



## Adolescents' Self-Perception and School Satisfaction: Assessing the Mediating Role of Subjective Vitality

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### Abstract

The purpose of this study was to examine whether subjective vitality is a mediator between self-perception and school satisfaction among adolescents. Totally 351 (176 girls and 175 boys, mean age = 13.87±1.57) adolescents completed a self-report questionnaire including the Children's Overall Satisfaction with Schooling Scale, the Subjective Vitality Scale, and the Social Comparison Scale. The data were analyzed with using the structural equation modeling and bootstrapping method. Structural equation modeling showed that self-perception had an indirect effect on school satisfaction, fully mediated by subjective vitality. The results of the bootstrapping procedure indicated that the indirect effect of subjective vitality on the relationship between self-perception and school satisfaction was significant. The possible explanations, the research implication, limitations, and future directions are discussed.

### Keywords

Self-perception  
Subjective vitality  
School satisfaction  
Adolescence  
Structural equation modelling  
Bootstrapping

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### Introduction

The word 'adolescence' refers to a phase of life that will affect both the biological, psychological and social development of individuals within the life cycle of human beings. In addition to the fact that adolescents need to keep pace with the changes in their bodies, they need to create an identity, strengthen their abstract thinking, and create and improve relationships with their friends. Moreover, adolescents try to meet a number of needs, such as autonomy, gaining respect, access to pleasure and attaining success. Because, the environments of the adolescents are changing rapidly, and they are expected to develop their competencies at the same speed so that they could cope with these changes (Danielsen, Breivik, & Wold, 2011). Against these changes and developments, it is considered that the support of the school will be very beneficial for the adaptation of the adolescents as much as their efforts are important.

Adolescents spend a significant amount of their time in school. They are building themselves a good future both by interacting with their peers in their schools and by improving themselves in an academic sense. Therefore, it occurs to us that having enthusiasm and desire towards the school should have a great effect on their lives and leave more enjoyable and lasting impressions. The school should be established in such a way that adolescents can both receive education, gain human values, and have fun at the same time (Verkuyten & Thijs, 2002). Thus, as the academic achievement of adolescents may increase, the abandonment of the school may be avoided. Besides, it can improve adolescents'

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psychological well-being such as attachment to the school, develop self-confidence, and experience a positive affect. On the other hand, by experiencing school satisfaction, it may also reduce the chances of experiencing psychological distress such as loneliness and depression (Baker, Dilly, Aupperlee, & Patil, 2003; Katja, Paivi, Marja-Terttu, & Pekka, 2002; Tian, Liu, Huang, & Huebner, 2013).

Although the fulfillment of academic expectations has been evaluated traditionally with academic success, it is seen that the variables of school-related affective in addition to school satisfaction are included in the evaluation especially with the influence of positive psychology (Huebner & Gilman, 2006). In addition to the fact that school satisfaction draws attention especially with positive psychology increasing its influence nowadays, it has its origins in Diener's subjective well-being concept. Subjective well-being is composed of two components which are cognitive and affective, and the cognitive part is represented by life satisfaction (Diener, 1984). Life satisfaction includes individuals' judgments about how much satisfied they are when they take their own lives into consideration (Diener, 2012). School satisfaction has also been improved by the application of this view into the school environment. With reference to these points, school satisfaction describes the cognitive and affective subjective judgments of adolescents about their school life, treating their school experiences as a whole (Tian, Chu, & Huebner, 2016). Students can experience emotional attachment to the school thanks to school satisfaction, which can positively influence their orientation to academic work (Jiang, Huebner & Siddall, 2013). Fredricks, Blumenfeld, and Paris (2004) point out that the students will strengthen their relationships with their classmates and teachers, and that they will be willing to do their duties at school due to school satisfaction through emotional attachment to the school. Along with these, school satisfaction strengthens the level of academic motivation by increasing the academic competencies (Samdal, Nutbeam, Wold, & Kannas, 1998). Students' satisfaction with the school can change the climate of the school and the classroom. Students with strong school satisfaction feel comfortable at school and can develop quality relationships both with their friends and teachers (Takakura, Wake, & Kobayashi, 2010; Ye et al., 2014). On the other hand, students with poor school satisfaction are increasingly being isolated from the school and reluctance may occur against the school (Finn, 1989). This can trigger risky behaviors such as bullying, school dropout and substance abuse (Sun, 2016).

