



The Mediating Roles of Subjective Well-being Increasing Strategies and Emotional Autonomy Between Adolescents' Body Image and Subjective Well-being

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Abstract

The aim of this study was to evaluate a proposed model of the relations between emotional autonomy and use of subjective well-being increasing strategies and subjective well-being in early adolescents. This model hypothesized that adolescents' level of body image would mediate the relation between early adolescents' emotional autonomy and use of subjective well-being increasing strategies and subjective well-being. A total of 236 Turkish early adolescents [$Age_{\text{ranj}} = 10\text{--}15$, $Age_{\text{Mean}} = 12.72$, $Age_{\text{Sd}} = 1.06$] participated in the study. These adolescents included 133 females (56.4%); and 103 males (43.6%). The following measures were employed: The Body Appreciation Scale Emotional Autonomy Scale, Subjective Well-Being Increasing Strategies Scale for Adolescents, Positive–Negative Affect Scale (PANAS), and Satisfaction with Life Scale (SWLS). Two-stage structural equation modeling was used for data analysis. Bootstrapping analysis was employed to test the mediation effects. Support for the hypothesized model was provided. The findings suggested that programs designed to support early adolescents' subjective well-being should address not only emotional autonomy and use of subjective well-being increasing strategies, but the development of body image as well.

Keywords Body image · Subjective well-being increasing strategies · Emotional autonomy · Subjective well-being · Middle school students

Introduction

In positive psychology, concepts have emerged regarding positive aspects of individuals' mental health, one of which is subjective well-being. Subjective well-being is related to experiencing frequent positive emotions, infrequent negative emotions, and life satisfaction (Deiner, 1984). A high level of subjective well-being is

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important for adolescents as well as for individuals in all life stages. For example, as the level of subjective well-being of adolescents' increases, adolescents report more satisfaction with school, less alcohol use, and better overall health (Katja et al., 2002). Furthermore, adolescents reporting higher subjective well-being demonstrate greater school attendance and academic success (Gilman & Huebner, 2006), self-control in crisis situations (Ronen et al., 2016), self-efficacy (Weber et al., 2013), mastery goals (Tian et al., 2014), and purpose in living (Eryılmaz, 2012b) along with fewer psychopathological symptoms (Suldo et al., 2011).

Moreover, adolescence is seen as a transitional period (Steinberg, 2016). Revealing the factors that increase the subjective well-being levels of adolescents during this transition period may contribute to the early prevention and/or amelioration of many problems experienced by adolescents and lead to a healthy life, both mentally and physically (Collins & Laursen, 2004). Longitudinal studies have revealed that an increase in subjective well-being levels of adolescents can help decrease their internalizing problems (e.g., depression, anxiety, somatic complaints) and externalizing problems (e.g., aggressive, oppositional, delinquent behaviors), leading to higher school attendance, math and reading scores, and overall grade point averages (Suldo et al., 2011).

Regarding the determinants of adolescents' subjective well-being, demographic, intrapersonal, and social factors contribute to the subjective well-being of adolescents (Eryılmaz, 2012a; Grob, 1998; Lampropoulou, 2018). In particular, body image has been found to be a robust intrapersonal determinant of adolescents' subjective well-being. Nevertheless, the determinants of the body image- subjective well-being link in adolescents remain unknown. Thus, the development of a model incorporating presumed determinants of adolescents' subjective well-being (e.g., use of strategies to increase subjective well-being and emotional autonomy), which identifies possible mediating mechanisms (e.g., body image) associated with their relations to subjective well-being, may provide theoretical and practical guidance for designing interventions to increase adolescents' subjective well-being, particularly those adolescents who hold negative body images.

Emotional Autonomy and Body Image

One of the key developmental tasks of adolescents involves the development of autonomy. In many studies of adolescence, autonomy is considered a multidimensional construct that incorporates three dimensions: behavioral, cognitive, and emotional autonomy (Steinberg & Silverberg, 1986). Emotional autonomy is one important dimension of autonomy development; it is defined as the achievement of emotional independence from parents and peers (Noom, 1999; Steinberg & Silverberg, 1986). Furthermore, emotional autonomy is related to adolescents' trust in their internal resources (Steinberg et al., 1986). Some studies conducted with Turkish adolescents support this assumption. For example, studies have concluded that subjective well-being levels of adolescents increase due to increases in their emotional autonomy (Güney, 2017; Poyraz, 2019). In addition, it has been found that as emotional autonomy increases, aggressive behavior decreases (Kılıçarslan &

Fingerless, 2020), empathic tendencies increase (Deniz & Uzun, 2019), students become more resilient, and their problem-solving skills increase (Akman et al., 2018), all of which are related to subjective well-being. Thus, body image, emotional autonomy, and subjective well-being are likely related.

In the current study, it was hypothesized that higher levels of emotional autonomy would predict more positive body images. This hypothesis was based on theory and previous studies of body image. Studies of the determinants of positive body images have generally revealed the importance of autonomy; specifically, emotional autonomy. Research has shown that individuals with higher levels of autonomy tend to report a more positive body image, and are less likely to display maladaptive eating behaviors and negative self-schemas (Baker & Blanchard, 2017; Cash, 2005; Mask & Blanchard, 2011; Pelletier & Dion, 2007; Thøgersen-Ntoumani & Ntoumanis, 2007).

Emotional autonomy refers to individual differences in the ability of adolescents to detach themselves from the influence of their parents and peers and thus resist the pressures of others (Noom et al., 2001; Steinberg & Silverberg, 1986). That is, emotional autonomy reflects an individual's ability to be socially-emotionally independent and make decisions based upon his or her own thoughts and feelings (Clark & Tiggemann, 2007). Adolescents' body images are strongly influenced by the media, peers, and their families (Cash, 2005). Emotional autonomy plays an important role in allowing adolescents to develop positive body images. Adolescents reporting higher levels of emotional autonomy are less likely to develop negative body images to those reporting lower emotional autonomy (Berk, 2000; Clark & Tiggemann, 2007). Thus, emotional autonomy is likely to contribute to the development of positive body images in adolescents by allowing them to accept and value themselves and to establish their own unique standards for the healthy acceptance of their bodies. High levels of emotional autonomy also likely serve to counteract limiting standards set by peers, parents, and media. In conclusion, emotional autonomy represents a psycho-social capacity for the development of a positive body image. The use of this capacity should assist adolescents in developing positive body images. Moreover, sociocultural theories of body image hypothesize that messages from peers and media can facilitate body images. It has been demonstrated that being receptive to these messages increases body dissatisfaction (Ricciardelli et al., 2003). Along with the typical increase in autonomy in adolescence, the internalization of messages about ideal body sizes from peers and the environment decreases (Smolak & Levine, 2001). The reason for this decrease is thought to be related to increases in internal locus of control among adolescents, yielding more positive body images (Clark & Tiggemann, 2008).

