

Parental Support for Basic Psychological Needs and Happiness: The Importance of Sense of Uniqueness

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Abstract Past empirical research relying on self-determination theory (SDT) has consistently shown that parental support of basic psychological needs (BPN) is associated with adolescent happiness. Yet, the specific mechanisms accounting for this link are still undetermined. The present study aimed to address this gap in the literature by testing a theoretical model proposing that adolescents' satisfaction of BPN in life and sense of uniqueness mediate the association of parental support for BPN and happiness. The analyses relied on structural equation modeling and bootstrapping procedures and found support for the model. The theoretical implications of the model for SDT and applied considerations to improve the well-being of adolescents are discussed. Also, suggestions for future research that could further improve our understanding of the dynamic interplay between BPN, sense of uniqueness and happiness are presented.

Keywords Basic psychological needs · Happiness · Sense of uniqueness

Empirical research guided by self-determination theory (SDT) has consistently documented a positive relationship between parental support of basic psychological needs (BPN) and happiness among adolescents (e.g., Niemiec et al. 2006). Yet, the specific mechanisms explaining this link have not been addressed. The present study aimed to contribute to the literature by investigating adolescents' satisfaction of BPN in life and personal sense of uniqueness as mediators of the association between parental support of BPN and happiness.

The aim of the present study was to illuminate the association between parental support for basic psychological needs proposed and happiness by investigating the old and new

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intervening variables. Self-determination theory (SDT) proposes three basic psychological needs, i.e., autonomy, competence, and relatedness, the satisfaction of which would be expected to promote a healthy lifestyle and well-being (Ryan and Deci 2000). Although it was not considered in the literature empirically, the most plausible way of satisfying these needs by adolescents is through parents' attitudes toward these needs. We propose here the possibility that another crucial variable operates in the link between parental attitudes toward basic psychological needs and adolescent happiness, which is strongly supported by the humanistic approach: individuals' sense of being unique individuals, namely, the sense of uniqueness. We thus consider it important to investigate the sense of uniqueness as a mediator variable in the link, in addition to satisfaction of these needs in the period of adolescence.

1 Self-Determination Theory and Happiness

It is a well-established fact that the childrearing practices of parents have enormous effects on the mental health of their offspring. Self-determination theory (SDT, Ryan and Deci 2000) is one of the most influential theories providing a macro-level perspective on parents' attitudes towards nurturing. Based on the principles of positive psychology, and in accordance with the humanistic view of personality, SDT explains how parents could provide their children with the opportunity for growth and self-actualization. According to the theory, every individual has three basic psychological needs (BPNs), i.e., autonomy, competence, and relatedness, which are innate and should be supported to activate and pursue one's autonomous inclination for optimal development and mental health (Deci and Ryan 2000). Research has shown that parents' support for these needs is positively related to many positive mental health indicators for adolescents, such as emotion regulation and academic engagement (Roth et al. 2009), academic self-motivation and life satisfaction (Chirkov and Ryan 2001), desirable social behaviors and academic adjustment (Joussemet et al. 2005), vitality and happiness (Niemic et al. 2006), and self-esteem and social well-being (Soenens et al. 2007).

There is no doubt, then, that parent–child relationships contribute to well-being. One way this is observed is through parents contributing to the satisfaction of BPNs of their offspring. Emphasizing a dialectic relation between environment and the individual as an active organism, SDT advocates that if a family provides a supportive environment for the BPNs, the child can develop an autonomous personality, making it possible to satisfy basic psychological needs in daily life. In other words, SDT presupposes that when parents provide support for autonomy, competence, and relatedness, children could adjust to the environment more efficiently by satisfying these needs, because they become intrinsic determinants of their own behavior (Deci and Ryan 2000; Ryan and Deci 2000). Accordingly, children are able to make their choices concordant with their organismic inclinations. Satisfying BPNs, in turn, brings about growth and well-being.

In recent years, SDT researchers (Deci and Ryan 2008; Ryan and Deci 2001) are interested in the importance of basic psychological needs satisfaction in happiness or hedonic enjoyment, among other indices of well-being. They showed that, BPN satisfaction as a eudaimonic conceptualization of mental health provides individuals with a healthy way to find happiness (La Guardia et al. 2000; Reis et al. 2000; Sheldon et al. 1996). Deci and Ryan advocated that a eudaimonic way of living would result in either happiness or hedonic enjoyment, but not vice versa. Longitudinal research showed, indeed, that satisfaction of BPNs had an impact on daily variations in the levels of happiness (Reis et al.

2000; Sheldon et al. 1996). Although SDT predicts and documents the link between parental support for basic psychological needs and happiness, less is known about the specific mechanisms responsible for this link.

This study is concerned with modeling the relationships among the variables of need support, need satisfaction, and happiness and introducing a new conceptualization on the relationship between these variables in a group of adolescents. To our knowledge, no research directly tested the effect of BPN support on happiness with the mediatory role of BPN satisfaction. Moreover, it is firstly argued in this research that the need support from parents does not automatically result in the basic psychological need satisfaction, which in turn, provides adolescents with late happiness. Instead, need support from parents would contribute to the levels of need satisfaction also through a sense of personal uniqueness (Şimşek and Yalınçetin 2010), a kind of unconditional self-worth. Stated more clearly, we argue that parents' support for basic psychological needs not only provides an environment to satisfy these psychological needs, but also a non-contingent and unconditional sense of self-worth, both of which contribute to happiness of adolescents.