Both academic and psychological advantages of adolescents' school satisfaction are briefly mentioned above. However, the factors that may affect school satisfaction of adolescents is a curiosity (Zullig, Huebner, & Patton, 2011). In this context, school climate, feeling safe in school and support of teachers and family can be regarded as factors that can increase school satisfaction. In addition to these, when the related literature is examined, it is considered that self-perception may be a variable that can strengthen school satisfaction of adolescents. The self-perception has been derived from the self-concept, which is designed and defined by the experiences and evaluations of individuals in addition to the feedback and reinforcements of others (Shavelson, Hubner, & Stanton, 1976). Within self, there are the feelings and attitudes about themselves such as the identities of the adolescents, what they can and cannot do, their aims, their ideals, and so on (Budak, 2003). From this point, the answer that the adolescent has given to the question of "who I am" in the sense of self is considered as the sum total of his/her beliefs about himself/herself (Taylor, Peplau, & Sears, 2000).

It is stated that the development of self-perception increases in adolescence in addition to the importance of the child in it (Altun & Yazıcı, 2013). It is emphasized that the perception of self-develops in adolescence, by comparing their attitudes, behaviors, and abilities especially by looking at the attitudes and behaviors of others. The self-perception that describes what adolescents have accumulated regarding their own identities until that very moment of their lives predicts both social and academic harmony of adolescents (Margalit, 2010). In this respect, positive self-perception is considered as a critical factor, especially in school satisfaction. (Pershey, 2011). Those who have negative self-perception believe that others will not appreciate them, and they can become isolated (Tsai & Reis, 2009). In this way, the number of friends in the school and the desire to go to the school will decrease and the school satisfaction will be weaker.

It is stated that establishing reliable friendships supports individuals' self-perceptions (Rotenberg, Boulton, & Fox, 2005). Adolescents who have a positive perception towards themselves and their friends can be less fragile and affected less by bullying (Margalit, 2010). Those with a positive self-perception, however, can effectively use their strategies to cope with the difficulties expressed as protective factors and maintain their psychological robustness. It suggests that this, in turn, may lead to the gradual strengthening of the school satisfaction.

### *The Mediating Role of Subjective Vitality*

Subjective vitality is based on self-determination theory; classically describes the state of physical and mental energy (Ryan & Frederick, 1997). What is meant by subjective vitality is that individuals feel themselves alive, moving, willing and energetic, and beyond that, they are less tired and exhausted (Fini, Kavousian, Beigy, & Emami, 2010). In this respect, according to Ryan and Deci (2008), subjective vitality is accepted as a clear and meaningful indicator of health and motivation by contributing to the well-being of individuals.

Subjective vitality is described as the state of being energetic arising out of individuals' own essence rather than a forced and ambitious energy (Bostic, Rubio, & Hood, 2000). However, there is a desire to be energetic to regulate intentional actions with subjective vitality (Ryan & Deci, 2008). Higher-minded individuals can be more productive, cope better with stress and difficulties (Penninx et al., 2000). In this respect, they show less vulnerability to stress sources, more resilience, and have higher satisfaction (Huta & Hawley, 2010; Niemiec, Ryan, Patrick, Deci, & Williams, 2010; Ryan, Bernstein, & Brown, 2010).

The fact that subjective vitality is not an energy resulting from social pressure and stress, but an internal energy and a sense of vitality suggests that it can play a mediating role in self-perception and achieving satisfaction from the school. As a matter of fact, it is stated that individuals with high self-perception can be successful in academic work (Choi, 2005; Seaton, Parker, Marsh, Craven, & Yeung, 2014), which can increase their level of being energetic and alive aimfully and thus it can be deduced that their school satisfaction would increase. In another aspect, it is stated that subjective vitality is closely related to self-actualization, motivation, positive affect, and ideal performance (Ryan & Deci, 2008; Ryan & Frederick, 1997). From this point of view, it is conceivable that as the strengthening of self-perception may increase both adolescents' motivation, performance and emotions in their schools and academic duties, adolescents' levels of vitality can also be strengthened, and this can provide more satisfaction from the school. Finally, as subjective vitality is an important factor in positive communication, in catching up with harmony, and in reaching subjective happiness (Salama-Younes, 2011; Uysal, Satıcı, & Akın, 2013), it can be said that the subjective vitality may have a role as a contributor in relationship between self-perception and school satisfaction.

On the other hand, there are several reasons for this hypothetical model. First of all, it is understood that the variables within the scope of the study are the variables that are very encountered in adolescence and not yet discussed together. Since school satisfaction will provide both academic and individual gain for adolescents, attention has been paid to include elements that increase this concept. In addition, self-perception, which may affect both personal behaviors and interpersonal relationships of individuals, and which is needed to be shaped in adolescence years, is included in the model as a predictor. It is evaluated within hypothetical model as it can mediate between self-perception and school satisfaction. Finally, as a result of theoretical and logical conclusions expressed above within the scope of this research, an answer was searched for the research question stated as "Is there a mediating role of subjective vitality in the relationship between self-perception and school satisfaction of adolescents?".

