



Investigation of the psychometric properties of the Perceived Parental Autonomy Support Scale in the Southeastern European context

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Abstract

The Perceived Parental Autonomy Support Scale (P-PASS) is an instrument designed to measure parental autonomy-support and control of late adolescents and emerging adults. The present paper examines the process of adapting the P-PASS to the Romanian culture. Four studies were conducted, investigating: 1) the adequacy of the translation, using a multidimensional scaling of expert ratings; 2) construct validity, through exploratory approaches; 3) various psychometric properties, such as reliability and construct validity, through confirmatory approaches; convergent validity through comparisons with other measures of parental autonomy support (College-Student Scale of the Perceptions of Parents Scales) and control (Psychological Control Scale–Youth Self-Report), and predictive validity in relation with general self-efficacy; 4) test-retest reliability. The results show that the Romanian version of the P-PASS has sound psychometric properties. Confirmatory Factor Analysis indicates that a structure with two second order factors fits the data best and that the measure is equivalent with the original Canadian version. Also, it shows adequate test-retest reliability at 6 months and one year between administrations, good convergent validity, and a good prediction of general self-efficacy.

Keywords Parental autonomy support · Parental control · Parenting styles · P-PASS

Introduction

Parental influence has been long studied as an important construct for the development and socialization of children (Maccoby 1992). Two of the components of parental influence, autonomy-support and control, have benefited from a rising interest in the literature in recent years, especially because autonomy has been conceptualized as a basic human need and central concept in the Self-Determination theory (Deci and Ryan 2000). A search on Google scholar shows that almost 97% of the studies focusing on autonomy-supportive (AS) parenting and 85% of those focusing on controlling (C) parenting have been conducted beginning with the year 2000, while 70% of all the studies on AS and 40% on C were conducted from 2010 onward.

The two constructs have been empirically linked to a series of important outcomes. Providing an AS environment has been

shown to be beneficial for, among others, adolescent changes in empathy (Miklikowska et al. 2011), well-being (Van der Kaap-Deeder et al. 2017) emotion regulation of adolescents (Brenning et al. 2015; Liew et al. 2014) and of college students (Roth and Assor 2012), school engagement (Marbell and Grolnick 2013), conflict management and problem solving (Missotten et al. 2018), autonomy and competence (Costa et al. 2019), time management (Won and Shirley 2018), life satisfaction, physical health and general self-efficacy (Reed et al. 2016), and emotional intelligence (Costa et al. 2018). A meta-analysis of the studies regarding the relationship between parental AS and adaptive functioning was conducted by Vasquez et al. (2016), revealing that AS is related to psychological health, perceived competence, autonomous motivation, attitudes towards school, and extrinsic motivation, among other outcomes. Perceived parental AS was also found to be predictive of career variables such as career well-being (Pesch et al. 2016), career indecision (Guay et al. 2006), college academic adjustment (Duchesne et al. 2007), career decision making (Katz et al. 2018), and academic satisfaction (Pedersen 2017). Parental control has been linked to outcomes such as depression and anger behavior (Cui et al. 2014; Ha and Jue 2018; Marbell and Grolnick 2013), perfectionism (Costa et al. 2016b;

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Fletcher et al. 2012; Shih 2013), generalized anxiety disorder and social anxiety symptoms (Bynion et al. 2017; Wijsbroek et al. 2011), cyber-bullying (Fousiani et al. 2016), procrastination (Won and Shirley 2018), and decrease in academic performance (Pinquart 2016).

One of the modern conceptualizations of AS and C parenting has been proposed by Grolnick and Pomerantz (2009). Reviewing over 30 years of research, they proposed that an autonomy-supportive parenting style is one where parents encourage children “to take initiative, allowing them to solve problems on their own, and taking the child’s perspective”, while a controlling parenting style is characterized by “forcing children to meet demands, solving problems for children, and taking a parental rather than child perspective” (p. 167).

