

# Adaptation of The Perceived Parental Autonomy Support Scale for High School Students: A Psychometric Evaluation\*

Ahmet Çağlar ÖZDOĞAN<sup>1</sup>  
İlhan YALÇIN<sup>2</sup>

## Abstract

The aim of this study is to adapt the Perceived Parental Autonomy Support Scale, developed by Mageau et al. (2015), into Turkish. The validity and reliability study of the scale's adaptation process was conducted on adolescents. Confirmatory Factor Analysis (CFA) was applied to test whether the intended structure was confirmed within the sample group. The CFA results indicated a good fit. The internal consistency coefficients of the Perceived Parental Autonomy Support Scale were calculated using Cronbach's alpha reliability coefficient. The internal consistency coefficient for the father form was .93 for the autonomy support subdimension and .91 for the psychological control dimension. Similarly, the internal consistency coefficient for the mother form was .93 for the autonomy support subdimension and .91 for the psychological control dimension. After determining the internal consistency coefficients, the test-retest reliability of the scale was also calculated. For the father form, the test-retest reliability coefficient was .86 for autonomy support and .85 for psychological control. For the mother form, the test-retest reliability coefficient was .88 for autonomy support and .87 for psychological control. The findings indicate that the Perceived Parental Autonomy Support Scale is a valid and reliable measurement tool for assessing perceived autonomy support among adolescents.

**Keywords:** *Parental autonomy support, psychological control, validity, reliability, high school students.*

\*Bu çalışma Prof. Dr. İlhan YALÇIN'ın danışmanlığında Doç. Dr. Ahmet Çağlar ÖZDOĞAN doktora tez çalışmasının bir kısmından üretilmiştir.

<sup>1</sup> Doç.Dr., İzmir Demokrasi Üniversitesi, Eğitim Fakültesi, Eğitim Bilimleri Bölümü, E-posta:caclarozdogan@gmail.com, ORCID:0000-0003-1406-4155

<sup>2</sup> Prof. Dr., Ankara Üniversitesi, Eğitim Bilimleri Fakültesi, Eğitim Bilimleri Bölümü, E-posta: yalcini@ankara.edu.tr, ORCID:0000-0002-6407-9606

ÖZDOĞAN, A.Ç.,YALÇIN,İ.(2026) Adaptation of The Perceived Parental Autonomy Support Scale for High School Students: A Psychometric Evaluation. Sosyal Politika Çalışmaları Dergisi, 26(70), 187-211. DOI: 10.21560/spcd.vi.1642795

# Algılanan Ebeveyn Özerklik Desteği Ölçeğinin Lise Öğrencilerine Uyarlanması: Bir Psikometrik Değerlendirme

## Öz

Bu çalışmanın amacı Mageau ve diğerleri (2015) tarafından geliştirilen Algılanan Ebeveyn Özerklik Desteği Ölçeğinin Türkçeye uyarlama çalışmasının yapılmasıdır. Ölçeğin uyarlama sürecindeki geçerlik ve güvenilirlik çalışması ergenler üzerinde gerçekleştirilmiştir. Araştırmada örneklem grubu içerisinde ilgili yapının doğrulanıp doğrulanmadığını test etmek için Doğrulamalı Faktör Analizi (DFA) uygulanmıştır. DFA analizinde elde edilen değerlerin iyi uyum düzeyine sahip olduğu belirlenmiştir. Algılanan Özerklik Desteği Ölçeği'nin iç tutarlık katsayıları Cronbach Alpha güvenilirlik katsayısı ile hesaplanmıştır. Buna göre; ölçeğin baba formu için özerklik desteği alt boyutuna ait iç tutarlık katsayısı .93, psikolojik kontrol boyutu için ise .91 olarak belirlenmiştir. Anne formu için özerklik desteği alt boyutu için tutarlık katsayısı .93, psikolojik kontrol boyutu için .91 olarak belirlenmiştir. Ölçeğin iç tutarlık katsayılarının belirlenmesinin ardından ölçeğin test tekrar test güvenilirliği de hesaplanmıştır. Buna göre, ölçeğin baba formu için özerklik desteği test tekrar test güvenilirliği .86, psikolojik kontrol boyutu için .85; anne formu için özerklik desteği test tekrar test güvenilirliği .88, psikolojik kontrol boyutu için ise .87 olarak belirlenmiştir. Araştırma sonucunda Algılanan Özerklik Desteği Ölçeği'nin ergenlerde öğrencilerinde geçerli ve güvenilir bir ölçme aracı olduğu belirlenmiştir.

**Anahtar Kelimeler:** Ebeveyn özerklik desteği, geçerlik, güvenilirlik, lise öğrencileri, psikolojik kontrol

## INTRODUCTION

Autonomy is a crucial concept considered a developmental necessity during adolescence (Hartley & Somerville, 2015). Adolescents, on the one hand, distance themselves physically and emotionally from their parents, while on the other, they increasingly take responsibility for themselves. Therefore, the development of autonomy in adolescents is viewed as a bidirectional process (Soenens et al., 2007). Parental autonomy support is generally defined as a parenting practice that fosters children's intrinsic life goals (Chirkov & Ryan, 2001). More specifically, parental autonomy support is characterized by a sensitivity to understanding children's thoughts and providing them with a range of choices within available means. Additionally, it encompasses parents' attentiveness in helping their children explore their own values and interests (Ryan et al., 1995; Grolnick & Farkas, 2002). In this way, the development of autonomy through parental practices is regarded as a key factor in enhancing children's psychosocial functioning (Chirkov & Ryan, 2001).

From a developmental perspective, autonomy is particularly important for adolescents, as the emergence of a more autonomous functioning is considered a critical developmental milestone (Ryan, 1993; Ryan & LaGuardia, 2000). Research on this topic has demonstrated that autonomy contributes to optimal functioning in adolescents (Ryan & Deci, 2002; Soenens & Vansteenkiste, 2005; Deci & Ryan, 2008). This process is more likely to occur within a supportive and non-controlling family environment (Ryan et al., 1994; Soenens & Vansteenkiste, 2005; Grolnick, 2009). A meta-analysis including 36 studies examining the relationships between parental autonomy support and various variables found that autonomy support was associated with several psychosocial functioning indicators, such as greater academic achievement and motivation, psychological well-being, perceived competence, and positive engagement (Vasquez et al., 2016).