## Method

This study which is investigated the whether or not subjective vitality mediates the relationship between self-perception and school satisfaction was designed with correlational research in quantitating techniques.

### *Participants*

Three hundred and fifty-one middle and high school students (Age<sub>range</sub> = 11–17; Age<sub>mean</sub> = 13.87; Age<sub>SD</sub> = 1.57) were recruited from two metropolises located in the middle and west regions of Turkey. Of these, 176 (50.1%) were girls and 175 (49.9%) boys. About twenty-five percent of the adolescents were in sixth grade ( $n = 88$ ), 19.9% were in seventh grade ( $n = 70$ ), 12.3% were in eighth grade ( $n = 40$ ), 21% were in ninth grade ( $n = 84$ ), and 21% of the students were in tenth grade ( $n = 62$ ). The grade point average (GPA) level of adolescent was 72.31 (SD = 12.98) in the range of 40–99.

### *Measures*

In the study, data were obtained via the Children's Overall Satisfaction with Schooling Scale, the Subjective Vitality Scale, the Social Comparison Scale, and Personal Information Form. Details of the measures were given below.

**Children's Overall Satisfaction with Schooling Scale (COSSS).** The COSSS (Randolph, Kangas, & Ruokamo, 2009) was used to assess the satisfaction of children and adolescents in school life. This scale consists of 6 items (e.g., I like to go to school) rated on a five-point Likert-type scale (from "1 = strongly disagree" to "5 = strongly agree"). Possible scores on the scale range from 6 to 30 and a higher score indicates stronger school satisfaction. The adaptation study of COSSS to Turkish was carried out by Telef (2014). The explanatory factor analysis revealed that the one-dimensional structure consisting of 6 items explained 65% of the total variance and factor loadings were changed between .77 and .82. As a result of confirmatory factor analysis, it was also stated that the COSSS is in good fit to data:  $\chi^2/df = 3.45$ , GFI = .98, CFI = .99, NFI = .99; RFI = .99, RMSEA = .06, and SRMR = .01. In the adaptation study, it was reported that the COSSS had a reliability coefficient of .89 and a test-retest reliability coefficient of .92. In this study, the Cronbach alpha internal consistency coefficient was .86.

**Subjective Vitality Scale (SVS).** The SVS (Ryan & Frederick, 1997) was used to assess individuals' subjective vitality levels. This scale consists of 7 items (e.g., In general, I feel alive and vita) rated on a seven-point Likert-type scale (from "1 = (not at all true" to "7 = very true"). Possible scores on the scale range from 7 to 49 and a higher score indicates stronger subjective vitality. The adaptation study of SVS to Turkish was carried out by Akin, Satıcı, Arslan, Akin ve Kayış (2012) on university students. As the result of confirmatory factor analysis, it was stated that the SVS is in good fit to data:  $\chi^2/df = 1.74$ , GFI = .99, CFI = 1.00, NFI = .99; AGFI = .96, and RMSEA = .047. Because this study was conducted on adolescents, confirmatory factor analysis of the SVS was performed again (see Table 1). As a result of these analyzes, the standardized factor loads of the SVS-Adolescent Version changed from .43 to .90 and all the items contributed significantly. When the goodness of fit indices were evaluated, it was understood that all goodness indices of the SVS-Adolescent Version were within the acceptable limits [ $\chi^2/df = 2.11$ , GFI = .98, CFI = .99, NFI = .98; AGFI = .95, TLI = .98, SRMR = .025, and RMSEA = .056]. In this study, the Cronbach alpha internal consistency coefficient was .85.

**Table 1.** Confirmatory Factor Analysis of Subjective Vitality Scale-Adolescent Version

Item	$\lambda$	$R^2$	Skewness	Kurtosis
I feel alive and vital.	.82	.67	-.82	-.54
I don't feel very energetic.*	.43	.19	-.17	-1.17
Sometimes I feel so alive I just want to burst.	.65	.42	-.36	-1.28
I have energy and spirit.	.87	.76	-.95	-.14
I look forward to each new day.	.57	.33	-1.36	.78
I nearly always feel alert and awake.	.59	.34	-.50	-1.29
I feel energized.	.90	.82	-.74	-.39

Note.  $\lambda$  = Standardized factor load;  $R^2$  = Explained Variance; \* Reverse item

The Turkish version can be used for scientific purposes without written permission.