Autonomy support has been further defined as promotion of volitional functioning, which contrasts with the promotion of independence. While the promotion of independence is the opposite of dependence, promotion of volitional functioning is characterized by empathy with the child’s perspective and by provision of choice within certain limits and rationale (Soenens et al. 2007). In this way, children are encouraged to make decisions that are an expression of their own values, preferences and interests and to be more self-reliant.

Authors have distinguished several types of control, two of them being the most commonly studied (Barber 1996). The first is psychological control, where parents try to make their own will met by manipulation, guilt inducing techniques, shaming and threats of punishment or love withdrawal (Barber 1996). Much of the recent research is conducted with instruments that measure this type of control. The second one is behavioral control, in which parents establish and communicate firm rules of behavior. This form of control has been referred to as structure by Grolnick and Pomerantz (2009) and is different from the C parenting dimension.

Parental AS and C have been the subject of different conceptual approaches, the most well-known of these being based on the axis psychological autonomy versus psychological control (Schaefer 1965), where the two were regarded as poles of the same conceptual continuum. However, more recent theoretical and empirical evidence supports the idea that they are negatively correlated concepts, rather than opposite poles of the same construct, and should therefore be measured separately (Hauser Kunz & Grych 2013). Indeed, an environment low in autonomy support is not automatically high in control, and an environment low in control is not automatically high in autonomy support (Van der Kaap-Deeder et al. 2017). For example, when parents don’t support the choices of the child to have a hobby (do not give options to choose from), that does not mean that they are controlling and force an option on the child. Conversely, if they do not force the child to do a certain activity, this doesn’t mean that they are supportive and offer choices within certain limits. The literature generally shows negative correlations of moderate to large size between

AS and C, i.e. r s between $-.30$ and $-.71$ (Cheung et al. 2016; Costa et al. 2018; Fousiani et al. 2016; Marbell and Grolnick 2013; Ratelle et al. 2017; Shih 2013; Soenens et al. 2018). Also, there is evidence that the two constructs cover significantly different variances: AS predicts the adjustment of young adults above and beyond C (Mageau et al. 2015).

Measurement of the AS and C constructs has rarely been up to the standards set by the modern conceptualization. We note that many of the early studies focusing on AS and C have been designed tributary to the framework of Schaefer’s (1965) theory. Therefore, the constructs of AS and C have usually been assessed with measures designed in this theory (e.g., Children’s Report of Parenting Behavior Inventory, CRPBI; Schaefer 1965; Schludermann and Schludermann 1970; and subsequent versions). Later, studies began to explore the two constructs separately, with different and sometimes heterogeneous measures (i.e., items from different questionnaires that originally had a broader approach). Measures of choice for AS have been such questionnaires as the Perceptions of Parents Scale (POPS; Robbins 1994), Parenting Style Index (PSI; Steinberg et al. 1992), or the Parental Attachment Questionnaire (PAQ; Kenny 1987), while C has usually been assessed with the Psychological Control Scale-Youth Self-Report (PCS-YSR; Barber 1996).

Among the limitations of the existent measures of AS and C, Mageau et al. (2015) list: the lack of assessment of behavioral AS and its poor content validity, the lack of any studies or other information to support the validity of these measures, their unidimensionality, and the necessity to measure both constructs with items of the same format.

The P-PASS

To cover these limitations, the Parental Autonomy Support Scale (P-PASS) has been developed by Mageau et al. (2015), to measure both AS and C as separate constructs. It has been designed to measure these concepts for emerging adults. The P-PASS contains 24 items, assessed on a 7 point Likert scale, from 1 (*do not agree at all*) to 7 (*very strongly agree*). The P-PASS has a number of advantages over the previously mentioned measures: it measures both AS and C as different constructs, with items of the same format, it allows a thorough assessment of each of the concepts by operationalizing each of them through multiple dimensions, it captures both psychological and behavioral aspects of the two constructs, and is specially designed for young adults.