2 Uniqueness and BPNs

Although the concept of uniqueness has been considered very important in humanistic psychology, it has had surprisingly negative connotations in the current literature. This is especially true for adolescent uniqueness, which is considered as either a kind of faulty thinking due to egocentric thinking (Elkind 1967) or as a necessary ideation to comply with the requirements of the individuation-separation processes in the period of adolescence (Lapsley 1993). Although the reasons for seeing oneself as unique and special differ according to the theoretical frameworks, research has always found it to be negatively correlated with adjustment and mental health (Goossens et al. 2002; Lapsley et al. 1989). This is an expected result given that the concept of adolescent uniqueness refers to the feelings of personal loneliness and alienation (e.g., “Nobody will ever know what I am really like”, “No one sees the world the way that I do”, “Sometimes I think that no one really understands me”), rather than acknowledging oneself as special and unique. A relatively new conceptualization, the sense of uniqueness (SoU), introduced by Şimşek and Yalınçetin (2010), considers uniqueness as a personal inclination to acknowledge oneself as having distinctive features with the feeling of worthiness; it refers to the feelings of being somehow different, and yet worthy simply because of being who one is, a kind of non-contingent self-worth. Şimşek and Yalınçetin (2010) showed that SoU was strongly and positively correlated with many indicators of positive mental health, such as hope, resilience, self-esteem, and happiness.

It is very likely that people whose needs for autonomy, competence and relatedness are supported by their parents would have such a non-contingent sense of self-worth. SDT proposes that an important inclination of a non-contingent or autonomous kind of self-esteem is having a sense of self-worth based on simply being who one is (Deci and Ryan 1995; Hodgins et al. 2007). The SoU, in this regard, could be considered an internal contingency of self-worth, or at least being an integrated kind of self-worth fostered by parents. It is proposed that introjection represents internalization of the contingent regard of significant others and the basic reason for a fragile self-esteem (Ryan and Brown 2003; Ryan and Deci 2000). It is probable that individuals having such a contingent self-worth could not have high levels of SoU because it consists of having a sense of self-worth based on the reactions of important figures in their life. In contrast, individuals having a sense of

uniqueness are less likely to base their esteem on others' standards (contingent self-esteem) because they have a personal/individual base for their own worth.

Having an internal contingency of self-worth, in turn, is expected to be highly related to actualizing one's potential through the satisfaction of BPNs (Deci and Ryan 2000). SDT assumes that individuals have an innate propensity for growth and integration. The most important indicator of this tendency for growth is a motivation to explore the environment spontaneously, being curious, and pursue activities, which provide challenge and satisfaction (Ryan and Deci 2000; Soenens and Vansteenkiste 2010, p. 76). In line with the proponents of humanistic psychology, the SoU construct, in this respect, refers to having a propensity to regard 'oneself' as a core of self-worth and could be argued to motivate the individual to act in an organismic or autonomous way of choosing. According to Rogers, to have a SoU is directly related to making and taking the responsibility for choices, which means to have an internal locus of evaluation (Rogers 1961, p. 120). He believed that having a respect for one's own uniqueness is a prerequisite for growth, development, and self-actualization. It seems that without a deep respect for one's own uniqueness, it is more difficult to satisfy organismic needs and to choose actions concordant with the self in the way of self-actualizing. Those with a sense of uniqueness, in contrast, are less likely to feel restricted in decision-making, considering themselves having the right to direct their own actions. Indeed, Şimşek and Yalınçetin (2010) found that SoU was strongly and positively associated with the satisfaction of BPNs, and moreover, showed that it accounted for the most variance in autonomy among the basic psychological needs.

Last but not the least, satisfying BPNs requires openness to experience (Deci and Ryan 2000). The highest correlation of the SoU with Big-Five personality dimensions was with openness to experience and extraversion (Şimşek and Yalınçetin 2010). That is, individuals having high levels of SoU are more sociable, assertive, open-minded, and have a greater tendency to take their experiences as a base for meaning. The recent conceptualizations on personality indicate that extraversion and openness reflect the ability and tendency to explore and engage flexibly with novelty, in both behavior and cognition, which is known as plasticity (DeYoung 2006). It is evident then that having a high level of uniqueness is strongly related to this higher-order personality construct, supporting the assumption that SoU could indeed be an important factor in the satisfaction of organismic needs of individuals.

3 The Present Study and Hypotheses

Overall, the literature mentioned above could be taken to propose a model in which the effect of parental support for basic psychological needs on general and short-time happiness is mediated by both the personal satisfaction of these needs and the SoU experienced by adolescents. It was also hypothesized that the effect of parental support for basic psychological needs on the satisfaction of these needs is partially mediated by the SoU (Fig. 1a).

We proposed a partial-mediation here because of the close association between parental support for basic psychological needs and the satisfaction of these needs. Thus, we did not expect SoU would fully mediate this strong association. Nevertheless, an alternative model was also tested, in which the effect of parental support on the indicators of happiness is fully mediated by the SoU (Fig. 1b).

Since happiness is defined both in general and short-term frames, two separate indicators have been used in this study. The happiness construct (HAP) refers to the discrepancy between positive and negative affect in a general time frame measured by the PANAS Scale (Watson et al. 1988). In contrast, the hedonic balance (HED) refers to the