Subjective Well-being Increasing Strategies and Subjective Well-being

The subjective well-being of individuals, including adolescents, is affected by many direct and indirect variables (Proctor et al., 2009). Strategies within an individual's control that can increase subjective well-being are among the variables that directly affect subjective well-being. The first studies on subjective well-being increasing

strategies were carried out by Fordyce (1983). According to his findings based on experimental designs (1983), five important strategies were found to increase the level of well-being of individuals. These strategies included positive-optimistic thinking, dealing with new activities and having an active life, engaging in more social activities, developing more extraverted personality characteristics, and reducing negative thoughts (Fordyce, 1983). Later, Buss (2000), an evolutionary psychologist, argued that strategies that increase individuals' well-being involve closing the gap between the modern and primitive age living conditions, developing intimacy with relatives and friends, achieving deep friendships, reducing subjective stress, facilitating cooperation, and satisfying individual desires. Finally, Tkach and Lyubomirsky (2006) demonstrated that the activities of social affiliation, partying and clubbing, mental control, goal pursuit, passive leisure, active leisure, fulfilling the requirements of religious beliefs, and exhibiting positive behaviors (e.g., smiling, hugging) enhanced the subjective well-being of adults. Summarizing the extant literature, Eryılmaz (2010, 2012a) concluded that establishing positive relationships with the environment, exercising mental control, satisfying wishes, and fulfilling the requirements of religious beliefs are important strategies for increasing the subjective well-being of adolescents. Studies have thus found that using specific well-being increasing strategies enhances the well-being of individuals (Buss, 2000; Eryılmaz, 2010, 2012a; Fordyce, 1983; Nima et al., 2012; Tkach & Lyubomirsky, 2006). Considering these studies, we hypothesized that adolescents' more frequent use of strategies to increase subjective well-being would also predict higher levels of their subjective well-being.

Subjective Well-being Increasing Strategies and Body Image

There have been no studies to our knowledge directly examining the nature and magnitude of the relation between the use of strategies to increase their subjective well-being and adolescents' body image. However, studies (e.g., Holmqvist & Frisén, 2012) shed indirect light on the relations between these two variables. These studies, which emerged from the perspective of positive psychology (Holmqvist & Frisén, 2012), suggest strategies to increase subjective well-being that are useful for specifically maintaining positive body image. Based on such studies, Tylka (2011) deduced that the effectiveness of a variety of strategies reflect the following. First, behaviors carried out as a reflection of internal positive emotions (e.g., smile, hug) point to the strategy of exhibiting positive behaviors that directly enhance subjective well-being (Tkach & Lyubomirsky, 2006). Second, activities aimed at promoting the belief that everyone is beautiful in their own right and should not be compared with others, and activities aimed at promoting an awareness of the fact that the ideal images presented by the media are unnatural and unrealistic point to the use of mental control strategies (Eryılmaz, 2010, 2012a; Tkach & Lyubomirsky, 2006). Third, activities designed to give and receive unconditional acceptance from others, such as family, spouses, and friends, suggest the value of positive interpersonal relationships (Buss, 2000; Eryılmaz, 2010, 2012a; Fordyce, 1983; Nima et al., 2012; Tkach & Lyubomirsky, 2006). Fourth, activities aimed at promoting the belief that

individuals' bodies are given to them by a higher power and that their bodies were specially created for them indicate the strategy of fulfilling the requirements of religious beliefs ((Eryılmaz, 2010, 2012a; Tkach & Lyubomirsky, 2006). Finally, showing interest in their bodies and meeting their needs refers to the strategy of satisfying their desires (Eryılmaz, 2010, 2012a; Tkach & Lyubomirsky, 2006).

In summary, experimental studies support the notion that the use of various specific subjective well-being increasing strategies can indeed increase global subjective well-being ((Buss, 2000; Eryılmaz, 2010, 2012a; Fordyce, 1983; Nima et al., 2012; Tkach & Lyubomirsky, 2006). Thus, the use of strategies for increasing subjective being should facilitate the development of positive body images of adolescents as well.

Considering interventions that address negative body images, positive psychology interventions have employed subjective well-being increasing strategies indirectly to enhance subjective well-being in order to help clients develop positive body images. For instance, positive psychology interventions, such as writing gratitude journals, practicing mindfulness, and savoring positive experiences, can help to improve overall subjective well-being, including reducing negative emotions that can adversely affect body image, such as anxiety, depression, and stress (Tylka & Wood-Barcalow, 2015). As a result, we hypothesized that more frequent use of such subjective well-being strategies would predict more positive body image.

Body Image and Subjective Well-being

Adolescents experience major changes in their bodies during adolescence (Steinberg, 2016). Body image refers to persons' perception of their bodies. More specifically, body image is defined as the internal representations of adolescents' external appearances (Thompson et al., 1999). Body image is also considered as an evaluation of the body, which can be positive or negative (Cash, 2002; Cash & Smolak, 2011). A negative body image means that individuals are dissatisfied with their bodies and feel uncomfortable with them (Cash, 2004). Negative body images are associated with low self-esteem, depression and anxiety symptoms, poor overall psychosocial functioning (Davison & McCabe, 2006), and may result in eating disorders, such as anorexia nervosa and bulimia nervosa (Sattler et al., 2020), and suicide (Brausch & Muehlenkamp, 2007). In contrast, a positive body image is related to positive mental health, (Tylka, 2011). A positive body image includes features, such as accepting, protecting, and caring for one's body (Kara & Eryılmaz, 2018; Tylka & Wood-Barcalow, 2015) and is highly correlated with positive well-being indicators (Borges et al., 2013; Swami et al., 2018). Studies, especially with adolescents, have shown that positive body images protect adolescents from risk behaviors and psychopathology (Andrew et al., 2016; Steck et al., 2004).

The direct relation between body image and subjective well-being has been investigated in various experimental and correlational studies with adults and adolescents. For example, in a study conducted with women of ages 16 to 68 years, their body satisfaction was positively associated with their subjective well-being (Donaghue, 2009). Furthermore, in an experimental study aimed at reducing body dissatisfaction

and body shame, a decrease in body dissatisfaction and body shame among university students positively affected their subsequent subjective well-being (Kwon et al., 2018). In another study conducted with adult women, positive relations were found between positive body images and subjective well-being (Stokes & Frederick-Recasino, 2003). In addition to the aforementioned studies of adults, researchers have examined the relations between body image and subjective well-being in adolescents. For example, Borges et al (2013) and Savi-Çakar and Savi-Karayol (2015) found positive associations between positive body images and adolescents' subjective well-being for both males and females. Furthermore, in a study conducted with Brazilian adolescents, positive body images of adolescents were also associated positively with their subjective well-being (Lemes et al., 2018).

Two differing perspectives have been employed in the research on body image: One perspective involved studies focused on negative body images; the other perspective focused on positive body images (Cash, 2002; Tylka, 2011). The model for the current study focused on positive body images because positive body are associated with higher levels of positive mental health indicators such as optimism, hope, life satisfaction, subjective well-being, and positive emotions (Alleja et al., 2016; Dalley & Vidal, 2013; Marta-Simões et al., 2016; Swami et al., 2018; Tylka & Kroon Van Diest, 2013).

Additionally, one of the reasons why having a positive body image can enhance adolescents' subjective well-being is the content of positive body image. Individuals who have a positive body image reject unrealistic appearance standards, respect their bodies, accept their bodies, and think positively about their bodies (Swami et al., 2018; Tylka & Wood-Barcalow, 2015). In other words, such people tend to perceive themselves and their bodies in a more favorable and accepting way that can promote their overall well-being. Moreover, empirical studies have indeed found that adolescents' positive body are associated with positive levels of subjective well-being (Borges et al., 2013; Kwon et al., 2018; Savi-Çakar & Savi-Karayol, 2015). Based on the above theory an research, we hypothesized that more adolescents' more positive body images would predict higher levels of subjective well-being.