**Social Comparison Scale (SCS).** The SCS was developed by Şahin and Şahin (1992), inspired by a 5-item measurement tool developed by Gilbert, Allan, and Trent (1991). SCS is frequently used to determine self-perceptions (Odacı & Çelik, 2013; Şahin, Batgün Durak, & Koç, 2011). The SCS consists of 18 pairs of opposite poles rated on a six-point Likert-type scale. Possible scores on the scale range from 18 to 108 and a higher score indicates stronger self-perception. The SCS was significantly associated with Beck Depression Inventory ( $r = -.19$ ) and dimensions of Brief Symptom Inventory (ranged  $r = -.34$  to  $.14$ ; Savaşır & Şahin, 1997). The reliability of the SCS, which can be used in middle and high school students, is  $.79$ . In this study, the Cronbach alpha internal consistency coefficient was  $.89$ .

**The Personal Information Form (PIF).** The PIF was prepared by researchers. The PIF included questions about the participants' gender, age, class levels, and academic achievement averages.

#### *Procedure*

The data obtained within the scope of the research were obtained through the paper-pencil form from only volunteer students in the classroom environment. Voluntariness was emphasized in the collection of research data, and also informed consent was given. The participants were asked to mark the volunteer box regarding their voluntary participation on the scale sets. It was also clearly stated they had the right to give up even while the research data was being filled. In this way, data were collected from a total of 363 adolescents in the study. The data of those that gave up (2 adolescents) and those that filled more than half of the scales incompletely (10 adolescents) were excluded and the analyses were carried out by using the responses of 351 adolescents.

More than one scale set were formed to prevent the same scale always being in the first or last order in the scale set - in other words to prevent the order bias (primacy-recency). Four different scale sets were formed: a) self-perception - subjective vitality - school satisfaction, b) school satisfaction - self-perception - subjective vitality, c) subjective vitality - school satisfaction - self-perception, and d) school satisfaction - subjective vitality - self-perception. Because of these different scale sets, the same scale did not always come last and the problems that could arise from the distraction of the adolescents have been abolished.

#### *Data Analysis*

In this study, which is aimed to determine the relation network between the self-perception, subjective vitality and school satisfaction of the adolescents, firstly the descriptive statistics of the variables and the relations between the variables have been presented. Afterwards, a two-step Structural Equation Modeling (SEM) was conducted in accordance with suggestions of Anderson and Gerbing (1988) and Kline (2015). SEM is considered as one of the advanced quantitative techniques to establish the statistical cause-and-effect relationship in a theoretically supported network of

relationships (Hoyle, 2012). Nevertheless, SEM is described as more comprehensive and systematic than the first-generation statistics (e.g. regression etc.), as more than one parameter is taken into consideration to come to a conclusion in SEM (Anderson & Gerbing, 1988).

In the two-step SEM, firstly the measurement model is tested. It is being tested whether observable/indicator variables that will compose latent variables in the measurement model make a meaningful contribution to the latent variables or not and whether the relationships of the latent variables with each other are meaningful without specifying any direction (Anderson & Gerbing, 1988; Kline, 2015). In the second step of SEM, the structural model created by using theoretical background is tested. In the structural model, ways are set up to reveal the statistical cause-and-effect relationship and the significance of the ways and the goodness of fit index of the model are examined. In this study, GFI, CFI, NFI, TLI, SRMR, and RMSEA values were used together with chi-square ( $\chi^2$ ) and degree of freedom ratio as goodness of fit indexes.

Critical values that will describe the acceptance points are taken as  $\chi^2/df \leq 5$ ; GFI, CFI, NFI and TLI  $\geq .90$ ; SRMR and RMSEA  $\leq .80$  (Hu & Bentler, 1999; MacCallum, Browne, & Sugawara, 1996; Tabachnick & Fidell, 2001). In SEM, more than one model is tested when the models of mediation are being tested. In order to be able to decide which of these models is the best model, the AIC and ECVI values are calculated along with the chi-square difference test. In the models that are tested, the model with smaller AIC and ECVI values is accepted as the best one (Akaike, 1987; Browne & Cudeck, 1993).

As the school satisfaction, subjective vitality and self-perception are unidimensional, the method of item parceling has been used in SEM. Virtual factors are formed by the parceling method, and thus the number of observed variables is reduced, their reliability is increased, and the variables are made possible to have a normal distribution (Nasser-Abu Alhija & Wisenbaker, 2006). Accordingly, 3 parcels for self-perception, 2 parcels for school satisfaction and subjective vitality have been created.