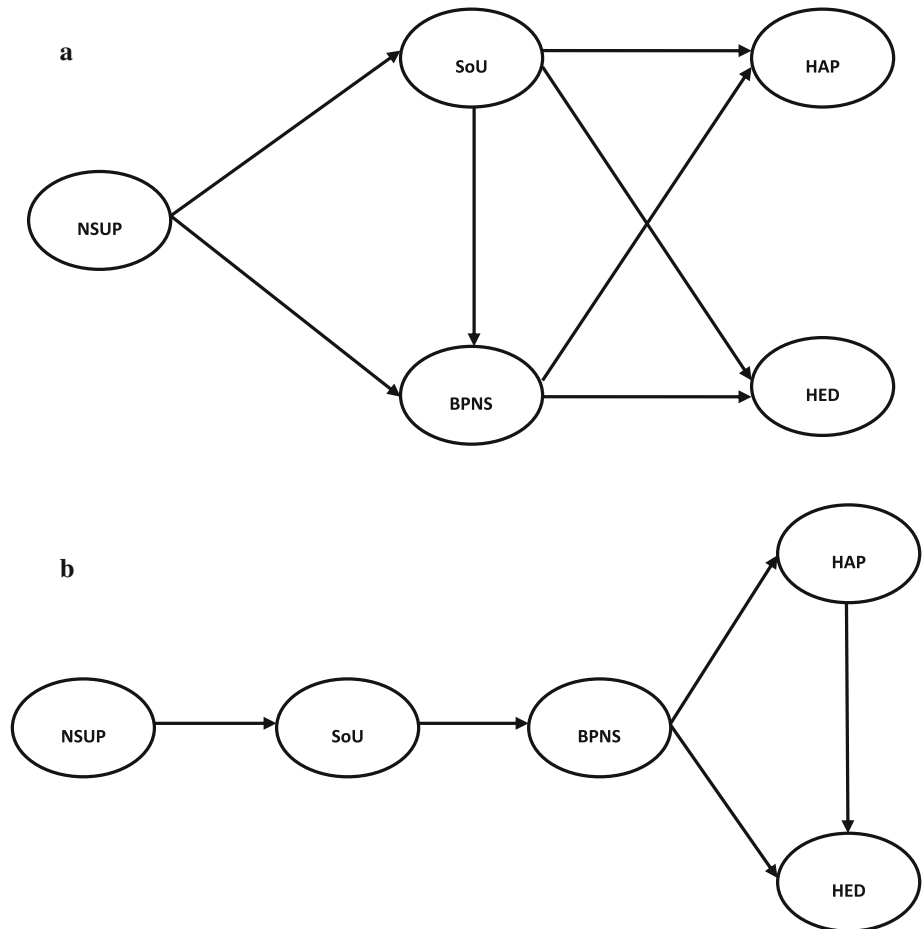


Fig. 1 **a** The proposed model concerning the relationships among the variables. **b** The alternative model concerning the relationships among the variables. *Notes:* *NSUP* parental support for basic psychological needs; *SoU* sense of uniqueness; *BPNS* basic psychological needs satisfaction; *HAP* happiness; *HED* hedonic balance

discrepancy between positive affect and negative affect in a short time period measured by the Affect Balance Scale (Bradburn 1969). Although general affect or mood was found to be influential on daily or short-term affect experiences (Stones et al. 1995), the association between these variables was expected to be accounted for by the common causes specified in the model, namely *SoU* and satisfaction of basic psychological needs.

4 Method

4.1 Participants

The sample consisted of 290 (228 women, 61 men, 1 no response) late adolescents attending a Southwestern university in the U.S.A., with a mean age of 19.10 (SD = 3.10).

The ethnic distribution of the sample was as follows: 71 % Caucasian ($n = 206$), 17 % Hispanic ($n = 49$), 3 % Native American ($n = 8$), and 9 % other ($n = 33$). The majority was freshmen (63 %) and 92 % of them were living in a dorm and/or apartment with roommates.

4.2 Procedure

The data for this study were gathered online. First, the study was announced via the department's online research participation system. The study required interested participants to be at least 18-years-old. Second, students who wanted to participate in the study were provided with a link to the survey after signing up for the study. Respondents remained anonymous. Consistent with the requirement specified above, the age of the participants were asked before reading the informed consent. All of the participants were 18 or older. Following this, participants had to agree to an informed consent prior to completing the questionnaires. Completion of the survey lasted for about 30 min and participants received extra credit for their psychology classes.

4.3 Variables and Measures

Sense of Uniqueness: The Personal Sense of Uniqueness Scale (PSU, Şimşek and Yalınçetin 2010) was used to assess feelings of uniqueness. PSU consists of five items (e.g., "As people get to know me more, they begin to recognize my special features") rated on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Şimşek and Yalınçetin (2010) provided evidence, across five studies, that the scale had acceptable internal consistency ($\alpha = 0.81$). The authors also reported that the scale was positively associated with life-satisfaction and negatively related to anxiety and depression. In the present study, the internal consistency of the scale was 0.83.

Happiness: The Positive and Negative Affect Schedule (PANAS) (Watson et al. 1988) was used to assess happiness. Prior studies also relied on this instrument to assess happiness (e.g., Sheldon et al. 2005). The PANAS consists of 10 mood states for positive affect (PA) (e.g. attentive) and 10 for negative affect (NA) (e.g., hostile). Respondents were asked to rate the extent to which they feel each mood in general on a 5-point scale from very slightly or not all (1) to extremely (5). PA and NA scores were computed by summing the items of the PA and NA scales respectively. Since happiness is defined as the predominance of PA over NA (Diener et al. 1999) and to control for extremity biases (Schimmack and Diener 1997), NA composite score was subtracted from the PA composite score. Higher score indicate higher levels of happiness.

PANAS is a well-known and commonly used instrument to assess happiness with good internal consistency (e.g., Demir and Özdemir 2010). The positive and negative affect scales are related to other scales measuring different aspects of well-being in the expected directions (see McDowell 2006, pp. 227–228). For instance, Watson et al. (1988) reported that negative affect was positively correlated with the beck depression inventory (BDI), whereas positive affect schedule was negatively related to BDI. The internal consistencies of the scales in the present investigation were satisfactory ($\alpha = 0.91$ for PA; $\alpha = 0.89$ for NA).

Hedonic Balance: The Affect Balance Scale (ABS, Bradburn 1969) was used to assess hedonic balance. ABS consists of 10-items containing five statements each reflecting positive and negative feelings and assesses the balance of positive and negative affect experienced in the last few weeks. Participants are asked to indicate a positive (yes) or

negative (no) response to each item using the stem, “During the past few weeks, did you ever feel...” Sample items include “...proud because someone complimented you on something you had done?” and “...depressed or very unhappy?” Positive and Negative Affect scores were computed by summing the responses to the five respective questions. An affect balance score is then created by subtracting the negative affect scores (NAS) from the positive affect scores (PAS). Higher scores indicate higher levels affect balance.

ABS is a reliable and valid measure that has been commonly used in psychological research to assess affect balance. As for reliability, Bradburn (1969) and others (e.g., Helmes et al. 2010) reported acceptable internal consistencies for the ABS. In the present study, the internal consistencies of the PAS and NAS were 0.65 and 0.51, respectively. As for validity, ABS has been shown the positively and moderately related to other self-report and non-self-reports measures of happiness (Diener et al. 1985; Lyubomirsky and Lepper 1999; Sandvik et al. 1993). Past research has also shown that ABS was related to the theoretical correlates of happiness in the expected directions (Baker et al. 1992; Helmes et al. 2010; Sandvik et al. 1993). For instance, ABS is positively associated with social participation and extraversion and negatively related to neuroticism and BDI.