Emotional Autonomy and Subjective Well-being

Several theories pertain to the association between emotional autonomy and subjective well-being. One pertinent theoretical approach is the psychological well-being model (Ryff & Keyes, 1995), which posits six sub-dimensions of psychological well-being. One of these dimensions is autonomy. Having the right to choose, offering options to the person, and continuing his/her life by making free choices thus reflects an essential component of psychological well-being, which should be associated with subjective well-being (Ryff & Singer, 2008). Studies conducted with middle adolescents in particular have shown that greater emotional autonomy is associated with higher subjective well-being levels (Pace & Zappulla, 2009). A positive relation between emotional autonomy and subjective well-being is also supported by studies conducted on the functions of emotional autonomy (Chen & Dornbusch, 1998; Delaney, 1996; Lamborn & Steinberg,

1993). In these studies, it was found that as higher levels of emotional autonomy were associated higher levels of teenagers' psycho-social adjustment. In this regard, subjective well-being would be considered as an indicator of psycho-social adjustment. We thus hypothesized that higher levels of emotional autonomy would predict higher levels of adolescents' subjective well-being.

To summarize, autonomy in teenagers is related to high levels of self-esteem and self-worth (Deci & Ryan, 2013; Tulviste, 2011). High levels of self-worth lead to teenagers forming their own values and beliefs, resulting in positive beliefs, feelings, and reactions towards body image (Baker & Blanchard, 2017; Cash, 2005; Mask & Blanchard, 2011; Pelletier & Dion, 2007; Thøgersen-Ntoumani & Ntoumanis, 2007). In particular through emotional autonomy, adolescents are able to achieve a positive body image by distancing themselves from negative evaluations from peers, media, and parents (Berk, 2000; Clark & Tiggemann, 2007). Additionally, using subjective well-being increasing strategies (Buss, 2000; Eryılmaz, 2010, 2012a; Fordyce, 1983; Nima et al., 2012; Tkach & Lyubomirsky, 2006) can help teenagers develop positive emotions towards themselves (Eryılmaz, 2010, 2012a). Frequent positive emotions also help teenagers build their capacity, broaden their perspectives, and repair negative experiences from the past (Fredrickson, 2004). This experience makes achieving a positive body image easier. Through achieving a positive body image, teenagers are also more likely to develop higher levels of subjective well-being (Borges et al., 2013; Kwon et al., 2018; Savi-Çakar & Savi-Karayol, 2015). As a result, both emotional autonomy and strategies to increase subjective well-being should facilitate positive body images, and positive body images should in turn facilitate positive subjective well-being. Thus, we hypothesized that adolescents' positive body images would mediate the relations between adolescents' subjective well-being and both their emotional autonomy and use of subjective well-being increasing strategies (Fig. 1).

Hypotheses

The specific hypotheses for the study included the following.

Direct effects

H¹ = Higher levels of emotional autonomy will predict more positive body images.

H² = More frequent use of strategies to increase subjective well-being will predict more positive body images.

H³ = Higher levels of emotional autonomy will predict higher levels of subjective well-being.

H⁴ = More frequent use of strategies to increase subjective well-being will predict higher levels of subjective well-being.

H⁵ = More positive body images will predict higher levels of subjective well-being.

Indirect Effects

H⁶ = Body image will mediate the relation between well-being increasing strategies and subjective well-being.

H⁷ = Body image will mediate the relation between emotional autonomy and subjective well-being.

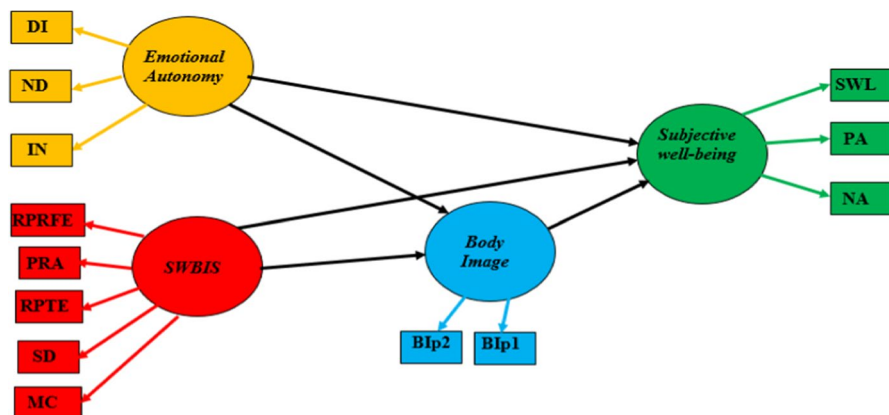


Fig. 1 Hypothetical Model. Note. BIp1, BIp2=Parcels of Body Image; DI=Deidealization; ND=Nondependency; IN=Individuation. SWBIS=Subjective Well Being Increasing Strategies; RPRFE=Receiving Positive Reaction From An Environment PRA=Participating In Religious Activities; RPTE=Reacting Positively To An Environment; SD=Satisfaction of Desires MC=Mental Control; SWL=Satisfaction with Life; PA: Positive Affect; NA: Negative Affect

Method

Participants and Procedure

A total of 236 early adolescents [$Age_{\text{ranj}} = 10\text{--}15$, $Age_{\text{Mean}} = 12.72$, $Age_{\text{Sd}} = 1.06$] participated in the present study. These students [133 females (56.4%); 103 males (43.6%)] were included in the study by the criterion sampling method. Inclusion criteria were not having any psychiatric diagnosis, Turkish early adolescents, and volunteering. The perceived socio-economic status (SES) levels of the participants were low ($n = 30$ people), medium ($n = 186$), and high ($n = 20$).

Before starting the study, a child consent form was prepared for the children, and the process was carried out with the children who provided assent to participate. In addition, permission was obtained from the parents of the children who wanted to participate in the study. After obtaining approval from the parents of the children, the self-report measures were distributed to the adolescents and administered individually in the school environment by the researchers. Participants were told that they had the right to withdraw from participation at any time. Individuals who stated that they were reluctant to participate ($n = 12$) and individuals who did not complete all measures ($n = 14$) were not included in the analyses.

The formula used in structural equation modeling was employed to determine the acceptability of the sample size. According to this formula ($N = 10 \cdot q$); N =sampling number, q =parameter number in the study, a total of 170 students were needed (Jackson, 2003; Kline, 2015). Given that the present study was conducted with 236 early adolescents, it was concluded that sufficient power was achieved.

Measures

Body Appreciation Scale (BAS)

The BAS was developed by Avalos et al. (2005). In its Turkish adaptation, validity and reliability analyses were carried out by Bakalım and Taşdelen-Karçkay (2016). The BAS consists of two subscales. These subscales are: General Body Appreciation and Body Image Investment. The Body Image Investment subscale was included in the current study because it was developmentally appropriate to measure body image in adolescents. Because this subscale is one-dimensional, two virtual parcels were assigned using the item parcelling method. Bakalım and Taşdelen-Karçkay (2016) evaluated its construct validity through confirmatory factor analysis. Goodness of fit values were RMSEA=0.11, CFI=0.93 and GFI=0.91 for males and RMSEA=0.11, CFI=0.93 and GFI=0.92 for females, all of which were deemed acceptable. Bakalım and Taşdelen-Karçkay (2016) assessed its reliability, reporting Cronbach alpha coefficients of 0.87 for the total BAS score and between 0.62 and 0.89 for its subscale scores for females as well as 0.92 for the total BAS score and between 0.70 and 0.91 for its subscale scores for males. In the current study, the internal consistency coefficient of the total body satisfaction scale was 0.88.

Emotional Autonomy Scale (EAS)

The EAS was developed by Steinberg and Silverberg (1986). In its Turkish adaptation, validity and reliability studies were carried out by Deniz et al. (2013). The EAS includes 14 items and three subscales. These subscales are Deidealization, Nondependency, and Individuation. First level confirmatory factor analysis was preferred in testing the construct validity by Deniz, Çok and Duyan (2013). As a result of the analysis, EAS [χ^2/df (317.43/74)=4.29; NNFI=0.91; GFI=0.93; CFI=0.93; AGFI=0.90; RMSEA=0.06]; these goodness of fit values confirmed the three-factor structure. Regarding reliability, Deniz et al. (2013) reported Cronbach alpha coefficients 0.79 for the total scale score, with alphas ranging between 0.64 and 0.71 for the subscale scores. In the current study, the internal consistency coefficient for the total Emotional Autonomy scale was 0.79.