The bootstrapping process was also used to provide additional evidence about whether mediation was meaningful to control the meaningfulness of the mediation between the self-perception and school satisfaction of the adolescents in addition to SEM. The bootstrapping process tests the significance of the direct and indirect effects in the model by increasing the number of samples (MacKinnon, 2008; Preacher & Hayes, 2008) and it is observed that it is frequently used in mediation models day by day (Inoue, Funk, & McDonald, 2017; Pandey & Shrivastava, 2017; Satıcı, 2016; Satıcı, Uysal, & Deniz, 2016; Wang et al., 2017). The lower and upper bound of the confidence interval that occurs at the end of the procedure needs not to cover zero (Hayes, 2013). In mediation analyzes, gender was used as a control variable. Analyzes of this study were conducted by using IBM SPSS® Amos 22.00 and IBM SPSS® Statistics 21.00.

## Results

In this section, descriptive statistics and correlation analysis of variables are given first. Then, the findings of measurement model and structural model are presented. Finally, the results of the bootstrapping process have been reported.

### *Correlations and Descriptive Statistics*

Table 2 presents descriptive statistics and inter-correlations of the study variables. When the skewness coefficients were examined in Table 2, school satisfaction, subjective vitality, and self-perception were -.31, -.63 and -.62, respectively. Also, when the kurtosis values are examined, it is seen that they are -.30, -.38 and .61, respectively. These values met to propose by Finney and DiStefano (2006) so that all variables have been the normal distribution.

**Table 2.** Descriptive Statistics and Association among School Satisfaction, Subjective Vitality, and Self-perception

	Correlations			Descriptive Statistics		
	1	2	3	Mean (SD)	Skewness	Kurtosis
1. School satisfaction	–			20.62 (5.49)	-.31	-.30
2. Subjective vitality	.45**	–		35.15 (10.07)	-.63	-.38
3. Self-perception	.37**	.58**	–	83.51 (15.42)	-.62	.61

Note. \*\*  $p < .001$

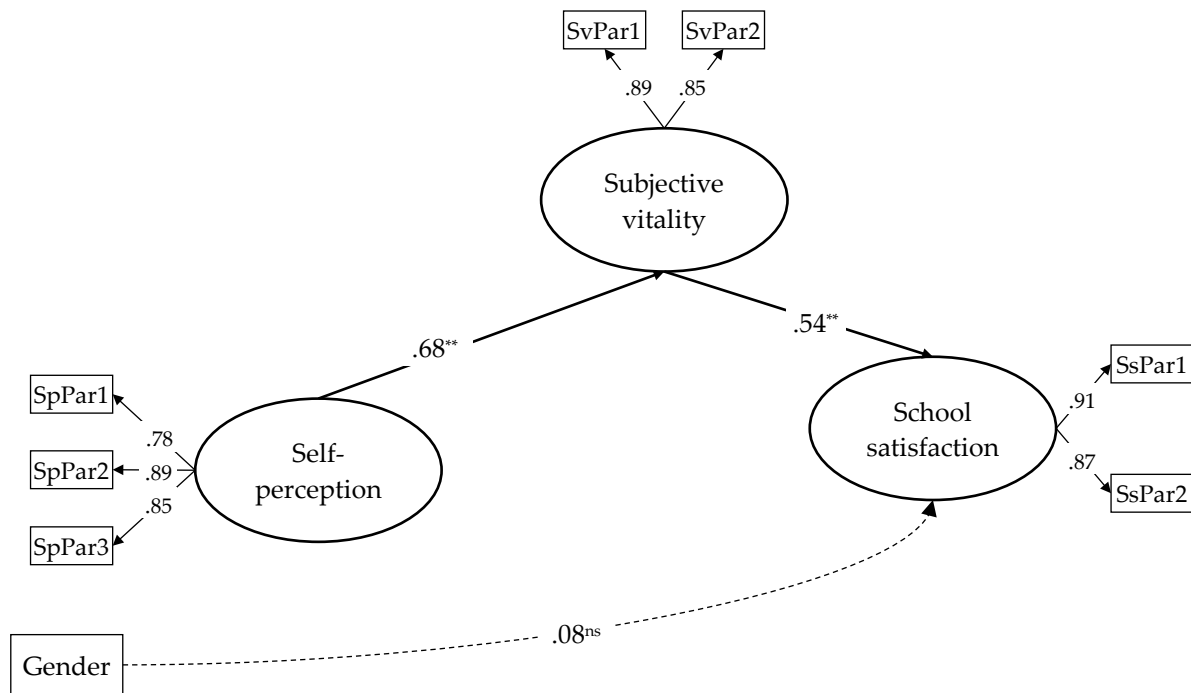
In Table 2, it is seen that all variables have significant correlations with each other. It was revealed that school satisfaction levels of adolescents were positively correlated with subjective vitality,  $r_{(351)} = .45$ , 95%C.I. [.36, .53]. Likewise, school satisfaction is also positively associated with self-perception,  $r_{(351)} = .37$ , 95%C.I. [.28, .46]. In addition, there is a positive correlation between subjective vitality and self-perception,  $r_{(351)} = .58$ , %95G.A. [.51, .65].