Satisfaction of Basic Psychological Needs: The Basic Psychological Needs Scale (BPNS; Gagné 2003) was used to measure the degree of general satisfaction of three needs (autonomy, competence, and relatedness) in life. The scale consists of 21 items, and is rated on a 7-point Likert scale (1 = not at all true, 7 = very true). Of the 21 items, 8 measure relatedness (“I get along with people I come into contact with.”), seven address autonomy (“People I interact with on a daily basis tend to take my feelings into consideration.”), and six focus on competence (“Most days I feel a sense of accomplishment from what I do.”) needs satisfaction. Nine of the 21 items are negatively worded and were reversed scored before creating composite scores. The scores for individual needs (e.g., autonomy) were created by summing the respective items.

BPNS is a commonly used measure for assessing satisfaction of basic psychological needs in general in the literature (e.g., Gagné 2003; Kashdan et al. 2009; Wei et al. 2005). In regard to reliability, past research has reported acceptable and excellent internal consistencies for the subscales (range from 0.60 to 0.90 and the total scale (range from 0.84 to 0.90) (Gagné 2003; Kashdan et al. 2009; Meyer et al. 2007; Niemiec et al. 2009; Wei et al. 2005). In the present study, the internal consistencies of the autonomy, competence and relatedness were 0.67, 0.78, and 0.80, respectively. The reliability of the total scale was 0.89.

Regarding validity, prior empirical research has shown that not only the individual subscales but also the total needs satisfaction scores were positively associated with measures of positive psychosocial well-being (e.g., pro-social behavior, vitality, and happiness) and negatively related to anxiety and depression (Gagné 2003; Meyer et al. 2007; Niemiec et al. 2009).

Parental Support for Basic Psychological Needs: The Need Satisfaction Scale (NSS; La Guardia et al. 2000) was used to measure presence of supports for the basic psychological needs of autonomy, competence, and relatedness in participant’s relationships with their mothers and fathers. The NSS consists of nine items, three for each individual need. The items are rated on a 7-point Likert scale (1 = not at all true, 7 = very true). Participants completed the scale for each different relationships target (mother and father).

For example, participants rated that when they are with their father they feel “free to be who I am” (autonomy), “like a competent person” (competence), and “a lot of closeness and intimacy” (relatedness). Three of the nine items are negatively worded and were reversed scored before creating composite scores for each relationship figure. The scores

for individual needs (e.g., autonomy) were created by summing the respective items. Also, total scores were created by summing the mean of all respective items. Higher scores indicate higher levels of needs satisfaction. The mother and father versions of the scale had excellent internal consistencies in past research (0.91 and 0.94, respectively; La Guardia et al. 2000, Study 2). Alphas for the nine-item target scales in the present investigation were 0.92 for both mother and father.

The NSS is an instrument commonly used to assess the satisfaction of basic needs in a variety of different relationships. For instance, past research relied on this instrument to assess individual and overall needs satisfaction in parent–child relationships (Ryan et al. 2005; Sheldon and Niemiec 2006; Zuckerman and Tsai 2005), romantic relationships (Patrick et al. 2007; Slotter and Finkel 2009); and friendships (Demir and Özdemir 2010). These studies documented that the individual subscales and the total scale (regardless of the relationships targeted) have excellent internal consistencies. As for validity, past research has shown that satisfaction of basic psychological needs in relationships was positively associated with attachment security, emotion regulation, relationship satisfaction and happiness whereas it was negatively related to depression, loneliness and conflict.

5 Analytic Procedure

Structural equation modeling (SEM) was conducted using LISREL 8.8 (Jöreskog and Sörbom 1993) to test the fit of the data to the measurement and structural models. The Maximum Likelihood estimation method was used because it has been shown to result in fit indices that are less likely to be influenced by sample size and distribution than other methods such as Weighted Least Squares or Unweighted Least Squares (Hu and Bentler 1998). An alternative models strategy was used to determine the advantage of the proposed model in Fig. 1a against the model which indicates that SoU fully mediates the relation of parental support with happiness and hedonic balance that is specified in Fig. 1b. It is important at this point to highlight that the happiness constructs in our analyses had only one indicator. This was the case because the discrepancy between positive and negative affect was the focus in both measures (PANAS and ABS). This practice is consistent with theoretical arguments defining happiness and affect balance (Diener 1984, 1994) and past practices (e.g., Demir and Özdemir 2010). On the other hand, since the PSU is a one-dimensional construct and has only five items (Simsek and Yalınçetin 2010), these items were used as indicators of the SoU latent construct.

In the proposed model, the mediation hypotheses were tested by calculating bootstrap confidence intervals. The bootstrapping procedure tested whether or not the indirect pathways were significantly different from zero. Bootstrap resampling from the original sample was produced to estimate the standard errors for the resulting sampling distribution. These standard errors were used to calculate 95 % confidence intervals (CI) for each indirect effect. Significant mediation is indicated when the upper and lower limits of the 95 % CI do not include zero.

Moreover, the method introduced by Baron and Kenny (1986) was also used to clearly demonstrate the effects of mediator variables on the direct effects of parental support for basic psychological need support on happiness. According to Baron and Kenny's method (BKM), a four-step approach is needed to support a mediation condition. First, there should be a statistically significant association between independent and dependent variables. Second, the independent variable should be correlated significantly with the mediator variable(s). Third, the mediator variable(s) should have a statistically significant

association with dependent variable(s). Finally, a full-mediation situation is considered to exist if the statistically significant correlation between independent (parental support for basic psychological needs) and dependent variables (happiness and hedonic balance) become non-significant when the mediator variable is included into the equation.