The P-PASS comprises 6 scales, 3 for the AS factor and 3 for the C factor. The 3 scales focusing on C refer to Threats to punish (punishment if the child does not obey parental wishes), Guilt-inducing criticisms (control over the child’s behavior by inducing guilt), and Performance pressures (in order to be acknowledged by the parent, the child has always

to be the best and better than other children). The 3 scales focusing on AS refer to Choice within certain limits (encouraging the child to make his/her own decisions within limits), Rationale for demands and limits (giving reasons for parental demands and limits), and Acknowledgement of feelings (parent openness to the child's feelings, thoughts, and opinions).

The P-PASS is a relatively new measure, but the little research that has been published on it so far offers support of excellent reliability, good convergent, divergent, and incremental validity, and a sound two-factor factorial structure. The measure has been developed in French and the process of adaptation has been documented in Mageau et al. (2015). It shows an adequate 2-factor solution, good reliability coefficients (from .89 to .94) and good divergent validity.

Studies conducted with the French original form linked the P-PASS factors with several outcomes: AS positively predicted identification with the value of "honesty", and the perceived benefits of telling the truth vs. the cost of lying (Bureau and Mageau 2014), as well as life satisfaction, self-esteem and positive affect (Mageau et al. 2015); C was associated negatively with the identification with the value of "honesty", positively with the perceived costs of telling the truth (Bureau and Mageau 2014), negatively with life satisfaction and positively with negative affect (Mageau et al. 2015), and predicted academic and personal-emotional adolescent adjustment (Ratelle et al. 2017). In terms of incremental validity, AS predicts the adjustment of young adults above and beyond C, parental acceptance, and monitoring, which is evidence that they predict significantly different variances and are not the same construct (Mageau et al. 2015).

The English linguistic adaptation has been developed by the authors of the test, but no statistical data regarding its psychometric properties have been reported yet. As far as we know, there is only one documented adaptation of the P-PASS, for the Italian culture (Costa et al. 2016a). The reported Cronbach Alpha reliability coefficients were between .83 and .90. In terms of construct validity, the Italian adaptation reported good fit indices ($CFI = .95$, $RMSEA = .03$ for a model of the perception of maternal AS and C, and $CFI = .93$, $RMSEA = .05$ for a model of the perception of paternal AS and C). In terms of criterion validity, both maternal and paternal AS were associated with vitality and need satisfaction for Italian adolescents, while both mother and father control was associated positively with depression and need frustration.

The present research adds to the literature by examining the psychometric properties of the Romanian version of the P-PASS. The data obtained adds to the validity evidence regarding this relatively new measure, providing at the same time further research of the associated concepts in a new culture. Some little research has been previously conducted on AS and C in Romania, with an accent on parental control (Diaconu-Gherasim et al. 2017). These studies have however not documented in detail the adaptation process of the used measures.

Quite aside from the need to document how research scales have been adapted for use in a culture – and for data collection in a specific study – it also is important to gather information about AS and C in new cultures, since most of the studies on this topic have been conducted in Western (mainly the USA) and Asian countries, and especially since studies have shown that parenting styles are subject to cultural influences (Chen et al. 2016; Chou and Chou 2018; Fu and Markus 2014; Yau and Watkins 2018). Romania is a culture characterized by some of the highest rates of power distance, avoidance uncertainty, restraint and collectivism (Hofstede et al. 2010) in the whole world. It is interesting to see how the perceptions and practices of AS and C are impacted in a country that has such extreme cultural characteristics.

The Present Paper

The present paper describes 4 studies. The first study reports in detail on the actual adaptation process, based mainly on exploratory techniques. The second study examines the equivalence between the Romanian and the original versions, through Procrustes analysis. In the third study, we present additional psychometric properties of the Romanian version of the P-PASS, such as its factor structure using a confirmatory approach, its concurrent validity in relation with measures of autonomy-support and control, as well as the criterion validity in predicting student general self-efficacy one year later. In the fourth study, we study the temporal stability of the results when re-testing after 6 and respectively 12 months.