### Structural Equation Modelling

**Measurement model.** The measurement model was tested in the first step of the SEM. There are three latent variables (school satisfaction, subjective vitality, and self-perception) and seven observed variables in the measurement model. As a result of the measurement model, it is understood that all path coefficients are significant and the factor loads vary between .77 and .90. When the goodness of fit indexes were examined, it was seen that the measurement model was well fitted and confirmed, [ $\chi^2_{(11, 351)} = 20.07$ ,  $\chi^2/df = 1.83$ ,  $p < .001$ ; GFI = .98; CFI = .99; NFI = .98; TLI = .99; SRMR = .024; RMSEA = .049]. After confirmation of the measurement model, the structural models were tested.

**Structural model.** In the first structural model; a model was tested that is the fully mediation of subjective vitality relationship between self-perception and school satisfaction. In fully mediation model, the direct path between self-perception and school satisfaction is not established and this relation via the subjective vitality is examined. When the goodness of fit indices of the structural model, which is the fully mediation of subjective vitality, are considered, it can be stated that all values are acceptable; [ $\chi^2_{(18, 351)} = 42.98$ ,  $\chi^2/df = 2.38$ ,  $p < .001$ ; GFI = .97; CFI = .98; NFI = .97; TLI = .97; SRMR = .058; RMSEA = .063]. After examining the full mediation model, a partial mediating role of subjective vitality relation between self-perceptions and school satisfaction was tested in order to identify the best model. In the partial mediation model, the direct path was added from self-perception to school satisfaction. Although the goodness of fit indices of the structural model are found to be acceptable [ $\chi^2_{(17, 351)} = 39.33$ ,  $\chi^2/df = 2.31$ ,  $p < .001$ ; GFI = .97; CFI = .98; NFI = .97; TLI = .97; SRMR = .055; RMSEA = .061], it has been understood that the direct path from self-perception to school satisfaction was not significant, ( $\beta = .15$ ,  $p > .05$ ).

According to the results of chi-square difference test conducted on which model to choose, it has been determined that the full mediation is more preferable. In addition, the full mediation structural model has been identified as the best model because the direct path of the partial mediation model is insignificant. Figure 1 presents the path coefficients of the preferred fully mediated structural model.



**Figure 1.** Fully Mediated Model

Note. \*\*  $p < .01$ ; <sup>ns</sup> non-significant; *SpPar* Parcels of self-perception, *SvPar* Parcels of subjective vitality; *SsPar* Parcels of school satisfaction

**Bootstrapping**

The bootstrapping process has also been tested as a full mediator role of subjective vitality in relation to self-perception and school satisfaction. The bootstrap coefficients for the direct and indirect effects of this process and the confidence intervals for these coefficients are presented in Table 3.

**Table 3.** Bootstrapping Results of Fully Mediated Model

Path	Bootstrapping		Bias %95GA	
	Estimate	SE	Lower Limit	Upper Limit
<i>Direct</i>				
Self-perception → Subjective vitality	.68	.04	.58	.77
Subjective vitality → School satisfaction	.54	.05	.42	.63
<i>Indirect</i>				
Self-perception → SV → School satisfaction	.37	.05	.27	.46

Note. SV subjective vitality

When the results presented in Table 3 are examined, it is seen that direct effects are significant. In addition, the way in which self-perception indirectly effect school satisfaction is also significant (bootstrap coefficient = .37, 95% C.I. = .27, .46). As a result of all these consequences, the subjective vitality can be expressed as a full mediator role between self-perception and school satisfaction.

**Discussion**

In the study, a network of relationships between self-perceptions, subjective vitality, and school satisfaction of the adolescents is examined and it is revealed that subjective vitality is the fully mediator between self-perception and school satisfaction. In other words, it has been statistically supported that adolescents with a positive self-perception can strengthen their subjective vitality levels and that this strengthening can also contribute to the school satisfaction of adolescents.