Subjective Well-Being Increasing Strategies Scale for Adolescents (SWBISSA)

The SWBISSA was developed by Eryılmaz (2010). It consists of 17 items and five subscales. These subscales are “Receiving Positive Reaction from an Environment”; “Participating in Religious Activities”; “Reacting Positively to an Environment”; “Satisfaction of Desires”; “Mental Control”. Eryılmaz (2010) provided evidence for its five-factor model employing exploratory factor analysis. The total explained variance was approximately 59.86%. Eryılmaz (2010) also reported a Cronbach alpha scope of 0.89, for the total score, with the alphas ranging between 0.68 and 0.92. for the subscales. Eryılmaz also reported test–retest coefficients of 0.86 for the total

SWBISSA and between 0.75 and 0.85 for the subscales (Eryılmaz, 2010). In the current study, the internal consistency coefficient of the total Happiness Increasing Strategies scale was 0.87.

Positive–Negative Affect Scale (PANAS)

The PANAS was developed by Watson et al. (1988). In its Turkish adaptation, validity and reliability study was carried out by Gençöz (2000). The PANAS contains 20 items, 10 of which represent positive emotions and 10 represent negative emotions. Regarding construct validity Gençöz (2000) provided evidence for its two-factor structure, and the total explained variance of PANAS was found to be approximately 44%. Regarding reliability, Gençöz reported Cronbach's alphas of 0.83 for positive emotions and 0.86 for negative emotions. In addition, test–retest reliability coefficients of 0.40 for positive emotions and 0.54 for negative emotion were obtained (Gençöz, 2000). In the current study, the internal consistency coefficient was 0.80 for positive emotions and 0.78 for negative emotions.

Satisfaction with Life Scale (SWLS)

The SWLS, which is a measure of global life satisfaction, was developed by Diener et al. (1985). The SWLS contains five-items and is conceptualized as one-dimensional. It was adapted into Turkish by Köker (1991) who addressed the construct validity of the SWLS using exploratory factor analysis. The results provided support for the hypothesized one-dimensional model, and 56.05% of the total explained variance was explained by the model. Köker (1991) also determined that the three-week test–retest coefficient for the SWLS was 0.85. Yetim (1993) reported a Cronbach alpha of 0.86 for the SWLS.

Data Analysis

Preliminary analyses (kurtosis, skewness, multicollinearity and correlations) were conducted first (Finney & DiStefano, 2013; Kline, 2015). Next, the two-stage structural equation modeling proposed by Anderson and Gerbing (1988) was tested. In this context, the measurement model was verified in the first stage, then the structural models were tested in three steps (the first step: *A Direct-Effect Model*, the second step: *The Partial Mediation Structural Model* and the final step: *The Full Mediation Structural Model*). Whether these aforementioned models were compatible with the data or not, goodness of fit values were evaluated for acceptance criteria [$2 \leq \chi^2/df \leq 3$; $0.05 \leq RMSEA \leq 0.08$; $0.90 \leq IFI \leq 0.95$; $0.90 \leq CFI \leq 0.95$; $0.90 \leq GFI \leq 0.95$; $0.85 \leq AGFI \leq 0.90$; smaller than AIC and ECVI for comparison model] (Bentler & Bonett, 1980; Kline, 2015; Schermelleh-Engel et al., 2003). In addition, the significance of the mediation effects of early adolescents' body image between emotional autonomy and subjective well-being increasing strategies and subjective well-being was tested with Bootstrapping Analysis (Preacher & Hayes, 2004). For this analysis, 600 resamples were

created and lower–upper confidence intervals were determined. These mediation effects were considered statistically significant if the lower and upper confidence intervals did not contain zero (Shrout & Bolger, 2002).

Results of the Original Model

Preliminary Analysis

Preliminary analyses were carried out. First, tests of the normality assumption (skewness and kurtosis) and then the multicollinearity assumption (VIF and tolerance) were performed. As a result of the normality analysis, the skewness value was between -1.57 and 0.59; the kurtosis value was observed to vary between -0.62 and 1.90 (see Table 1 below). According to Finney and DiStefano (2013), if the kurtosis value is ± 7 and the skewness value is less than ± 2 , the normality assumption is met. Thus, the findings supported normality. Regarding multicollinearity, the VIF value of the current study was between 1.03 and 1.10; the tolerance value was observed to vary between 0.90 and 0.97. According to Kline (2015), if the VIF value is less than 5 and if the tolerance value is greater than 0.10, then there is no multicollinearity problem. Because the findings of the current study were within the limits defined by Kline (2015), it was concluded that there was no multicollinearity problem.

Two-Stage Structural Equation Modeling

Measurement Model (Stage 1)

The measurement model was represented by four latent variables (“Body Image”, “Emotional Autonomy”, “Subjective Well-Being Increasing Strategies” and Subjective Well-Being) and 13 observed variables (“Parcel 1 of Body Image”; “Parcel 2 of Body Image”; “Deidealization”; “Nondependency”; Individuation; “Receiving Positive Reaction From An Environment”; “Participating In Religious Activities”; “Reacting Positively To an Environment”; “Satisfaction of Desires”; “Mental Control”; “Satisfaction with Life”; “Positive Affect” and “Negative Affect”). The analysis of the measurement model revealed acceptable fit values (χ^2/df (118.005/59)=2.00; IFI=0.92; GFI=0.92; CFI=0.92; AGFI=0.89; RMSEA=0.06 (90% CI for RMSEA=[0.04, 0.08]) (see Table 3 below). In addition, the standardized factor loadings in the measurement model ranged from 0.34 to 0.95, and all *t* values were significant (see Fig. 2 and Table 2 below). Thus, these findings demonstrated that the observed variables in the current study were significantly represented by the latent variables, and the measurement model was supported. After the verification of the measurement model, the testing of the structural models was carried out (Table 3).

Table 1 Means, standard deviations, skewness, kurtosis and correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
(1) BIp1	1												
(2) BIp2	0.682**	1											
(3) DI	0.168**	0.200**	1										
(4) IN	0.112	0.115	0.330**	1									
(5) ND	0.183**	0.149*	0.573**	0.411**	1								
(6) RPRFE	0.231**	0.133*	0.157*	0.071	0.159*	1							
(7) PRA	0.119	0.014	0.315**	0.218**	0.242**	0.507**	1						
(8) RPTE	0.204**	0.092	0.202**	0.092	0.109	0.589**	0.509**	1					
(9) SD	0.135*	0.025	0.133*	0.015	0.049	0.362**	0.334**	0.357**	1				
(10) MC	0.156*	0.054	0.179**	0.188**	0.182**	0.438**	0.385**	0.465**	0.206**	1			
(11) PA	0.096	0.095	0.123	0.040	0.128*	0.294**	0.204**	0.237**	0.130*	0.173**	1		
(12) NA	-0.130*	-0.046	-0.150*	-0.435**	-0.217**	-0.071	-0.160*	-0.097	0.062	-0.182**	0.033	1	
(13) SWL	0.329**	0.285**	0.386**	0.361**	0.327**	0.189**	0.249**	0.273**	0.136*	0.229**	0.309**	-0.326**	1
M	16.14	19.53	15.08	13.32	11.10	14.69	10.98	10.25	13.51	9.99	36.59	22.64	25.28
SD	3.56	4.41	2.98	3.30	2.49	1.91	1.46	1.69	1.91	1.91	7.19	7.85	6.22
Skewness	-0.92	-0.77	-0.36	0.04	-0.05	-1.57	-1.28	-0.81	-0.46	-0.72	-0.43	0.59	-0.39
Kurtosis	0.31	0.39	-0.37	-0.62	-0.56	1.90	0.70	0.33	-0.48	-0.24	0.36	-0.12	-0.41