Study 1

The first study developed the Romanian adaptation of the P-PASS. We used as source version the English form, adapted from French by the test authors (Mageau et al. 2015). International best practice guidelines were used in the translation process (International Test Commission 2005; Van de Vijver and Hambleton 1996; Hambleton et al. 2005).

The Romanian translation was developed by the authors of this paper. A guided forward translation process was employed for the translation and cultural adaptation of the items (Hambleton et al. 2005), in which items were translated from the source to the target version while taking into account their focal construct (scale or subscale of the test). The linguistic and psychological equivalence of the two versions was assessed by two different experts, proficient in both Romanian and English. Revisions were operated on the Romanian form of the test by a panel of these 4 researchers (translators and reviewers), following an in-depth discussion.

No major issues were identified during the review phase because the words and linguistic constructions used in the

questionnaire are very simple and straightforward. Only two items were slightly modified to be easier to understand and more natural in Romanian. Item 1, “My parents gave me many opportunities to make my own decisions about what I was doing.”, initially translated “Părinții mei îmi facilitau multe oportunități pentru a lua propriile decizii în legătură cu ce făceam.” (English back-translation “My parents gave me a lot of opportunities to make my own decisions about what I was doing”), became after revision: “Părinții mei mi-au permis să iau propriile decizii în legătură cu ce făceam” (English back-translation “My parents allowed me to make my own decisions regarding what I was doing”), which has a more natural flow in Romanian. Item 9, “When I was not allowed to do something, I usually knew why.”, initially translated “Atunci când nu aveam voie să fac ceva, în general știam de ce” (English back-translation “When I was not allowed to do something, I usually knew why”), became after revision, “Când părinții nu îmi permiteau să fac ceva, îmi explicau și de ce” (English back-translation “When my parents did not allow me to do something, they usually explained to me why”), in order to better capture its original meaning and to force its coherence with its target subscale (Rationale for demands). In Items 3 and 10, the translation of the word *privileges* was replaced with the equivalent of the word *rights*, which is more common in Romanian in this context. No other changes were necessary.

In order to further explore the adequacy of the Romanian translation, we analyzed with multidimensional scaling data provided by a number of experts (Sireci and Geisinger 1995). Eight doctoral students who had previously adapted measures for their respective theses rated each of the 24 P-PASS items on the criteria comprised in the Item Translation and Adaptation Review Form proposed by Hambleton and Zenisky (2011). This list contains 25 criteria referring to the quality of the adaptation, that the assessor has to rate each item on (Yes, No, Unsure and Not relevant); we only used 20 of the criteria (those under the headings of General, Item format, Grammar and phrasing, and Culture) and excluded the 5 criteria referring to Passages, as none were present in the questionnaire. Examples of these criteria are: “Does the item have the same or highly similar meaning in the two languages?” (General); “Is the length of the item stem and, if applicable, answer choices about the same in the two language versions?” (Item format); “Are there any grammatical clues that might make this item easier or harder in the target language version?” (Grammar and phrasing); “Have terms in the item in one language been suitably adapted to the cultural environment of the second language version?” (Culture).

Results

For each of the raters, we computed for every item sums of the rating criteria, as well as a total score. This data was analyzed

using IBM SPSS Statistics 22 (IBM Corp 2013), with an Alscal scaling procedure. Figure 1 shows the Euclidian distance plot for the total scores of the 24 items.

Most of the items are spatially represented close to one another, signaling that according to the raters, they are equally adequate in terms of general rating (that includes General, Format, Grammar and phrasing, and Culture).

There are, however, several items that are placed rather distant from the others: items 1, 3, 9, and 10. These are the very items that were discussed as potentially problematic and were modified by the initial panel of reviewers.

Feedback given by the experts on each of these 4 items is summarized below.