It is considered to be significant that the model studied in the research should be evaluated step by step. First, self-perception can be considered as a positive predictor of subjective vitality of adolescents. It is stated that adolescents with a positive self-perception have higher levels of motivation, which is considered as the power to move them (Baumeister, Campbell, Krueger, & Vohs, 2003; Hay, Ashman, & Van Kraayenoord, 1998; Marsh & Craven, 2006; Özbay, Örsel, Akdemir, & Cinemre, 2002; Seaton et al., 2014). Therefore, with the high level of motivation, the adolescents feel themselves better and their levels of energy and vitality may increase. However, the relationship of self-perception to physical performance can explain the positive predictive value of subjective vitality. Adolescents with a high sense of self-perception keep their physical energies active with the desire to show their skills and so they can also increase their level of subjective vitality. It can be stated that in addition to physical performance, both self-perception and subjective vitality are associated with intrinsic joy, interest, and vitality (Ryan & Deci, 2008). In addition to these, the fact that individuals with high self-perception are more popular, insistent, and open to communication in their surroundings whereas individuals with low self-perception are more introverted and silent (Baumeister et al., 2003; Hay et al., 1998; Keefe & Berndt, 1996) reveals its relation with subjective vitality. Indeed, subjective vitality is associated with assertiveness, persistency, stubbornness, and extroversion in a positive way; and with being unenterprising and introversion in a negative way (Ryan & Frederick, 1997; Ryan & Deci, 2008). When the studies mentioned in the literature are assessed as a whole, the finding that the self-perception of the adolescents predicts subjective vitality in a positive way, which has been developed within the scope of this study is considered to be consistent and plausible.

Another finding included in the research model is that subjective vitality predicts school satisfaction in adolescents in a positive way. It is thought that this finding can be explained by different points. Individuals with a high level of subjective vitality are suggested to be more productive in their daily lives and able to cope with stress more easily (Penninx et al., 2000). As a matter of fact, it is conceivable that individuals whose characteristics like those are high will be able to achieve more success in the school environment and to adapt easily to the school. Similarly, the fact that individuals with higher levels of subjective vitality are able to use their cognitive skills more effectively (Canby, Cameron, Calhoun, & Buchanan, 2015) suggest that it may have a facilitating role in improving their school satisfaction. Together with these, it is understood that subjective vitality is associated significantly and positively with the variables that may increase school satisfaction such as happiness, self-respect and life satisfaction. In addition to these, the negative relation of subjective vitality to emotional instability and depression and also its positive relation to variables that would be able to strengthen their life satisfaction and increase their mental health such as psychological, emotional and social well-being shows that this finding revealed by school satisfaction is consistent with the literature.

The final finding in this model is that the adolescents' self-perceptions can increase school satisfaction through subjective vitality. When the literature is examined, it is stated that different variables can affect the students' school satisfaction. These include school climate, feeling safe in the school, perception of support from the teacher and self-perception (Papšová, Valihorova, & Nábělková, 2012; Siddall, Huebner, & Jiang, 2013). From this point of view, the network of relationships among self-perception, subjective vitality and school satisfaction found out within the scope of the research has been examined in more detail. It can be thought that the fact that adolescents have a low self-perception can reinforce negative feelings such as fear, vindication and stress, and that this negative self-perception can reduce their life energy, motivations and vitality; and this decrease may affect school satisfaction by reducing its fulfillment. On the other hand, it is suggested that their self-esteem and self-confidence will increase with a strong self-perception; feelings and thoughts such as interest, willingness, enthusiasm, fun and high energy that will be able to increase subjective vitality will increase. With the increase of these positive feelings and thoughts, the adolescents' friendship relations, classroom interactions will be able to develop, and they will be able to increase their satisfaction by changing their perceptions about the school. From another point of view, the strengthening of the self-perception, which can also be shaped by the interpersonal relations of the adolescents, predicts that they can look at the life with more hope. By looking at the previous

researches (Daehlen, 2015; Sariçam, 2015; Sun, 2016; Zullig et al., 2011), adolescents getting support from the people around them strengthens that they can have positive implications for themselves; it is stated that as they can decrease school burnout and increase subjective vitality internal sources such as social, emotional, cognitive, behavioral, and moral competences they can also increase school satisfaction through positive developments. In the light of all this information, it is thought that the model presented within the scope of this research is acceptable.