** $p < 0.001$, * $p < 0.05$; M: Mean; SD: Standard Deviation; BIp1, BIp2 = Parcels of Body Image; DI = Deidealization ND = Nondependency; IN = Individuation; RPRFE = Receiving Positive Reaction From An Environment; PRA = Participating In Religious Activities; RPTE = Reacting Positively To An Environment; SD = Satisfaction of Desires; MC = Mental Control SWL = Satisfaction with Life; PA: Positive Affect; NA: Negative Affect

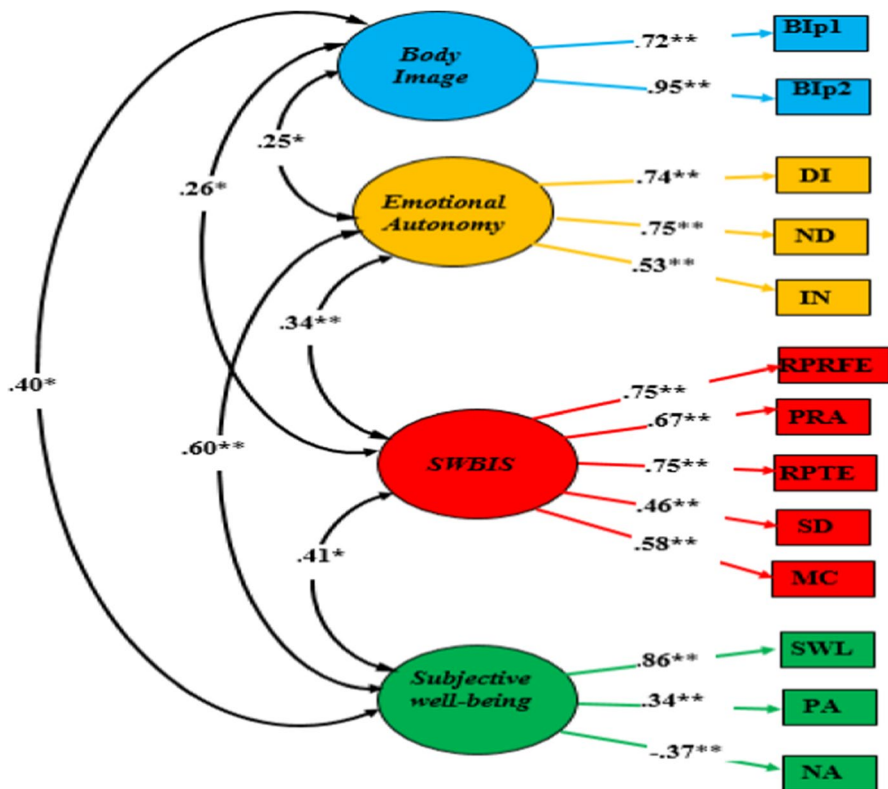


Fig. 2 Standardized factor loads of the measurement model. Note. ** $p < 0.001$, * $p < 0.01$, BIp1, BIp2=Parcels of Body Image; DI=Deidealization; ND=Nondependency IN=Individuation. SWBIS=Subjective Well-Being Increasing Strategies; RPRFE=Receiving Positive Reaction From An Environment PRA=Participating In Religious Activities; RPTE=Reacting Positively To An Environment; SD=Satisfaction of Desires MC=Mental Control; SWL=Satisfaction with Life; PA: Positive Affect; NA: Negative Affect

Structural Model (Stage 2)

In this second stage, the structural model was tested in three steps. In the first step, A *Direct-Effect Model* was tested. In the second step, the *Partial Mediation Structural Model* was examined. In the final step, the *Full Mediation Structural Model* was evaluated.

First Step: Direct-Effect Model In the first step, direct effect model analysis was performed to evaluate the effect of the predictors (Emotional Autonomy and Subjective Well-Being Increasing Strategies) on the criterion variable (Subjective Well-Being) in the absence of the mediator variable (Body Image). As a result of the analysis, it was determined that the direct path coefficient from emotional autonomy ($\beta = 0.54$, $t = 3.442$, $p < 0.001$) and Subjective Well-Being Increasing Strategies ($\beta = 0.25$, $t = 2.426$, $p < 0.05$) to subjective well-being was significant. This finding supported a

Table 2 Unstandardized factor loads and *t* values of the measurement model

Predicted Variable		Predictor Variable	Estimate	S.E	<i>t</i>	<i>p</i>
BIp2	<---	Body Image	1.000			
BIp1	<---	Body Image	1.062	0.187	5.673	**
DI	<---	Emotional Autonomy	1.000			
IN	<---	Emotional Autonomy	0.797	0.119	6.681	**
ND	<---	Emotional Autonomy	0.860	0.107	8.066	**
MC	<---	SWBIS	1.000			
PRA	<---	SWBIS	0.882	0.116	7.592	**
RPRFE	<---	SWBIS	1.293	0.160	8.076	**
SD	<---	SWBIS	0.782	0.137	5.717	**
RPTE	<---	SWBIS	1.177	0.144	8.172	**
PA	<---	Subjective Well-Being	1.000			
NA	<---	Subjective Well-Being	-1.199	0.330	-3.634	**
SWL	<---	Subjective Well-Being	2.179	0.543	4.015	**

** $p < 0.001$, BIp1, BIp2=Parcels of Body Image; DI=Deidealization; ND=Nondependency; IN=Individuation

SWBIS=Subjective Well-Being Increasing Strategies; RPRFE=Receiving Positive Reaction From An Environment PRA=Participating In Religious Activities; RPTE=Reacting Positively To An Environment; SD=Satisfaction of Desires MC=Mental Control; SWL=Satisfaction with Life; PA: Positive Affect; NA: Negative Affect

Table 3 Fit indices of the measurement model

Fit Measure	Acceptable Fit Criteria	Measurement Model
¹ χ^2/df	$2 \leq \chi^2/df \leq 3$	2.00
² RMSEA	$0.05 \leq RMSEA \leq 0.08$	0.06
³ IFI	$0.90 \leq IFI \leq 0.95$	0.92
⁴ CFI	$0.90 \leq CFI \leq 0.95$	0.92
⁵ GFI	$0.90 \leq GFI \leq 0.95$	0.92
⁶ AGFI	$0.85 \leq AGFI \leq 0.90$	0.89

¹, ², ⁵, ⁶, (Schermelleh-Engel et al., 2003), ³Bentler & Bonnet, (1980), ⁴(Kline, 2015)

significant direct relation between the the predictors (Emotional Autonomy and Subjective Well-Being Increasing Strategies) and the criterion (Subjective Well-Being) variable (see Fig. 3 and Table 4 below).

** $p < 0.001$, * $p < 0.05$,; DI=Deidealization; ND=Nondependency; IN=Individuation; SWBIS=Subjective Well-Being Increasing Strategies; RPRFE=Receiving Positive Reaction From An Environment; PRA=Participating In Religious Activities; RPTE=Reacting Positively To An Environment; SD=Satisfaction of Desires MC=Mental Control; SWL=Satisfaction with Life; PA: Positive Affect; NA: Negative Affect.

