ankara University Ethics Committee.

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