The other dimension of autonomy support involves psychological control. When parents exhibit a more controlling tendency, they hinder their children's fundamental need for autonomy (Soenens & Vansteenkiste, 2010). The absence of a controlling parental approach is generally considered an indicator of the presence of autonomy support (Grolnick & Pomerantz, 2009). Therefore, the

relationship between autonomy support and psychological control is viewed as two opposing dimensions of parenting characteristics (Mageau et al., 2015). Psychological control is defined as parental attempts to interfere with a child's psychological and emotional development (Cheng et al., 2013). In contrast, autonomy support refers to a parental approach that considers the child's perspective, allows for choice, and encourages the child to take initiative in their development (Ryan et al., 2006).

Research findings consistently indicate a negative relationship between psychological control and well-being, whereas autonomy support is positively associated with well-being. For example, a study found that a parenting climate that fosters adolescent autonomy contributes significantly to adolescent development and well-being (Kocayörük et al., 2014). Similarly, another study on emerging adults demonstrated a significant positive effect of parental autonomy support on psychological well-being (Lan et al., 2019).

Additionally, research has revealed that psychological control is negatively related to individual functioning and positively associated with depression (Soenens et al., 2007). Another study investigating the effects of autonomy support and psychological control on subjective well-being found a positive relationship between autonomy support and subjective well-being, while a negative relationship was identified between psychological control and well-being (Li et al., 2020). Moreover, a study examining the relationship between parental attitudes and adolescents' problem behaviors concluded that adolescents with low levels of problem behavior perceived higher levels of autonomy support from their parents (Vrolijk et al., 2020). When the studies on this topic are generally evaluated, it is evident that psychological control and autonomy support, as parenting styles, have a significant impact on adolescent development. Particularly, the positive effect of autonomy support on adolescents' psychological well-being has been highlighted in the relevant literature. Additionally, recent research on this topic has been conducted in the last few years, reflecting current trends in the field.

For this reason, studies on parental autonomy support are considered important. However, further research is needed on parental autonomy support and its determinants in the existing literature. Although studies on autonomy

support in Türkiye have increased in recent years, limitations in this field remain evident. The adaptation of measurement scales in this context could contribute to the literature. In line with this, the present study aims to adapt the Parental Autonomy Support Scale, developed by Mageau et al. (2015), into Turkish and test its psychometric properties in adolescent students.

## METHOD

The validity and reliability studies of the Perceived Parental Autonomy Support Scale were conducted with a sample of high school students. Within this scope, high school students from various schools affiliated with the Ministry of National Education were selected using an appropriate sampling method and included in the study sample.

The age range of the high school students in the study varied between 13 and 18 years ( $M = 15.60$ ,  $SD = 1.37$ ). The sample consisted of a total of 481 students, of whom 265 (55%) were female and 216 (45%) were male. The distribution of high school students is presented in Table 1.

**Table 1.** *Data on the Study Group*

	Gender	<i>N</i>	%
9. Grade	Girl	51	10.6
	Boy	37	7.7
10. Grade	Girl	61	12.7
	Boy	51	10.6
11. Grade	Girl	70	14.5
	Boy	49	10.2
12. Grade	Girl	83	17.3
	Boy	79	16.4
Total		481	100

## Data Collection Instruments

In this study, data were gathered through a personal information form created by the researcher, as well as the Positive and Negative Affect Scale (PANAS), the Life Satisfaction Scale, and the Rosenberg Self-Esteem Scale.

### ***Perceived Parental Autonomy Support Scale***

The Perceived Parental Autonomy Support Scale, developed by Mageau et al. (2015), comprises 24 items categorized into two subdimensions: autonomy support (12 items) and psychological control (12 items). Higher scores in each subdimension reflect a greater level of the respective construct. The scale employs a 7-point Likert format. Its construct validity was assessed using the Positive and Negative Affect Scale, the Satisfaction with Life Scale, and the Self-Esteem Scale. The original version exhibited strong internal consistency, with Cronbach's alpha coefficients of .92 for parental autonomy support and .89 for parental control. For the adaptation study, the corresponding author of the original scale was contacted via email, and the necessary permissions were secured before initiating the adaptation process.

### ***Positive and Negative Affect Scale***

The Positive and Negative Affect Scale (PANAS) was developed by Watson et al. (1988) and adapted into Turkish by Gençöz (2000). The scale consists of 20 affective items, 10 measuring positive affect and 10 measuring negative affect. It is rated on a 5-point Likert scale, with scores ranging from 10 to 50 for each subdimension. Higher scores indicate higher levels of the corresponding affective state. In the Turkish adaptation study, the internal consistency coefficients were .83 for positive affect and .86 for negative affect. In the current study, the internal consistency coefficients were found to be .86 for positive affect and .89 for negative affect.

### ***Satisfaction with Life Scale***

The Satisfaction with Life Scale was created by Diener et al. (1985) and adapted into Turkish by Köker (1991). It includes five items and assesses a single dimension. Higher scores reflect greater life satisfaction. In the Turkish adaptation study, the test-retest reliability coefficient was  $r = .85$ , with item-test correlations ranging from .71 to .80. In this study, the internal consistency coefficient was determined to be .88.

### ***Rosenberg Self-Esteem Scale***

The Rosenberg Self-Esteem Scale was developed by Rosenberg (1965) and adapted into Turkish by Çuhadaroğlu (1986). This scale, designed to assess

individuals' self-esteem levels, consists of 10 items rated on a 4-point Likert scale. Higher scores indicate higher levels of self-esteem. In the original development study, the reliability coefficient of the scale was found to be .71, and the test-retest reliability coefficient was .75. In the present study, the internal consistency coefficient was determined to be .80.

### **Procedure**

To ensure a systematic adaptation process for the Perceived Parental Autonomy Support Scale into Turkish, the seven-step scale adaptation process proposed by Sousa and Rojjanasrirat (2011) was followed.

In the first step, each scale was independently translated from English to Turkish by three experts: two English language specialists and one field expert with advanced English proficiency. In the second step, the three translations were compiled into a rating form with a 10-point scale. A different group of three experts—one field expert with advanced foreign language proficiency and two English language specialists—reviewed the translations and rated them. Items receiving a consensus score of 80% or above were finalized, and a single Turkish version was created. In the third step, two English language experts, who had not previously seen the original scale, performed a back-translation of the agreed-upon Turkish version into English. In the fourth step, four experts involved in the translation and back-translation process examined whether there was any semantic shift between the back-translated items and the original English version. They confirmed that the items were semantically equivalent. Subsequently, two Turkish language experts reviewed the Turkish version for linguistic validity, ensuring its appropriateness. In the fifth and sixth steps, the pilot study of the scale was conducted, and in the final step of the adaptation process, item discrimination, validity, and reliability analyses were performed. For the factor structure of the scale, Confirmatory Factor Analysis (CFA) was applied, and Cronbach's alpha coefficient was used to assess internal consistency. Additionally, Pearson Product-Moment Correlation Analysis was conducted to determine the relationships between subscales, means, and standard deviation values. Finally, to evaluate the stability of the scale, the test-retest method was applied, where the scale was administered twice with a two-week interval, and the Pearson Product-Moment Correlation Analysis

was conducted to examine the relationship between the scores obtained from both administrations.