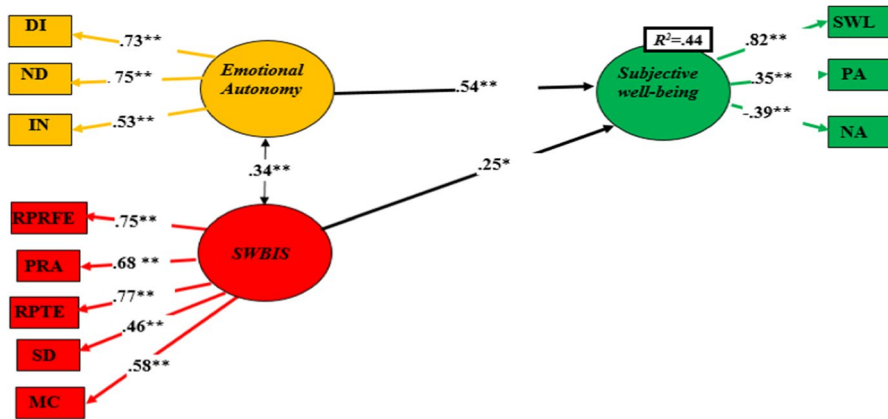


Fig. 3 Standardized path coefficients for direct-effect model. Note. $**p < 0.001$, $*p < 0.05$; DI=Deidealization; ND=Nondependency; IN=Individuation; SWBIS=Subjective Well-Being Increasing Strategies; RPRFE=Receiving Positive Reaction From An Environment; PRA=Participating In Religious Activities; RPTE=Reacting Positively To An Environment; SD=Satisfaction of Desires MC=Mental Control; SWL=Satisfaction with Life; PA: Positive Affect; NA: Negative Affect

Table 4 Unstandardized regression coefficients and t values of direct-effect model

Predicted Variable		Predictor Variable	Estimate	S.E	t	p
Subjective Well-Being	<---	Emotional Autonomy	0.626	0.182	3.442	**
Subjective Well-Being	<---	SWBIS	0.475	0.196	2.426	0.015*
DI	<---	Emotional Autonomy	1.000			**
IN	<---	Emotional Autonomy	0.806	0.120	6.711	**
ND	<---	Emotional Autonomy	0.861	0.107	8.050	**
RPRFE	<---	SWBIS	1.093	0.107	10.236	**
SD	<---	SWBIS	0.663	0.104	6.370	**
RPTE	<---	SWBIS	1.000			**
MC	<---	SWBIS	0.852	0.104	8.174	**
PRA	<---	SWBIS	0.755	0.080	9.451	**
PA	<---	Subjective Well-Being	1.000			**
NA	<---	Subjective Well-Being	-1.199	0.329	-3.643	**
SWL	<---	Subjective Well-Being	2.010	0.504	3.992	**

Second Step: Partial Mediation Structural Model (MODEL A) In the second step, the partial mediation structural model (Model A) was tested, which predicted a direct relation between emotional autonomy and subjective well-being increasing strategies and subjective well-being, adding pathways from emotional autonomy to body image and from body image to subjective well-being, as well as from subjective well-being increasing strategies to body image and from body image to subjective well-being.

The goodness of fit values revealed an acceptable fit to the data (χ^2/df (117.978/59)=2.00; IFI=0.92; GFI=0.92; CFI=0.92; AGFI=0.88; RMSEA=0.06 (90% CI for RMSEA=[0.04, 0.08] (see Table 6 below). As a result of the partial mediation structural model analysis, standardized path coefficients (see Fig. 4 below) and unstandardized regression coefficients and t values (see Table 5 below) were also obtained.

According to Fig. 4, a one-unit increase in emotional autonomy was related to a 0.19 ($t=2.078$; $p<0.05$) unit increase in body image. A one-unit increase in subjective well-being increasing strategies was related to a 0.20 unit increase ($t=2.309$; $p<0.05$) in body image. A one-unit increase in subjective well-being increasing strategies was related to a 0.18 unit ($t=2.010$; $p<0.05$) increase in subjective well-being. Also, a one-unit increase in emotional autonomy was related to a 0.48 unit ($t=2.157$; $p<0.001$) increase in subjective well-being. Finally, a one-unit increase in body image was related to a 0.23 unit ($t=2.549$; $p<0.05$) increase in subjective well-being. When the explained variances (R^2) were examined, emotional autonomy and subjective well-being increasing strategies accounted for approximately 10% of body image. Body image, emotional autonomy, and subjective well-being increasing strategies together explained approximately 45% of the variations in subjective well-being.

Final Step: Full Mediation Structural Model (MODEL B) In the last step, when the full mediation structural model (MODEL B) was compared with the partial mediation structural model, the path to subjective well-being was deduced from body image. When the full mediation structural model was tested; goodness of fit values were

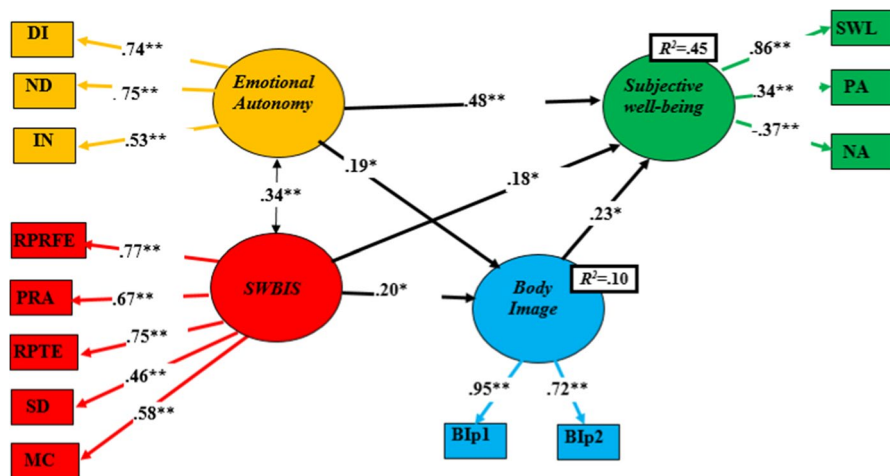


Fig. 4 Standardized path coefficients for partial mediation structural model (MODEL A). Note. ** $p<0.001$, * $p<0.05$; BIp1, BIp2=Parcels of Body Image; DI=Deidealization; ND=Nondependency; IN=Individuation SWBIS=Subjective Well-Being Increasing Strategies; RPRFE=Receiving Positive Reaction from an Environment PRA=Participating in Religious Activities; RPTE=Reacting Positively to an Environment; SD=Satisfaction of Desires MC=Mental Control; SWL=Satisfaction with Life; PA: Positive Affect; NA: Negative Affect

Table 5 Unstandardized regression coefficients and *t* values of the partial mediation structural model (MODEL A)

Predicted Variable		Predictor Variable	Estimate	S.E	<i>t</i>	p
Body Image	<---	Emotional Autonomy	0.271	0.130	2.078	0.038*
Body Image	<---	SWBIS	0.484	0.210	2.309	0.021*
Subjective Well-Being	<---	Emotional Autonomy	0.533	0.161	3.308	**
Subjective Well-Being	<---	SWBIS	0.341	0.170	2.010	0.044*
Subjective Well-Being	<---	Body Image	0.180	0.071	2.549	0.011*
BIp2	<---	Body Image	1.000			
BIp1	<---	Body Image	1.062	0.187	5.673	**
DI	<---	Emotional Autonomy	1.000			
IN	<---	Emotional Autonomy	0.797	0.119	6.681	**
ND	<---	Emotional Autonomy	0.860	0.107	8.066	**
MC	<---	SWBIS	0.850	0.104	8.172	**
PRA	<---	SWBIS	0.750	0.080	9.411	**
RPRFE	<---	SWBIS	1.099	0.107	10.301	**
SD	<---	SWBIS	0.665	0.104	6.396	**
RPTE	<---	SWBIS	1.000			**
PA	<---	Subjective Well-Being	1.000			
NA	<---	Subjective Well-Being	-1.199	0.330	-3.634	**
SWL	<---	Subjective Well-Being	2.179	0.543	4.015	**