6 Results

The results are presented in three sections. In the first section, we report the means, standard deviations, and correlations for the parental support for basic psychological needs, uniqueness, basic psychological needs satisfaction, happiness, and hedonic balance. In the second, we present the measurement model and the construct validity of the latent variables used in the present study. Finally, the results of the structural model are presented.

6.1 Preliminary Analyses

Before calculating descriptive statistics, the distribution of the variables was inspected using skewness and kurtosis values. Since the items of the SoU Scale were used in the SEM analyses, these values were calculated for all items. Skewness values ranged from -0.092 to -1.35 and kurtosis values from -0.68 to 3.65 , indicating that there was no crucial problem with normal distribution for any variable. The means, standard deviations, and correlations for all variables are shown in Table 1.

As can be seen from Table 1, the items of the SoU Scale had positive and moderate correlations with all other variables while the highest correlations were found with competence. Perceived support from the parents was moderately and positively correlated with happiness, hedonic balance, and basic psychological needs satisfaction. Basic psychological needs satisfaction had the highest correlations with both happiness and hedonic balance.

6.2 Testing the Measurement Model

The Measurement model refers to the relations of latent variables with their respective indicators or measured variables. It is recommended that the researchers test the measurement model before testing the structural model (Anderson and Gerbing 1988). Since the measurement model is the least restricted (i.e., it has the greatest number of free parameters) and, therefore, the least parsimonious model, it is impossible for any structural model having mediational hypothesis to fit the data better than the measurement model. Moreover, the non-convergent values of the factor loadings in the measurement and structural model has been considered problematic in model testing, which is called interpretational confounding by Anderson and Gerbing (1988).

The indicators, or measured variables, in the model were defined according to a priori factor structures of the constructs demonstrated by the earlier research. Parental support was defined by two indicators: support for basic psychological needs from the mother and father. The items of the SoU Scale were used as indicators of the SoU latent construct since the measure had just five items. Need satisfaction was constructed by the composite scores of three basic psychological needs. The latent constructs of happiness and hedonic balance were constructed using one indicator for each since their definition is based on subtracting positive affective experiences from negative ones (Bradburn 1969; Diener et al. 1999). Although using one indicator for defining latent constructs is not preferred, sufficient

Table 1 Means, standard deviations and correlations among the variables used in the model

| Variable | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|----------|-------|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1. UN1 | 4.33 | 0.70 | – | | | | | | | | | | |
| 2. UN2 | 4.00 | 0.88 | 0.59 | – | | | | | | | | | |
| 3. UN3 | 3.96 | 0.98 | 0.37 | 0.63 | – | | | | | | | | |
| 4. UN4 | 3.86 | 0.77 | 0.45 | 0.59 | 0.53 | – | | | | | | | |
| 5. UN5 | 3.73 | 0.97 | 0.36 | 0.54 | 0.46 | 0.53 | – | | | | | | |
| 6. HAP | 23.10 | 16.65 | 0.34 | 0.43 | 0.45 | 0.39 | 0.35 | – | | | | | |
| 7. HED | 1.04 | 1.86 | 0.24 | 0.33 | 0.37 | 0.35 | 0.23 | 0.56 | – | | | | |
| 8. MNS | 36.55 | 7.98 | 0.28 | 0.34 | 0.30 | 0.22 | 0.20 | 0.32 | 0.23 | – | | | |
| 9. FNS | 33.47 | 9.27 | 0.22 | 0.31 | 0.25 | 0.17 | 0.25 | 0.40 | 0.25 | 0.28 | – | | |
| 10. AUTO | 21.76 | 3.70 | 0.24 | 0.33 | 0.34 | 0.28 | 0.15 | 0.62 | 0.41 | 0.31 | 0.27 | – | |
| 11. COMP | 22.58 | 4.04 | 0.37 | 0.46 | 0.49 | 0.41 | 0.30 | 0.65 | 0.51 | 0.27 | 0.36 | 0.59 | – |
| 12. RELA | 35.74 | 5.50 | 0.37 | 0.32 | 0.34 | 0.30 | 0.25 | 0.54 | 0.37 | 0.31 | 0.39 | 0.53 | 0.64 |

$N = 290$; *UN1–UN5* items of the SoU Scale (higher scores indicate higher levels of sense of uniqueness); *HAP* happiness (higher scores indicate higher levels of positive affect and lower levels of negative affect in general); *HED* hedonic balance (higher scores indicate higher levels of positive affect and lower levels of negative affect in a short-time period); *MNS* mother need support (higher scores indicate higher levels of perceived support for basic psychological needs from mother); *FNS* father need support (Higher scores indicate higher levels of perceived support for basic psychological needs from father); *AUTO* satisfaction of autonomy; *COMP* satisfaction of competence; *RELA* satisfaction of relatedness

All correlations are significant at the p 0.01

reliability estimates for the measures of those constructs are considered to be a solution for convergence problems (Kline 2005).

The test of the measurement model resulted in an acceptable fit to the data, indicated by the following goodness of fit statistics: $\chi^2(46, N = 290) = 85.78, p < 0.05$; GFI = 0.95; CFI = 0.98; SRMR = 0.038; RMSEA = 0.055 (90 % CI for RMSEA = 0.36 – 0.072). The parameter estimates obtained for the measurement model are represented in Fig. 2.

t Values of the factor loadings ranged from 8.01 to 17.29, showing that they loaded significantly in the predicted directions on their respective constructs. The correlations among the constructs were, as expected, higher than the zero-order correlations in Table 1 since the errors in the measured variables were eliminated using latent variables.

Associations among the constructs supported the basic propositions of the present research, given that all were statistically significant. First, the support for psychological needs was correlated with both happiness and hedonic balance, which is important for the first condition of the BKM. Second, the support for psychological needs from parents was strongly correlated with both the satisfaction of these needs and SoU experienced by adolescents. These significant correlations also lent support for the second step of the BKM. Finally, both SoU and the satisfaction of basic psychological needs were correlated with both happiness and hedonic balance, which was a support for the third condition of BKM.