### Data Analysis

Before conducting Confirmatory Factor Analysis (CFA) for the adaptation of the Perceived Parental Autonomy Support Scale, the dataset was examined for missing data, outliers, univariate and multivariate normality, singularity, multicollinearity, and linearity (Harrington, 2009). First, the dataset was analyzed for missing values, and no missing data were found. Outliers within the dataset can significantly impact parameter estimates, goodness-of-fit indices, and standard errors in Structural Equation Modeling (SEM). Therefore, it is essential to detect and report such values before performing the analysis (Cheung & Rensvold, 1999). After checking for missing values, a univariate outlier analysis was conducted. In this step, item scores were transformed into standard scores (z-scores). According to Tabachnick and Fidell (2013), data points with z-scores beyond  $\pm 3.3$  ( $p < .001$ ) are considered univariate outliers. On the other hand, Mertler and Vannatta (2005) suggest that for large sample sizes ( $n > 100$ ), this threshold can be extended to  $\pm 4$  for a normal distribution. Based on this criterion, the z-scores of the item scores in the dataset were calculated, and nine observations were found to be outside the  $\pm 3.3$  range. However, since no observations exceeded the  $\pm 4$  threshold, the univariate outlier analysis was deemed appropriate.

After univariate outlier analysis, multivariate outlier analysis was conducted within the framework of Mahalanobis distances ( $p < 0.001$ ). According to Tabachnick and Fidell (2013), the Mahalanobis distance value should be compared with the table value, which is the degree of freedom of the number of independent variables, and observations exceeding the critical value should be examined. The analysis revealed that a total of 12 observations were found below the critical value of 51.18 (24) and were removed from the dataset. Multicollinearity refers to the condition where the test items in the scale are highly correlated with each other in pairs ( $> .90$ ), while singularity refers to a correlation coefficient of 1.00 between item pairs (Şencan, 2005). According to Tabachnick and Fidell (2013), when singularity and multicollinearity are excessive in factor analysis, it can cause problems and should be removed

from the dataset. Upon examining the inter-item correlation coefficients of the Perceived Parental Autonomy Support Scale, it was found that the correlations for the perceived autonomy support from both mother and father and the psychological control dimensions ranged from .43 to .79. Therefore, initially, there was no issue of multicollinearity and singularity for the items in the dataset. Additionally, to examine multicollinearity among the variables in the dataset, VIF (Variance Inflation Factor), CI (Condition Index), and tolerance values were analyzed. It can be stated that there is no multicollinearity when the VIF value of the variables in the dataset is less than .10, tolerance values are .10 or above, and the CI value is below .30 (Hair et al., 1998). It was found that the VIF (1.396-5.541) and Tolerance values (.20 - .72) of the variables in the study fell within the acceptable range. The univariate normality assumption was examined through descriptive statistics, skewness, and kurtosis coefficients. If the skewness and kurtosis values fall within the range of [-1,1], it indicates that the univariate normality assumption is met (Büyüköztürk, 2012). In this context, the skewness and kurtosis coefficients for all items in the dataset were calculated. Since the obtained values fall within the reference values (0.878 - 0.354), the univariate normality assumption is considered to be satisfied.

## FINDINGS

To test whether the Perceived Parental Autonomy Support Scale is validated within the high school sample group, Confirmatory Factor Analysis (CFA) was conducted. CFA is used in the scale development process to examine the latent structures in a measurement tool. In addition to evaluating the representational power of the items in the scale, CFA also allows for the assessment of the relationship between the dimensions (Stevens, 2009). The Perceived Parental Autonomy Support Scale consists of 24 items and two dimensions: autonomy support and psychological control. One item from the psychological control dimension (Item 11) showed a low correlation with the other items and had a very low item-total correlation value (.01), so it was removed from the scale. The CFA analysis continued with the remaining 23 items.

According to Kline (2011), in Confirmatory Factor Analysis (CFA), at least four values, including RMSEA, SRMR, Chi-square, and CFI, should be reported to evaluate the goodness of fit of the model. For model fit, these

values must fall within their reference value ranges. The main fit indices and their reference ranges (Brown, 2015; Kline, 2011; Tabachnick and Fidell, 2013) are shown in Table 2.

**Table 2.** *Main Fit Indices and Reference Ranges*

Fit Index	Good Fit	Acceptable Fit
$\chi^2$ /sd (Chi-Square / Degrees of Freedom ( $\chi^2$ /df))	$\leq 3$	$\leq 5$
CFI	$\geq 0.97$	$\geq 0.95$
TLI	$\geq 0.95$	$\geq 0.90$
SRMR	$\leq 0.05$	$\leq 0.10$
RMSEA	$\leq 0.05$	$\leq 0.08$