***p* < 0.001, **p* < 0.05; BIp1, BIp2 = Parcels of Body Image; DI = Deidealization; ND = Nondependency; IN = Individuation SWBIS = Subjective Well-Being Increasing Strategies; RPRFE = Receiving Positive Reaction from an Environment PRA = Participating in Religious Activities; RPTE = Reacting Positively to an Environment; SD = Satisfaction of Desires MC = Mental Control; SWL = Satisfaction with Life; PA: Positive Affect; NA: Negative Affect

Table 6 Fit indices among competing models

Fit Measure	Acceptable Fit Criteria	MODEL A ^a	MODEL B
¹ χ^2/df	$2 \leq \chi^2/df \leq 3$	2.00	2.63
² RMSEA	$0.05 \leq RMSEA \leq 0.08$	0.06	0.08
³ IFI	$0.90 \leq IFI \leq 0.95$	0.92	0.87
⁴ CFI	$0.90 \leq CFI \leq 0.95$	0.92	0.87
⁵ GFI	$0.90 \leq GFI \leq 0.95$	0.92	0.90
⁶ AGFI	$0.85 \leq AGFI \leq 0.90$	0.88	0.86
⁷ AIC	smaller than AIC for comparison model	181.978	220.949
⁸ ECVI	smaller than ECVI for comparison model	0.778	0.940

¹, ², ⁵, ⁶, ⁷, ⁸ (Schermelele-Engel et al., 2003), ³Bentler & Bonnet, 1980), ⁴ (Kline, 2015). ^aRepresents the best-fitting model

found to be at acceptable levels (χ^2/df (160.949/61) = 2.63; IFI = 0.87; GFI = 0.90; CFI = 0.87; AGFI = 0.86; RMSEA = 0.08 (90% CI for RMSEA) = [0.06, 0.09] (see Table 6 below). According to the results of the chi-square difference test, which was

carried out to determine whether the full mediation structural model (MODEL B) or the partial mediation structural model (MODEL A) would be preferred, the direct path added between emotional autonomy and subjective well-being increasing strategies and subjective well-being contributed significantly to the model ($\Delta\chi^2=42.97$, $sd.)=1$, $p<0.001$) and therefore the partial mediation structural model was determined to be more preferable. Also, Model A ($AIC=181.978$; $ECVI=0.778$) revealed smaller values than Model B ($AIC=220.949$; $ECVI=0.940$) (see Table 6). Based on the above-mentioned chi-square difference test and model comparison indices (AIC and ECVI), the partial mediation structural model (MODEL A) was accepted as the best model.

Significance of Indirect Effects: Bootstrapping Analysis

At this stage, bootstrapping analysis was performed to test the significance of the preferred partial mediation structural model (MODEL A^a). In other words, the partial mediation effect of body image on the relation between emotional autonomy and subjective well-being increasing strategies and subjective well-being was evaluated. In this context, based on 600 resampling, lower and upper bound confidence intervals were established (Preacher & Hayes, 2004). The bootstrapping analysis results are presented in Table 7.

The bootstrapping analysis revealed that the paths in which subjective well-being increasing strategies ($\beta=0.047$, $SE=0.03$ [95% CI=0.002, 0.127, $p<0.05$] and Emotional Autonomy ($\beta=0.044$, $SE=0.03$ [95% CI=0.000, 0.115, $p<0.05$] indirectly related to subjective well-being were statistically significant. Considering all the results, both early adolescents' body image appeared to play a partial mediating role in the link between their emotional autonomy and subjective well-being increasing strategies and subjective well-being (Table 8).

Alternative Model In this study, an alternative model was created and tested to determine if it was equivalent to or better than the main structural model (Vandenberg & Grelle, 2009). In the alternative model, body image was the exogenous variable. Emotional autonomy and strategies to increase subjective well-being were defined as mediating variables. Subjective well-being was described

Table 7 Bootstrapping analysis results of partial mediation structural model (MODEL A^a)

Model pathways	Bootstrap values		Bias %95CI		p
	β	SE	Lower Bounds	Upper Bounds	
<i>Indirect Effect</i>					
SWBIS $\rightarrow$ BI $\rightarrow$ SWB	0.047	0.030	0.002	0.127	0.040*
EA $\rightarrow$ BI $\rightarrow$ SWB	0.044	0.032	0.000	0.115	0.041*

* $p<0.05$; Bootstrap is based on 600 resamples (Preacher & Hayes, 2004). β =Standardized coefficients

SE: Standard Error; BI=Body Image; SWBIS=Subjective Well-Being Increasing Strategies

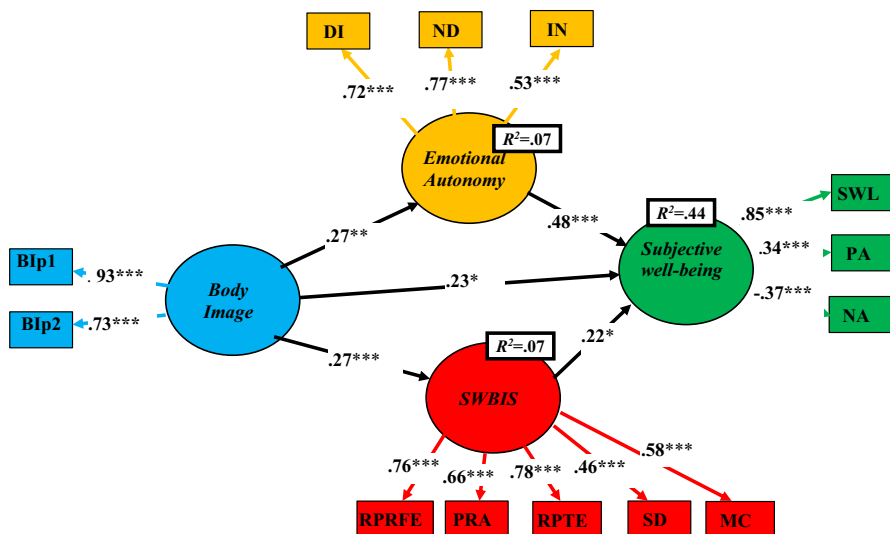
EA=Emotional Autonomy; SWB=Subjective Well-Being

Table 8 Evaluation of partial mediation structural model (MODEL A^a)

Hypotheses	Model pathways	Standardized Coefficients	p	Effect Size	Remark
<i>Direct effect</i>					
H ¹	EA → BI	0.19*	0.038	Medium	Supported
H ²	SWBIS → BI	0.20*	0.021	Medium	Supported
H ³	EA → SWB	0.48**	0.000	Medium	Supported
H ⁴	SWBIS → SWB	0.18*	0.044	Medium	Supported
H ⁵	BI → SWB	0.23*	0.011	Medium	Supported
<i>Indirect Effect</i>					
H ⁶	SWBIS → BI → SWB	0.04*	0.040	Low	Supported
H ⁷	EA → BI → SWB	0.04*	0.041	Low	Supported
<i>Total Effect</i>					
	SWBIS → SWB	0.22		Medium	-
	EA → SWB	0.52		High	-

** $p < 0.001$, * $p < 0.05$, BI = Body Image; SWBIS = Subjective Well-Being Increasing Strategies; EA = Emotional Autonomy SWB = Subjective Well-Being. Path coefficients effect size as low below 0.10, medium below 0.30 and high above 0.50 (Kline, 2015)

as an internal variable. The model also yielded acceptable goodness of fit indexes (χ^2/df (129.470/60)=2.15; IFI=0.91; GFI=0.92; CFI=0.91; AGFI=0.88; RMSEA=0.07 (90% CI for RMSEA=[0.05, 0.08])). As a result of the alternative model analysis, standardized path coefficients (see Fig. 5 below) were also obtained.