### Conclusion

In this study, the relationships between the self-perception of self, which is formed by the interaction of both the inner resources of the individual and the environmental resources, and the school satisfaction that can demonstrate the quality of cognitive evaluation towards their schools through subjective vitality that can determine the level of energy, motivation and vitality in life have been tried to be identified. Two positive variables and directions of a variable, which can be of important contributions to the academic and psychological well-being of the adolescents such as school satisfaction with the model confirmed in the study, have been determined. It is well known that self-perception, the first variable, is an important protective factor in psychological robustness in adolescents and coping with difficulties. In this context, it seems that the creation of an environment in which adolescents can improve their self-perceptions is important not only in terms of protecting their psychological health, but also in providing school satisfaction, including amusing and enjoying learning, increasing interest in school, and increasing desire to go to school. The adolescents can be encouraged to establish friendships and form relationships based on cooperation; and so these relationships may help the adolescents feel more energetic, vital and happy at school by developing self-perception. However, it may be made possible for the adolescents to be highly motivated and awake physically and cognitively by strengthening self-perception of the adolescents, in other words, to strengthen their self-perception. Thus, the climate of the school and classroom environment is modified, and students' school satisfaction can be increased by contributing to the willingness of the students to study. In addition, the attainment of school satisfaction can also prevent the child from exhibiting undesirable behaviors such as bullying, and violation of the rules as specified by Sun (2016). It is thought that the model proposed in this study can be used to increase the school achievement of the students indirectly. As a matter of fact, school satisfaction is an important factor in increasing the academic achievement of students (Jovanović, & Jerković, 2011; Samdal, Wold, & Bronis, 1999). Today, discussions on the position of our country regarding the "Program for International Student Assessment" (PISA) continues. In PISA, both academic achievement and motivation of students and information about school environment are evaluated (PISA Turkey, 2016).

As a matter of fact, when the concepts that are the subject of this research are considered, it is emphasized that the academic achievement levels of individuals with high self-perception may increase; that motivation levels of individuals with high levels of subjective vitality can increase and that both the academic success and the motivation to learning and point of view towards the school environment of the individual who has strong school satisfaction can be strengthened. It is also possible to contribute to the evaluations in the PISA with the school satisfaction by increasing the desire to go to school in the adolescents, enjoying school, increasing interest in the school, having fun in school activities and more learning at school (Sun, 2016). We can increase their physical and cognitive energies by establishing an environment that may be beneficial for the students to develop a positive self with the model that has been confirmed in this research. In addition, we can contribute to students' school satisfaction and establishment of a school climate that can encourage learning by having fun with the creation of an environment that can increase and sustain their vitality at school. When it is evaluated from this point of view, it is predicted that adolescents will be eager to go to school with pleasure and increase their academic success.

## Limitation and Suggestions

This research, which examines the mediation role of subjective vitality between self-perception and school satisfaction of adolescents, has some limitations. It is thought that it would be beneficial to voice these limitations and make suggestions for future researches. The use of self-report based measurement tools in the gathering of research data can be expressed as the first limit. Because the data have been gathered by means of self-report based measurement tools, the fact that variables involved can be explained solely by means of measurement instruments and the social desirability of the participants should be taken into consideration. Then, it is useful to use different methods and techniques such as observation, interview, and peer evaluation besides self-report based measurement tools in order to avoid this limitation in researches that will be carried out. The other limitation of the research results from that the methodically cause and effect relationship cannot be established completely. Even though SEM, one of the most powerful techniques to be used in quantitative methods, has been used in this research, and also mediation has been tested by bootstrapping with 10,000 resampling, it is still necessary to be careful in making interpretations and causal ranking exactly on the direction of the ways established in the model. Longitudinal and empirical studies are needed to clearly reveal the sequence of self-perception→subjective vitality→ school satisfaction involved in the suggested and confirmed model in the scope of research. Finally, the limitation should be specified with the sampling method and the diversity of the participants. In spite of the use of easy sampling in the study and as well the fact that data have been obtained from two different provinces and four different educational institutions, the fact that data couldn't be obtained from different geographical regions across the country pushes us to be cautious in the generalization of the study. In the following studies, we can provide a sample that can encompass and represent our country in more detail by using Nomenclature of Territorial Units for Statistics (NUTS-II).

As a result of this research revealing the relationships between self-perception, subjective vitality and school satisfaction, which can contribute to the psychological and academic development of the students and so will provide both individual and societal advantages, especially the school psychological counsellors are suggested to develop psycho-education groups that can strengthen the self-perception and subjective vitality levels of the students. In addition, school psychological counselors should provide managers and other teachers in their schools with information that will help increase the awareness of the importance of these concepts on adolescents. Indeed, it is easier to change the school climate with the cooperation of school management and other teachers. When appropriate school climate is provided, both amusing and instructive schools can be established, and it becomes possible to contribute to the adolescents' school success and mental health when they get school satisfaction. In addition to the limitations expressed, it is also necessary to avoid neglecting the importance of the model presented in this study. It seems to be beneficial to give information also to the parents regarding the importance of self-perception, that this variable can help increase the adolescents' vitality in their lives beside the school and that the school satisfaction can be increased.

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