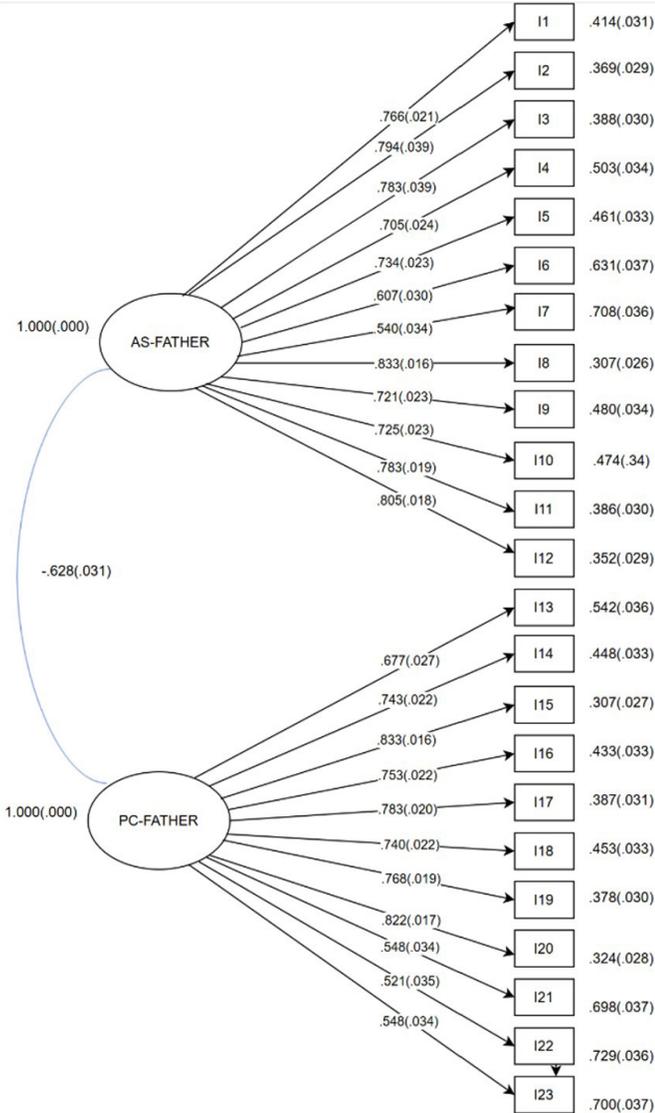
The model fit indices obtained from the mother and father forms within the sample group included in the study are presented in Table 3.

**Table 3.** *Model Fit Indices Obtained from Variables in the High School Student Group*

Goodness of Fit Indices	Mother Form	Father Form
$\chi^2$	824.842	743.555
df	229	229
$\chi^2$ /df	3.60	3.25
CFI	0.91	0.92
TLI	0.90	0.92
SRMR	0.05	0.04
RMSEA	0.07	0.07

The fit indices for the Perceived Parental Autonomy Support Scale are as follows: for the mother form,  $\chi^2$ /df = 3.60, RMSEA = 0.07, SRMR = 0.05, TLI = 0.90, CFI = 0.91; for the father form,  $\chi^2$ /df = 3.25, RMSEA = 0.07, SRMR = 0.04, TLI = 0.92, CFI = 0.92. The results indicate that both the mother and father forms fall within the good and acceptable fit reference ranges, demonstrating that the tested model's fit levels are adequate. In other words, based on the confirmatory factor analysis results, it can be interpreted that the two-factor structure of the Perceived Parental Autonomy Support Scale yields

stable results for the group under study. The path diagrams for the mother and father forms are shown in Figures 1 and 2. Additionally, the t-values for the two-factor model obtained from the CFA are presented in Tables 4 and 5.

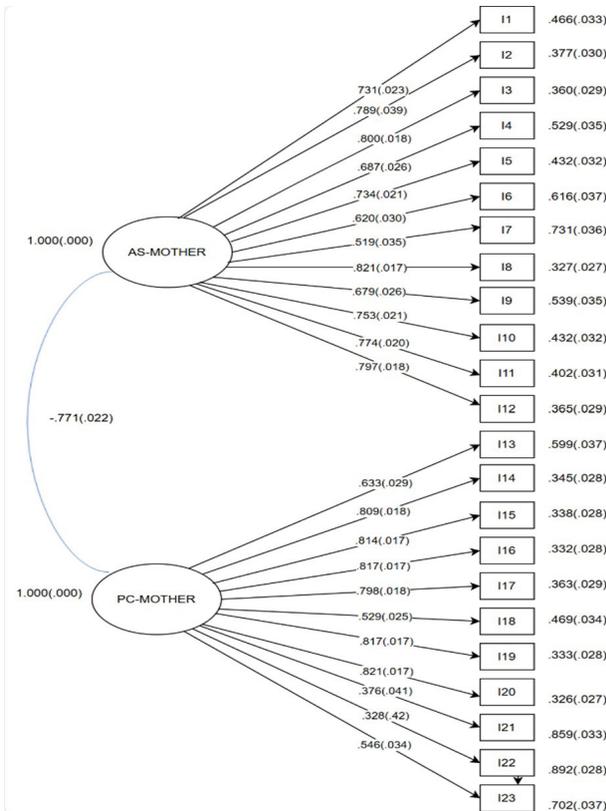


**Figure 1.** Path Diagram of the Confirmatory Factor Analysis for the Father Form

Note: AS: Autonomy Support, PC: Psychological Control

**Table 4.** *t*-Values Obtained from CFA for the Father Form

Item No	<i>t</i>	Item No	<i>t</i>	Item No	<i>t</i>
Item1	18.66*	Item 9	10.02*	Item 17	20.56*
Item 2	16.26*	Item 10	16.68*	Item 18	8.01*
Item 3	12.74*	Item 11	16.46*	Item 19	17.39*
Item 4	21.46*	Item 12	15.66*	Item 20	24.49*
Item 5	8.19*	Item 13	14.43*	Item 21	8.16*
Item 6	20.00*	Item 14	25.91*	Item 22	26.41*
Item 7	15.40*	Item 15	20.28*	Item 23	22.67*
Item 8	20.22*	Item 16	7.45*		



**Figure 2.** *Path Diagram of the Confirmatory Factor Analysis for the Mother Form*

Note: AS: Autonomy Support, PC: Psychological Control

**Table 5.** *t*-Values Obtained from CFA for the Mother Form

Item number	<i>t</i>	Item number	<i>t</i>	Item number	<i>t</i>
Item 1	16.02*	Item 9	10.49*	Item 17	24.05*
Item 2	17.72*	Item 10	23.08*	Item 18	7.46*
Item 3	10.95*	Item 11	15.84*	Item 19	24.07*
Item 4	20.95*	Item 12	17.72*	Item 20	24.60*
Item 5	4.61*	Item 13	13.40*	Item 21	8.13*
Item 6	21.75*	Item 14	23.63*	Item 22	24.72*
Item 7	13.02*	Item 15	19.42*	Item 23	21.82*
Item 8	22.19*	Item 16	3.90*		

According to the results of the CFA, the *t*-values for all path coefficients between the variables are greater than 2.56. This indicates that the level of representation of each item by its respective factor is statistically significant at the 0.01 level (Kline, 2011). The *t*-values for the Perceived Parental Autonomy Support Scale range from 3.90 to 24.72 for the mother form and from 7.45 to 26.41 for the father form. Additionally, when the values obtained from the CFA are examined, it was found that the *t*-values for the items in the Perceived Parental Autonomy Support Scale are significant at the 0.01 level.