6.3 Testing the Structural Models

The proposed model in Fig. 1 was analyzed using Maximum Likelihood estimation method. An acceptable fit of the model to the data was achieved, which was indicated by the following goodness of fit statistics: $\chi^2(49, N = 290) = 95.51, p < 0.05$; GFI = 0.95; CFI = 0.98; SRMR = 0.040; RMSEA = 0.057 (90 % CI for RMSEA = 0.40–0.074).

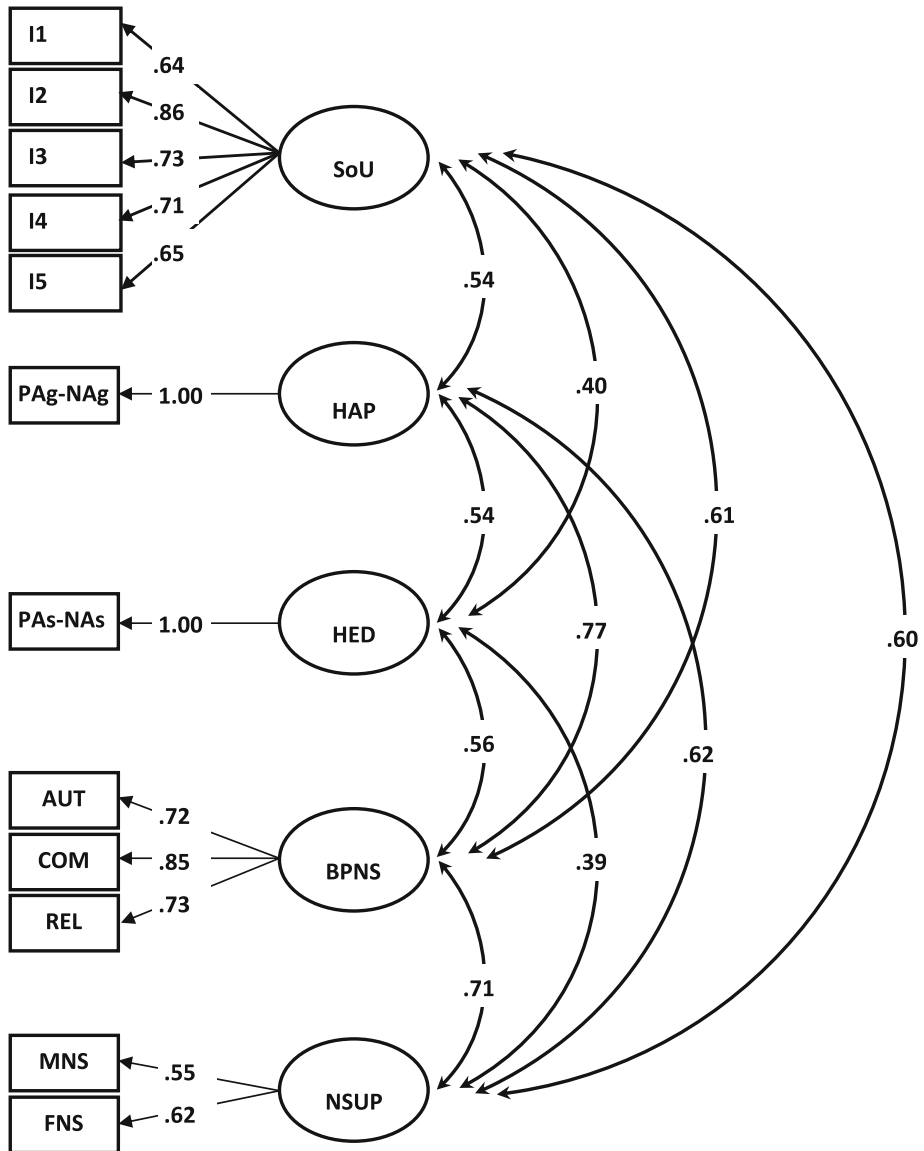


Fig. 2 Parameter estimates of the measurement model. *Notes:* $N = 290$; *NSUP* parental support for basic psychological needs; *SoU* sense of uniqueness; *BPNS* basic psychological needs satisfaction; *HAP* happiness; *HED* hedonic balance; *MNS* mother need support; *FNS* father need support; *I1–I5* items of the SoU Scale; *AUT* autonomy; *COM* competence; *REL* relatedness; *PAg–NAg* discrepancy between Positive Affect and Negative Affect scores of the PANAS Scale (General time-frame); *PAs–NAs* discrepancy between Positive Affect and Negative Affect scores of the Affect Balance Scale (Short time-frame). All parameters are significant at the p 0.01

However, the t values for the paths from SoU to happiness ($t = 1.26$) and hedonic balance ($t = 0.80$) showed that these paths were non-significant. Deleting the paths from the model produced the following goodness of statistics: $\chi^2(51, N = 290) = 97.14$, $p < 0.05$; GFI = 0.95; CFI = 0.98; SRMR = 0.041; RMSEA = 0.056 (90 % CI for

RMSEA = 0.39–0.073). The Chi-square difference test (1.63, $df = 2$; $p > 0.05$) showed that deleting the paths did not affect the fit of the model significantly. Thus, these paths were omitted to produce a more parsimonious final model.

In order to provide a support for the fourth condition of the BKM, the paths from parental support for basic psychological needs to happiness and hedonic balance were added into the equation to reveal their new estimates, which were not expected to be significant, nor to improve the fit of the model significantly. Adding these paths to the model produced the following goodness of fit statistics: $\chi^2(49, N = 290) = 96.05$, $p < 0.05$; GFI = 0.95; CFI = 0.98; SRMR = 0.041; RMSEA = 0.058 (90 % CI for RMSEA = 0.39–0.073). These two parameters were non-significant with the t value of 0.57 for happiness and the t value of 0.58 for hedonic balance. It was evident that the difference between Chi-square value of this model and that of final model was not significant (1.09, $df = 2$; $p > 0.05$).