**Fig. 5** Standardized path coefficients for Alternative Model. Note. *** $p < 0.001$, ** $p < 0.01$ * $p < 0.05$

According to Fig. 5, a one-unit increase in body image was related to a 0.27 ($t=3.240$; $p<0.01$) unit increase in emotional autonomy. A one-unit increase in emotional autonomy was related to a 0.48 ($t=3.293$; $p<0.001$) increase in subjective well-being. A one-unit increase in body image was related to a 0.23 ($t=2.421$; $p<0.05$) unit increase in subjective well-being, a one-unit increase in body image was related to a 0.27 unit increase ($t=3.459$; $p<0.001$) in subjective well-being increasing strategies. Finally, a one-unit increase in subjective well-being increasing strategies was related to a 0.22 ($t=2.386$; $p<0.05$) unit increase in subjective well-being. When the explained variances (R^2) were examined, body image accounted for approximately 7% of emotional autonomy and 7% of subjective well-being increasing strategies. Body image, emotional autonomy, and subjective well-being increasing strategies together explained approximately 44% of the variations in subjective well-being.

Discussion

The findings of this study showed that Turkish early adolescents who reported positive body images also reported higher subjective well-being levels. Moreover, body image displayed partial mediating effects on the relations between subjective well-being-increasing strategies and emotional autonomy and the early adolescents' overall subjective well-being. In short, early adolescents' emotional autonomy and using subjective well-being-increasing strategies predicted their body images, which in turn predicted their subjective well-being. These findings provide a more comprehensive model of the link between body image and adolescents' subjective well-being as well as suggest specific targets for the early promotion of positive subjective well-being to be discussed further below.

Various theories indirectly explain the mediating role of body image. First, according to the activity theory of subjective well-being, individuals increase their levels of subjective well-being through various activities (Diener et al., 2002). These activities can also be conceptualized as subjective well-being increasing strategies. Among subjective well-being increasing strategies, particularly those that involve responding positively to the environment and receiving positive feedback from the environment can lead to individuals nourishing themselves in optimal ways (Buss, 2000; Eryılmaz, 2010, 2012a; Fordyce, 1983; Nima et al., 2012; Tkach & Lyubomirsky, 2006). This positivity can lead to individuals accepting themselves and their bodies. Especially when employing the strategy of mental control, individuals can distance themselves from negative feedback about their bodies. This strategy can improve the body images of teenagers and increase their subjective well-being. Second, one of the important models related to body image is the tripartite effect model (Cash, 2014; Grogan, 2008; Slater et al., 2011). According to the tripartite effect model, the body image of teenagers is affected by feedback from peers, media, and their families. Subjective well-being increasing strategies and emotional autonomy can support setting boundaries against negative feedback, creating positive feedback, yielding higher levels of the subjective well-being. Third, the theories of the

functionality of positive emotions posit that effective subjective well-being increasing strategies lead to a cycle of frequent positive emotions (Buss, 2000; Eryılmaz, 2010, 2012a; Fordyce, 1983; Nima et al., 2012; Tkach & Lyubomirsky, 2006). The positive emotions that emerge as a result of adolescents' frequent use of strategies to increase subjective well-being subsequently helps build their capacity, broaden their perspectives, and repair negative experiences from the past (Fredrickson, 2004). Increasing positive emotions through subjective well-being increasing strategies can lead to the emergence of subsequent positive emotions, including those related to the body, and as a result, increase overall subjective well-being.

An additional theory that is consistent with the findings of this study is Erickson's (1968) psycho-social development theory. According to Erikson, for adolescents to have a healthy identity, they should have *"a sense of well-being and by the feeling of being at home in one's body, a sense of knowing where one is going and an inner assuredness of anticipated recognition from those who count"* (p. 165). Developing a positive body image corresponds to the feeling of being at home in one's body. Acquiring emotional autonomy corresponds to a sense of knowing where one is going and an inner assuredness of anticipated recognition from those who matter. Using subjective well-being increasing strategies, adolescents may proceed in building a healthy and positive sense of self, including their physical body. In this regard, the present study's findings corroborate the predictions of Erickson's psycho-social development theory.

Many studies have been conducted in Turkey examining the relations between body image and subjective well-being. For example, Kaplan et al. (2021) found that as anxiety decreases about the appearance of the body, which is an important dimension of body image, the subjective well-being levels of adolescents increased. For another example, Oktan (2012) demonstrated that as adolescents' body images become more positive, their subjective well-being levels increase. Finally, Purutçuoğlu and Aksel (2017) found that persons experiencing the most positive body image also experienced the highest levels of subjective well-being. The findings of the present study were thus consistent with the results of these aforementioned studies.

Context is also important for emotional autonomy to be adaptive. When adolescents emotional autonomy is supported by their parents, the adolescents' emotional autonomy appears to facilitate their psychological and social adjustment (Delaney, 1996; Lamborn & Steinberg, 1993). As this study was carried out within the perspective of positive body image, the triple-effect model also requires that the reactions of parents to their adolescents' bodies be positive. Otherwise, it is unlikely that positive body images can be achieved. Subjective well-being would thus be an indicator of the adaptive functions of emotional autonomy and positive body image.

The study findings can also be evaluated in the context of developmental psychology. During adolescence, many changes occur in areas such as cognitive, physical, and social-emotional development (Steinberg, 2016). Changes in different areas do not occur independently of one another; changes in one area are in constant interaction with other areas (Borzekowski & Bayer, 2005). According to Borzekowski and Bayer (2005), *"adolescents' construction of their closely-linked body image and self-concept can be particularly challenging because of the diverse, rapid, and*

significant changes that are heightened during this period” (Borzekowski & Bayer, 2005, p. 290). Our results, which revealed meaningful interrelations among body image, emotional autonomy, and subjective well-being of are consistent with such notions and highlight the importance of positive body image to the subjective well-being of individuals in this stage of development. Furthermore, our results highlighted the related psychological mechanism through which this relation operates.

These conclusions were also supported by our test an alternative model. These findings revealed that the original model explained more variance in adolescents’ subjective well-being, thus demonstrating that the original model was more compatible with the relevant theoretical and empirical studies.

This study had some limitations. First, this study was a cross-sectional in nature, precluding causal inferences. Longitudinal studies would be useful to derive causal relations. Second, the study excluded adolescents who had received a psychiatric diagnosis. It may be worthwhile to carry out similar studies including adolescents who had received a diagnosis.

The current study yielded important implications for professionals who work with adolescents to promote their subjective well-being. First, the findings highlighted the contribution of a positive body images to early adolescents’ subjective well-being. Second, the findings highlight two key psychosocial determinants of the body-image-subjective well-being association. These relations suggest that intervention programs designed to promote early adolescents’ subjective well-being could address not only body image, but also emotional autonomy and subjective well-being increasing strategies. Specifically, interventions can be designed that support adolescents’ development of positive body images along with promoting their emotional autonomy and use of specific strategies to enhance their well-being. Such more comprehensive programs may incorporate direct instruction and practice and in the employment of the various strategies identified by Eryılmaz (2012a) for improving subjective well-being in adolescents.

Data Availability All data used in this research will be made available upon request from the co-author.

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