### Findings Regarding the Reliability Studies of the Perceived Autonomy Support Scale

The internal consistency coefficients of the Perceived Autonomy Support Scale were calculated using the Cronbach Alpha reliability coefficient. Accordingly, for the father form, the internal consistency coefficient for the autonomy support subscale was determined as .93, and for the psychological control subscale, it was .91. For the mother form, the internal consistency coefficient for the autonomy support subscale was .93, and for the psychological control subscale, it was .91.

### Significance of the 27% Upper-Lower Group Difference

The significance of the 27% upper-lower group difference, which is considered an indicator of internal consistency (Şencan, 2005), is also regarded as evidence that the scale items are capable of making discriminative

measurements (Başol, 2012; Şencan, 2005). In this context, to assess the construct validity regarding the discriminatory power of the scale items, the significance of the 27% upper-lower group difference was examined. The difference between the high and low groups of the Perceived Parental Autonomy Support Scale was analyzed using an independent samples t-test on the high school student sample group that constituted the research sample. The analysis results of the examination are presented in Tables 6 and 7.

After determining the internal consistency coefficients of the scale, the test-retest reliability of the scale was also calculated. According to this, for the father form, the test-retest reliability for the autonomy support subscale was .86, and for the psychological control subscale, it was .85. For the mother form, the test-retest reliability for the autonomy support subscale was .88, and for the psychological control subscale, it was .87.

**Table 6.** *Independent Samples t-Test Based on the 27% Upper-Lower Group Difference for the Father Form*

	Upper_Lower	N	$\bar{x}$	SD	t	df	p
Aut.Support	Upper	178	44.80	10.87	-34.643	247.163	.000
	Lower	178	75.80	4.84			
Psyc. Control	Upper	178	19.79	3.79	-28.142	210.433	.000
	Lower	178	46.89	12.27			

Note: Aut.Support: Autonomy Support, Psyc. Control: Psychological Control

When Table 6 is examined, it can be seen that the difference between the mean scores of the low and high groups on the Perceived Parental Autonomy Support Scale for the father form is significant ( $p < .001$ ). This finding indicates that the items in the scale are discriminative within each group.

**Table 7.** *Independent Samples t-Test Based on the 27% Upper-Lower Group Difference for the Mother Form*

	Upper_Lower	N	$\bar{x}$	sd	t	df	p
Aut.Support	Upper	178	48.37	10.77	-33.608	230.443	.000
	Lower	178	77.52	4.23			
Psyc. Control	Upper	178	20.03	3.79	-29.751	216.016	.000
	Lower	178	46.74	11.35			

Note: Aut.Support: Autonomy Support, Psyc. Control: Psychological Control

When Table 7 is examined, it can be seen that the difference between the mean scores of the low and high groups on the Perceived Parental Autonomy Support Scale for the mother form is significant ( $p < .001$ ). This finding indicates that the items in the scale are discriminative within each group.

### **Criterion Validity**

Criterion validity refers to determining the relationship between the scores obtained from a scale and the scores obtained from another previously administered and accepted scale(s) within the same study group (Weir, 2005). In this context, to test the criterion validity of the Perceived Parental Autonomy Support Scale, the following scales were used within similar test contexts: the Positive and Negative Affect Schedule (PANAS) developed by Watson, Tellegen, and Clark, and adapted into Turkish by Gençöz (2000); the Satisfaction with Life Scale developed by Diener et al. (1985), and adapted into Turkish by Köker (1991); and the Rosenberg Self-Esteem Scale, which was adapted into Turkish by Çuhadaroğlu (1985). The results of the Pearson Product-Moment Correlation Analysis are shown in Table 8.

**Table 8.** *Pearson Product-Moment Correlation Analysis Table for Criterion Validity*

Variables	1	2	3	4	5	6	7	8
1. Father Aut.Support	-							
2. Mother Aut.Support	.86**	-						

3. Father Psyc. Cont	-.61**	-.58**	-					
4. Mother Psyc. Cont	-.54**	-.63**	.90**	-				
5. Life Satisfaction	.64**	.61**	-.44**	-.43**	-			
6. Self Esteem	.37**	.37**	-.34**	-.33**	.46**	-		
8. Positive Emotion	.34**	.31**	-.37**	-.34**	.31**	.57**	-	
9. Negative Emotion	-.32**	-.33**	.37**	.39**	-.31**	-.58**	-.42**	-

\*\* $p < .01$ , \* $p < .05$

In the father form, autonomy support was found to be positively associated with life satisfaction, self-esteem, and positive affect, and negatively associated with negative affect. Similarly, in the mother form, autonomy support showed positive correlations with the aforementioned positive variables and a negative correlation with negative affect. The psychological control subdimension, on the other hand, was negatively associated with life satisfaction, self-esteem, and positive affect, and positively associated with negative affect in both mother and father forms.

## CONCLUSION AND DISCUSSION

In this study, the Turkish adaptation of the Perceived Parental Autonomy Support Scale was conducted, and its psychometric properties were examined with high school students (ages 13-18). The results of the confirmatory factor analysis for the Turkish adaptation of the Perceived Parental Autonomy Support Scale showed good model fit. The results indicated that, as in the original form, the scale maintained its two-factor structure, meaning that the scale exhibits the same structure across similar groups.

As the first step of the scale adaptation process, the linguistic equivalence study showed high correlation values between the administrations conducted two weeks apart, suggesting that the original and Turkish forms of the scale are equivalent. Regarding model fit, the presence of two distinct factors, parental autonomy support for both mother and father, was supported, as seen in the original form. A particular item (Item 11) in the psychological control dimension was removed from the scale due to its low correlation with other items and its very low item-total correlation (.01). Confirmatory factor analysis

was then performed with the remaining 23 items. The findings indicate that both the mother and father forms of the scale align with good and acceptable fit reference values, confirming that the model's fit levels are sufficient. In other words, based on the results of the confirmatory factor analysis, it can be concluded that the two-factor structure of the Perceived Parental Autonomy Support Scale produced stable results within the studied group (Hu & Bentler, 1999; Kline, 2011; Tabachnick & Fidell, 2013).

The reliability analysis of the Perceived Parental Autonomy Support Scale was conducted using Cronbach's Alpha reliability coefficient. The results indicated that the internal consistency coefficient for the autonomy support subscale in the father form was .93, while it was .91 for the psychological control subscale. Similarly, in the mother form, the internal consistency coefficient was .93 for the autonomy support subscale and .91 for the psychological control subscale. Following the calculation of internal consistency coefficients, the test-retest reliability of the scale was also examined. The test-retest reliability for the father form was found to be .86 for the autonomy support subscale and .85 for the psychological control subscale. For the mother form, the test-retest reliability was determined to be .88 for the autonomy support subscale and .87 for the psychological control subscale.