Second, the alternative model was tested and resulted in a deterioration of the model fit: $\chi^2(51, N = 290) = 116.31$, $p < 0.05$; GFI = 0.94; CFI = 0.98; SRMR = 0.063; RMSEA = 0.063 (90 % CI for RMSEA = 0.051–0.083). Since there was no difference between the degree of freedom values between the final and alternative models, the lower Chi-square value of the proposed model confirmed that it was much better than the alternative. This model accounted for 37 % of the variance in SoU, 60 % in basic psychological needs satisfaction, 65 % in happiness, and 36 % in hedonic balance.

Standardized parameter estimates of the proposed model are reported in Fig. 3. It can be seen from Fig. 3 that the factor loadings of the constructs are the same as in measurement

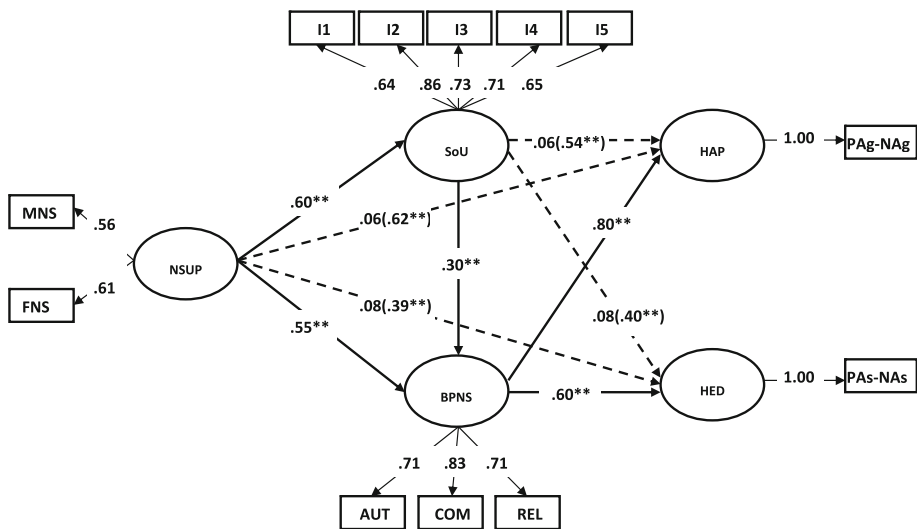


Fig. 3 Standardized parameter estimates for the proposed model. *Notes:* $N = 290$; *Dashed lines* indicates the non-significant paths; the *numbers in the parentheses* refer to the coefficients for the direct paths before the mediator is included in the model; *NSUP* parental support for basic psychological needs; *SoU* sense of uniqueness; *BPNS* basic psychological needs satisfaction; *HAP* happiness; *HED* hedonic balance; *MNS* mother need support; *FNS* father need support; *I1–I5* items of the SoU Scale; *AUT* autonomy; *COM* competence; *REL* relatedness; *PAG–NAg* discrepancy between Positive Affect and Negative Affect scores of the PANAS Scale (General time-frame); *PAs–NAAs* discrepancy between Positive Affect and Negative Affect scores of the PANAS Scale (Short time-frame). All factor loadings are significant at $p = 0.01$, ** $p < 0.01$

Table 2 Parameters and 95 % CI for the paths of the proposed model

| IV | DV | 95 % CI (Lower–Upper) |
|--------|-----------------|-----------------------|
| NSUP → | BPNS | (0.100–0.184) |
| NSUP → | Happiness | (0.611–0.672) |
| NSUP → | Hedonic balance | (0.454–0.503) |
| SoU → | Happiness | (0.107–0.231) |
| SoU → | Hedonic balance | (0.078–0.173) |

NSUP parental support for basic psychological needs; *SoU* sense of uniqueness; *BPNS* basic psychological needs satisfaction

model except for a few and ignorable differences, indicating no interpretational confounding problem between the measurement and structural model. It should also be noted that there was no statistically significant difference (11.36, $df = 5$; $p < 0.01$) between this final model and the measurement model, indicating that the model accounted for the variance in data equally as well as the measurement model.

In addition to the support provided above for the mediation hypotheses, the bootstrapping procedure (MacKinnon et al. 2004; Shrout and Bolger 2002) was used to test the indirect pathways in the final model, specifically to determine whether or not these pathways were significantly different from zero. The bootstrap resampling from the original sample was produced to estimate the standard errors for the resulting sampling distribution. These standard errors were used to calculate 95 % CIs for each indirect effect. Significant mediation is indicated when the upper and lower limits of the 95 % CI do not include zero. The bootstrapped CIs are reported in Table 2.

Confidence intervals for the indirect effects provided support for the mediation hypotheses in the present study. Overall, the results strongly supported the proposed model, which presumed that the parental support for basic psychological needs contributes to the levels of both short term and general happiness via the satisfaction of these needs and SoU. More specifically, the relationship between parental support for basic psychological needs and the satisfaction of these needs was partially mediated by the SoU. The relationship between SoU and happiness, on the other hand, was fully mediated by the satisfaction of basic psychological needs. Finally, the relationship between short term and general happiness was accounted for by the satisfaction of basic psychological needs. That is, the strong association between short term and general happiness was shown to be a spurious relationship when the satisfaction of basic psychological needs was specified as the common factors of these variables.

7 Discussion

The aim of the present study was to show the importance of personal satisfaction of basic psychological needs and SoU in the association between parental support for basic psychological needs proposed by SDT and happiness. For this purpose, structural equation modeling and bootstrapping procedures were used to assess the mediatory effects of these variables.

The results provided in this study have increased understanding of the processes through which parents contribute to the happiness of the adolescents. SDT proposes that a supportive environment provided by parents for the basic psychological needs has enormous

effects on the mental health of their offspring (Deci and Ryan 2000; Ryan and Deci 2000). Consistent with this claim, past research has shown that the parental support for basic psychological needs have positive effects on the happiness of adolescents (Chirkov and Ryan 2001; Joussemet et al. 2005; Niemiec et al. 2006; Roth et al. 2009; Soenens et al. 2007). The results provided here strongly supported this association, and these two variables were found to be strongly correlated with each other.