In addition to Cronbach's Alpha reliability coefficient, the results were also examined in terms of the significance of the 27% upper-lower group difference as another indicator of internal consistency. The difference between groups with low and high scores on perceived parental autonomy support was found to be significant in the sample groups in the study. This finding indicates that the items of the scale are discriminative within both groups. The results of the study suggest that the Perceived Parental Autonomy Support Scale can be used as a valid and reliable measurement tool for evaluating students' academic motivation levels.

To test the criterion validity of the Perceived Parental Autonomy Support Scale, the Positive and Negative Affect Scale (Watson et al., 1988), Life Satisfaction Scale (Diener et al., 1985), and Rosenberg Self-Esteem Scale (Çuhadaroğlu, 1986) were used as similar tests. According to the results, positive and significant correlations were found between the autonomy

support dimension of the Perceived Parental Autonomy Support Scale and the Positive and Negative Affect Scale, Life Satisfaction Scale, and Rosenberg Self-Esteem Scale. On the other hand, negative significant relationships were identified between the psychological control dimension and these scales. According to Steinberg (2007), relationships formed with parents during adolescence, especially in the context of emotional autonomy, play a crucial role. When parents provide the necessary autonomy for their children's developmental needs, it helps build a strong bond between them, which strengthens adolescents' emotional autonomy. This, in turn, contributes to the psychological well-being of adolescents. Ryan and Deci (2017) state that human behavior is largely influenced by personal and environmental contexts. In terms of personal factors, the application areas of their theory in health include types of motivation and psychological needs (Ryan & Deci, 2017). From the perspective of psychological needs, Self-Determination Theory identifies three fundamental needs: relatedness, competence, and autonomy (Ryan & Deci, 2000). Among these, autonomy is a basic psychological need that must be satisfied for optimal development and functioning. Autonomy refers to the need for a person to make their own choices, free from external pressures, control, or coercion (Deci et al., 2008; Ryan and Deci, 2000). In other words, the need for autonomy is fulfilled when a child feels that their actions are their own (Vasquez et al., 2016). According to Self-Determination Theory, satisfying these three needs is seen as a factor that enhances intrinsic motivation, well-being, and success (Beiswenger et al., 2012). Therefore, this situation strengthens the validity of the scale within the scope of similar tests and demonstrates that the scale is consistent, as it is in its original form (Mageau et al., 2015).

### RECOMMENDATIONS

In Self-Determination Theory, parenting practices consist of three dimensions: autonomy support, involvement, and closeness. Autonomy support is defined as a parenting practice that fosters the development of children's intrinsic life goals (Chirkov & Ryan, 2001). In other words, parental autonomy support is described as the sensitivity to understanding children's thoughts and providing them with as many options as possible. Additionally,

it involves parents' sensitivity to helping children discover their own values and interests (Grolnick & Farkas, 2002; Ryan et al., 1995). In this way, the development of autonomy through parenting practices is seen as an important factor that enhances psychosocial functioning in children (Chirkov & Ryan, 2001).

Based on this information, a review of the relevant literature reveals that while studies examining adolescents' perceptions of autonomy support have increased in recent years, there is still a limitation in this field. Furthermore, considering that the collectivist cultural structure is more dominant in Türkiye, parenting practices may become even more important for adolescents' psychological health and development. In this context, the adaptation of the Perceived Autonomy Support Scale into Turkish is considered significant in contributing to the relevant literature. This will open the way for further research on adolescents' psychological health, educational experiences, and family structures in Türkiye.

In this study, the Turkish adaptation of the Perceived Autonomy Support Scale was conducted. The comprehensive approach taken during the adaptation process, along with the utilization of multiple analysis techniques in validity and reliability studies, represents a key strength of this research. However, certain limitations should be acknowledged. One such limitation is that the sample consisted of high school students from various schools in an urban setting, which may restrict the generalizability of the findings. To address this, future studies should be conducted with a larger and more diverse sample. Another limitation is that the data collection took place during the COVID-19 pandemic. The quarantine period and the shift to remote education, which distanced students from the school environment, may have negatively influenced their perceptions of autonomy. As the pandemic has ended and the normalization process has progressed, conducting further research on autonomy support levels will be crucial for enhancing the scale's measurement capabilities.

**Ethical Approval:** In this study, ethical permission was obtained from the Ankara University Social and Human Ethics Committee before the data collection process (Date: 30.03.2020, Number: E-3-55).

### Algılanan Ebeveyn Özerklik Desteği Ölçeği

Hiç katılmıyorum	Hemen hiç katılmıyorum	Biraz Katılmıyorum	Biraz Katılıyorum	Katılıyorum	Çoğunlukla katılıyorum	Tamamen katılıyorum
1	2	3	4	5	6	7

*Lütfen Dikkat, anneniz ve babanız için verilen cevapların sırası her madde için değişmektedir.*

#### BEN BÜYÜYOR İKEN ...

1. Ailem yapacağım şeylerle ilgili kendi kararlarımı alma noktasında bana birçok olanak sağlamıştır.	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>Baba*</b>	1	2	3	4	5	6	7
2. Ailem benden bir şey yapmamı istediğinde onu neden yapmam gerektiğini açıklamışlardır.	<b>Baba*</b>	1	2	3	4	5	6	7
	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
3. Bir şey yapmayı reddettiğimde, ailem onu bana yaptırmak için tanıdıkları bazı hakları elimden almakla tehdit etmiştir.	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>Baba*</b>	1	2	3	4	5	6	7
4. Benimle ilgili önemli kararlarda benim görüşüm ailem için çok önemliydi.	<b>Baba*</b>	1	2	3	4	5	6	7
	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
5. Ailem, en iyi olmak için çaba göstermeden sadece eğlenmek istememe karşı çıkmıştır.	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>Baba*</b>	1	2	3	4	5	6	7
6. Ailem benden bir şeyi daha farklı yapmamı istediğinde, bunu bana kendimi suçlu hissettirerek yaptırmışlardır.	<b>Baba*</b>	1	2	3	4	5	6	7
	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
7. Ailem beni kendim olmaya teşvik etmiştir.	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>Baba*</b>	1	2	3	4	5	6	7
8. Belli sınırlar içinde ailem bana kendi faaliyetlerimi seçme özgürlüğü tanımıştır.	<b>Baba*</b>	1	2	3	4	5	6	7
	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
9. Bir şey yapmama izin verilmediğinde, genellikle neden izin verilmediğini biliyordum.	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>Baba*</b>	1	2	3	4	5	6	7
10. Her zaman ailemin yapmamı istediklerini yapmak zorunda kaldım; yoksa, ayrıcalıklarımı almakla tehdit edilirdim.	<b>Baba*</b>	1	2	3	4	5	6	7
	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
11. Ailem yaptığım her bir şeyden dolayı bana kendimi suçlu hissettirmişlerdir.	<b>Baba*</b>	1	2	3	4	5	6	7
	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
12. Ailem kendilerini benim yerime koyarak duygularımı anlardları.	<b>Anne</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>Baba*</b>	1	2	3	4	5	6	7