The main proposition of the present research was that one way this association achieved was through SoU and the satisfaction of basic psychological needs. Stated more clearly, it was shown in this research that parental support for basic psychological needs contributed to adolescents' satisfaction of these needs through SoU. The satisfaction of basic psychological needs, in turn, contributed to both long and short term happiness. The results, thus, suggest that uniqueness could be an important mediator in developing an autonomous personality in pursuing happiness in the period of adolescence, which is the major contribution of the present study to the existent literature.

An important issue at this point is that past research has shown uniqueness to be a risk factor for adolescents. Adolescence is a period throughout which adolescents are engaged in an effort to establish independence from parents and their own autonomous personality. The "new look" theory (Lapsley 1993) argues that adolescent uniqueness, a kind of ideation in this period, helps adolescents to achieve independence from parents in the process of separation-individuation. Research, however, has shown that adolescent uniqueness is highly associated with mental illness and even suicidal inclinations among adolescents (Aalsma et al. 2006; Everall et al. 2005; Goossens et al. 2002; Lapsley et al. 1989). The crucial difference between this and previous research is the operational definition of uniqueness. This study used the definition in Şimşek and Yalınçetin (2010) which focuses on personal uniqueness which consists of feelings of being a special and valuable individual. In contrast, past research has emphasized overdifferentiation which results in the feelings of loneliness and alienation. It is quite clear that the operational definitions of adolescent uniqueness include both its positive and negative aspects, making it difficult to draw conclusion about this characteristic (Vartanian 2000).

The only exception in the past research, to the best of our knowledge, is O'Connor's (1995) study which used a positive definition of uniqueness, found to be associated with positive identity development and positive parental attitudes. In concordance with these results, the present study showed clearly that the parental support for basic psychological needs contributes to adolescents' SoU, which, in turn contributes to their satisfaction of these psychological needs. According to SDT, the greater the satisfaction of basic psychological needs, the greater the likelihood of the achievement of an autonomous personality. It is plausible, then, to argue that SoU also contributes the development of identity, given that autonomy is the most important prerequisite for separation-individuation in the period of adolescence (Goossens et al. 2002; Vartanian 2000).

The definition of the uniqueness, thus, is also a critical issue in practice, since definitions act as lenses through which practitioners define their priorities. Given that the positive psychological movement is now trying to define individual strengths for interventions concerning the youth-at-risk (Smith 2006), a definition of uniqueness as a personal strength would be much more beneficial for mental health practitioners in defining intervention strategies for a healthy identity development. Conceiving uniqueness as a risk-factor or strength would have a great impact on the attitudes of practitioners towards young people in the process of adjusting to the environment without being alienated from the community. The strong association between SoU and resiliency (Şimşek and Yalınçetin 2010)

proves the need for underlining SoU in preventive counseling, since resiliency has been one of the most important personal strength in intervening the youth-at-risk (Smith 2006).

Although the present research provides preliminary evidence that SoU may contribute to positive youth development, future research should directly test the importance of SoU in the development of identity. We propose that SoU would contribute to identity development since it provides adolescents with an exploratory attitude towards their environment. It is reported that SoU correlated mostly with openness to experience and extraversion factors of the big-five (Şimşek and Yalınçetin 2010). These two factors are considered to be the determinants of a higher-order personality construct, namely plasticity (DeYoung 2006). Plasticity refers to “the ability and tendency to explore and engage flexibly with novelty, in both behavior and cognition” (DeYoung 2006, p. 1138). Given that the process of individuation-separation is strongly associated with a rich repertory of differential experiences based on independent exploration (Everall et al. 2005; Lapsley 1993), the SoU has a great potential to contribute to the achievement of identity.

Future research should also be focused on the intrinsic motivation directly. Although the satisfaction of basic psychological needs has been proposed as the fundamental indicator of an autonomous personality (Ryan and Deci 2000), the relationship between SoU and intrinsic motivation need to be examined in detailed, not only in general terms, but in specific contexts, such as work and school. In this regard, items or instructions in the SoU Scale could be adjusted to tap one’s feelings of uniqueness at school or work, thus contributing to the understanding of intrinsic motivation in these contexts.

It is also important for future research to understand whether SoU would also contribute to risk-taking behaviors of adolescents. Given that different motives of risk-taking behaviors has been defined (Kloep et al. 2009), we expect that SoU would be mostly associated with positive conceptualizations of risk-taking, such as calculated risk-taking, while adolescent uniqueness with negative ones, such as irresponsible or thrill-seeking.

The contribution of SoU in the development of suicidal inclinations among adolescents is also of great importance and should be tested by future research. It is indicated that uniqueness cannot be reducible to simply experiencing a sense of difference, and may be a strong indicator of a positive mental health (Şimşek and Yalınçetin 2010). There is a great need for additional research into the serious contradiction between findings regarding adolescent uniqueness, and those of SoU. Such research would illuminate the differential or interaction effects of these different kinds of uniqueness in the process separation-individuation, which is known to play a significant role in the issue of adolescent suicide (Everall et al. 2005).

The limitations of the present studies should be acknowledged. First, the investigation relied on a convenient sample. Therefore, the findings cannot be generalized to other age groups. Second, despite our reliance on SEM, the cross-sectional nature of the study prevents one from making causal arguments. Although needs satisfaction and SoU were treated as predictors of happiness, it could be that being happy influences individual’s perceptions of their needs satisfaction and feelings of uniqueness. Nevertheless, the findings obtained were in line with theory and extant empirical research. Third, the present study only assessed the affective component of happiness. It remains to be seen whether similar findings can be obtained with the cognitive component of happiness or when different approaches to the measurement of happiness are employed. Finally, one inevitable limitation of research on happiness conducted with American samples pertains to the generalizability of the findings to other cultures. We believe that it is imperative to investigate the generalizability of any given finding or theoretical model to other cultural contexts to establish confidence in the findings obtained in the individualistic cultural

context of the U.S. (e.g., Sheldon and Hoon 2007). Accordingly, future research should investigate whether the findings obtained in this study are generalizable to late adolescents in collectivistic cultures.

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