13. Ailem, kendi ilgi ve tercihlerini bir kenara bırakarak, benim kendi ilgi ve tercihlerime göre seçimler yapmamı bekliyor olurdu.	<i>Baba*</i> 1 2 3 4 5 6 7 <b>Anne</b> 1 2 3 4 5 6 7
14. Ailem bir şey yapmamı istediğinde boyun eğmeliydim; yoksa cezalandırılırdım	<b>Anne</b> 1 2 3 4 5 6 7 <i>Baba*</i> 1 2 3 4 5 6 7
15. Ailem kendilerinininkinden farklı olsa bile düşüncelerime ve duygularıma açtı.	<i>Baba*</i> 1 2 3 4 5 6 7 <b>Anne</b> 1 2 3 4 5 6 7
16. Ailemin benimle gurur duyması için en iyisi olmalıydım	<b>Anne</b> 1 2 3 4 5 6 7 <i>Baba*</i> 1 2 3 4 5 6 7
17. Ailem benden farklı şekilde davranmamı istediğinde, değişmem için bana kendimi suçlu hissettirirlerdi.	<i>Baba*</i> 1 2 3 4 5 6 7 <b>Anne</b> 1 2 3 4 5 6 7
18. Ailem neden bazı şeyleri yasakladıklarını anladığımdan emin olurlardı.	<b>Anne</b> 1 2 3 4 5 6 7 <i>Baba*</i> 1 2 3 4 5 6 7
19. Ebeveynlerimin benden istediği şeyi tam olarak yapmadığım anda, beni cezalandırmakla tehdit ederlerdi.	<i>Baba*</i> 1 2 3 4 5 6 7 <b>Anne</b> 1 2 3 4 5 6 7
20. Ailem, bana kendimi suçlu hissettirerek beni kontrol altında tutardı.	<b>Anne</b> 1 2 3 4 5 6 7 <i>Baba*</i> 1 2 3 4 5 6 7
21. Ailem her zaman diğerlerinden daha iyi olmamda ısrarcı oldu.	<i>Baba*</i> 1 2 3 4 5 6 7 <b>Anne</b> 1 2 3 4 5 6 7
22. Neden bir şey yapmam gerektiğini ya da yapmamam gerektiğini sorduğumda ailem bana geçerli açıklamalar yapardı.	<b>Anne</b> 1 2 3 4 5 6 7 <i>Baba*</i> 1 2 3 4 5 6 7
23. Ailem, kendileriyle aynı fikirde olmasam da benim fikir ve görüşümü dinlemişlerdir.	<i>Baba*</i> 1 2 3 4 5 6 7 <b>Anne</b> 1 2 3 4 5 6 7

“Note: The measurement tool can be used by citing this study. There is no need to obtain additional permission from the researcher(s).”

Items 1, 2, 4, 7, 8, 9, 12, 13, 15, 18, 22, and 23 on the scale constitute the **autonomy support** dimension; while items 3, 5, 6, 10, 11, 14, 16, 17, 19, 20, and 21 constitute the **psychological control** dimension.”

## REFERENCES

- Başol, G. (2013). *Eğitimde ölçme ve değerlendirme*. Pegem Akademi.
- Beiswenger, K. L., and Grolnick, W. S. (2010). Interpersonal and intrapersonal factors associated with autonomous motivation in adolescents' after-school activities. *The Journal of Early Adolescence*, 30(3), 369–394. <https://doi.org/10.1177/0272431609333298>
- Brown, T. A. (2015). *Confirmatory factor analysis for applied research* (2nd ed.). Guilford Press.
- Büyüköztürk, Ş. (2012). *Sosyal bilimler için veri analizi el kitabı*. Pegem Akademi.
- Cheng, C., Cheung, S. F., Chio, J. H.-M., and Chan, M.-P. S. (2013). Cultural meaning of perceived control: A meta-analysis of locus of control and psychological symptoms across 18 cultural regions. *Psychological Bulletin*, 139(1), 152–188. <https://doi.org/10.1037/a0028596>
- Cheung, G. W., and Rensvold, R. B. (1999). Testing factorial invariance across groups: A reconceptualization and proposed new method. *Journal of Management*, 25(1), 1–27. <https://doi.org/10.1177/014920639902500101>
- Chirkov, V. I., and Ryan, R. M. (2001). Parent and teacher autonomy-support in Russian and U.S. adolescents: Common effects on well-being and academic motivation. *Journal of Cross-Cultural Psychology*, 32(5), 618–635. <https://doi.org/10.1177/0022022101032005006>
- Çuhadaroğlu, Ö. (1985). *Adolesanlarda benlik saygısı* [Unpublished doctoral dissertation]. Hacettepe Üniversitesi.
- Deci, E. L., and Ryan, R. M. (2008). Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology*, 49(1), 14–23. <https://doi.org/10.1037/0708-5591.49.1.14>
- Deci, E. L., Ryan, R. M., and Vansteenkiste, M. (2008). Self-determination theory and the explanatory role of psychological needs in human well-being. In L. Bruni & F. Comim (Eds.), *Capabilities and happiness* (pp. 187–223). Oxford University Press.
- Diener, E., Emmons, R. A., Larsen, R. J., and Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49(1), 71–75. [https://doi.org/10.1207/s15327752jpa4901\\_13](https://doi.org/10.1207/s15327752jpa4901_13)
- Gençöz, T. (2000). Pozitif ve Negatif Duygu Ölçeği: Geçerlik ve güvenilirlik çalışması. *Türk Psikoloji Dergisi*, 15(46), 19–26.
- Grolnick, W. S., and Farkas, M. (2002). Parenting and the development of children's self-regulation. In M. H. Bornstein (Ed.), *Handbook of parenting: Practical issues in parenting* (pp. 89–110). Lawrence Erlbaum Associates.
- Grolnick, W. S., and Pomerantz, E. M. (2009). Issues and challenges in studying parental control: Toward a new conceptualization. *Child Development Perspectives*, 3(3), 165–170. <https://doi.org/10.1111/j.1750-8606.2009.00099.x>

- Hair, J. F., Anderson, R. E., Tatham, R. L., and Black, W. C. (1998). *Multivariate data analysis* (5th ed.). Prentice Hall.
- Harrington, D. (2009). *Confirmatory factor analysis*. Oxford University Press.
- Hartley, C. A., and Somerville, L. H. (2015). The neuroscience of adolescent decision-making. *Current Opinion in Behavioral Sciences*, 5, 108–115. <https://doi.org/10.1016/j.cobeha.2015.09.004>
- Hu, L. T., and Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
- Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.
- Kocayörük, E., Uzman, E., ve Mert, A. (2014). How the attachment styles associated with student alienation: The mediation role of emotional well-being. *International Journal of Progressive Education*, 10(3), 34–46.
- Köker, S. (1991). *Normal ve sorunlu ergenlerin yaşam doyumu düzeyinin karşılaştırılması* [Unpublished master's thesis]. Ankara Üniversitesi.
- Lan, X., Ma, C., and Radin, R. (2019). Parental autonomy support and psychological well-being in Tibetan and Han emerging adults: A serial multiple mediation model. *Frontiers in Psychology*, 10, 621. <https://doi.org/10.3389/fpsyg.2019.00621>
- Li, R., Yao, M., Chen, Y., and Liu, H. (2020). Parent autonomy support and psychological control, dark triad, and subjective well-being of Chinese adolescents: Synergy of variable- and person-centered approaches. *The Journal of Early Adolescence*, 40(7), 966–995. <https://doi.org/10.1177/0272431619880335>
- Mageau, G. A., Ranger, F., Joussemet, M., Koestner, R., Moreau, E., and Forest, J. (2015). Validation of the Perceived Parental Autonomy Support Scale (P-PASS). *Canadian Journal of Behavioural Science*, 47(3), 251–262. <https://doi.org/10.1037/a0039325>
- Mertler, C. A., and Vannatta, R. A. (2005). *Advanced and multivariate statistical methods: Practical application and interpretation* (3rd ed.). Pyrczak.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.
- Ryan, R. M. (1993). Agency and organization: Intrinsic motivation, autonomy, and the self in psychological development. In J. Jacobs (Ed.), *Nebraska Symposium on Motivation: Vol. 40. Developmental perspectives on motivation* (pp. 1–56). University of Nebraska Press.
- Ryan, R. M., and Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Ryan, R. M., and Deci, E. L. (2002). Overview of self-determination theory: An organismic-dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of self-determination research* (pp. 3–33). University of Rochester Press.

- Ryan, R. M., and Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Press. <https://doi.org/10.1521/978.14625/28806>
- Ryan, R. M., and La Guardia, J. G. (2000). What is being optimized over development?: A self-determination theory perspective on basic psychological needs across the life span. In S. Qualls & N. Abeles (Eds.), *Psychology and the aging revolution* (pp. 145–172). APA Books.
- Ryan, R. M., Deci, E. L., and Grolnick, W. S. (1995). Autonomy, relatedness, and the self: Their relation to development and psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Vol. 1. Theory and methods* (pp. 618–655). Wiley.
- Ryan, R. M., Deci, E. L., Grolnick, W. S., and La Guardia, J. G. (2006). The significance of autonomy and autonomy support in psychological development and psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Theory and method* (pp. 795–849). Wiley.
- Ryan, R. M., Stiller, J. D., and Lynch, J. H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *The Journal of Early Adolescence*, 14(2), 226–249. <https://doi.org/10.1177/027243169401400207>
- Soenens, B., and Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: Proposing new insights on the basis of self-determination theory. *Developmental Review*, 30(1), 74–99. <https://doi.org/10.1016/j.dr.2009.11.001>
- Soenens, B., and Vansteenkiste, M. (2005). Antecedents and outcomes of self-determination in three life domains: The role of parents' and teachers' autonomy support. *Journal of Youth and Adolescence*, 34(6), 589–604. <https://doi.org/10.1007/s10964-005-8948-y>
- Soenens, B., Vansteenkiste, M., Lens, W., Luyckx, K., Goossens, L., Beyers, W., and Ryan, R. M. (2007). Conceptualizing parental autonomy support: Adolescent perceptions of promotion of independence versus promotion of volitional functioning. *Developmental Psychology*, 43(3), 633–646. <https://doi.org/10.1037/0012-1649.43.3.633>
- Sousa, V. D., and Rojjanasrirat, W. (2011). Translation, adaptation and validation of instruments or scales for use in cross-cultural health care research: A clear and user-friendly guideline. *Journal of Evaluation in Clinical Practice*, 17(2), 268–274. <https://doi.org/10.1111/j.1365-2753.2010.01434.x>
- Steinberg, L. (2010). A dual systems model of adolescent risk-taking. *Developmental Psychobiology*, 52(3), 216–224. <https://doi.org/10.1002/dev.20445>
- Steinberg, L. (2007). *Ergenlik* (F. Çok, Yay. Haz.). İmge Kitabevi.
- Şencan, H. (2005). *Sosyal ve davranışsal ölçümlerde güvenilirlik ve geçerlilik*. Seçkin Yayıncılık.
- Tabachnick, B. G., and Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Pearson.

- Vasquez, A. C., Patall, E. A., Fong, C. J., Corrigan, A. S., and Pine, L. (2016). Parent autonomy support, academic achievement, and psychosocial functioning: A meta-analysis of research. *Educational Psychology Review*, 28(3), 605–644. <https://doi.org/10.1007/s10648-015-9329-z>
- Vrolijk, P., Van Lissa, C. J., Branje, S., Meeus, W., and Keizer, R. (2020). Longitudinal linkages between father and mother autonomy support and adolescent problem behaviors: Between-family differences and within-family effects. *Journal of Youth and Adolescence*, 49(11), 2372–2387. <https://doi.org/10.1007/s10964-020-01309-8>
- Watson, D., Clark, L. A., and Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063–1070. <https://doi.org/10.1037/0022-3514.54.6.1063>
- Weir, C. J. (2005). *Language testing and validation*. Palgrave Macmillan.