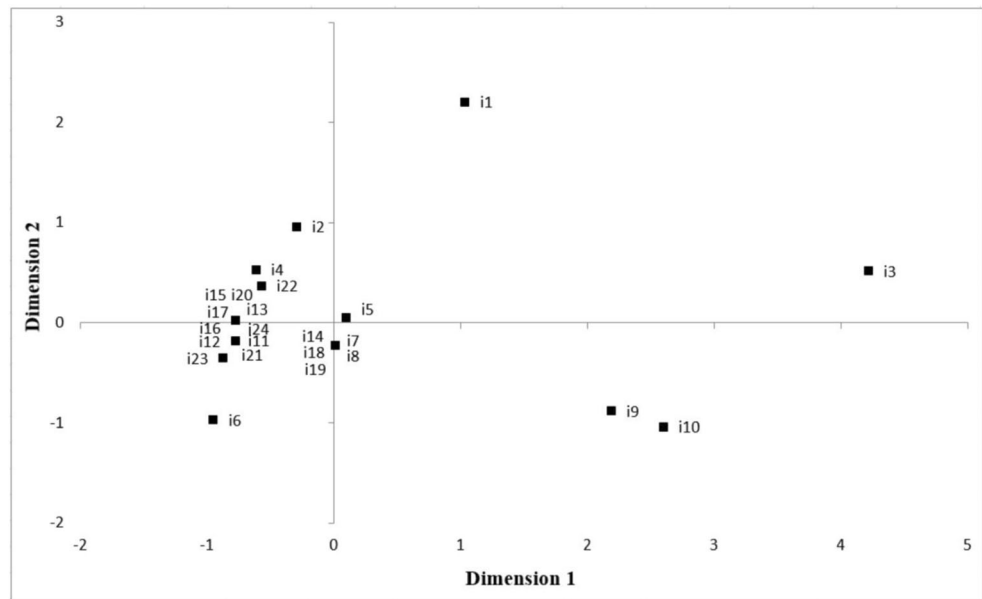
The comments for Item 1 were about the fact that the translation used implied a *laissez faire* meaning (English back-translation: “My parents allowed me to make my own decisions regarding what I was doing”), while the English version implied more proactivity on part of the parents (original: “My parents gave me a lot of opportunities to make my own decisions about what I was doing”).

For items 3 (original: “When I refused to do something, my parents threatened to take away certain privileges in order to make me do it”; English back-translation: “When I refused to do something, in order to convince me to do, my parents threatened to take away some rights.”) and 10 (original: “I always had to do what my parents wanted me to do, if not, they would threaten to take away privileges.”; English back-translation: “I always had to do what my parents asked me to, otherwise, they threatened to take away my some of my rights.”), the main comments were on linguistic equivalence, i.e. on the fact that we used the Romanian equivalent for the word “right” instead of the word “privilege”, as in the original form. We maintain that this word, while not linguistically equivalent with the original, is more appropriate both generally in the Romanian language and especially in this context, and the item thereby succeeds to better capture in the Romanian culture the intended meaning of the scale it belongs to, Threats to punish.

For item 9 (original: “When I was not allowed to do something, I usually knew why.”, English back translation: “English back-translation “When my parents did not allow me to do something, they usually explained to me why”).), experts commented that they felt that the meaning of the item was slightly changed. While acknowledging the slight shift in meaning, we consider that the item thereby is better suited to measure the meaning of the scale Rationale for demands and limits, that is, that parents would actively and clearly tell their children the reasons for any demands or interdictions, rather than that children would just know and understand these reasons by themselves.

One thing worth mentioning in this context is the fact that the raters only rated the actual translations, and not their fit

Fig. 1 Euclidian distance plot for the raters' evaluations of the translation of the P-PASS items



with the focal scale, as the Hambleton and Zenisky (2011) checklist has no rubrics for “fit to intended construct”.

Despite these comments and suggestions, we consider that the piloted version of the Romanian form of the P-PASS is adequate, and used this form in the following two studies.

Study 2

The second study examined the equivalence between the Romanian (target) and the original (source) version of the questionnaire, using exploratory factor analysis and a Procrustes (target) rotation to compare the factor structure and item loadings obtained in the two cultures.

Participants and Procedure

The sample consisted of 370 freshman and sophomore university students, among them 66 males (17.80%). Their age ranged between 17 and 25 years ($M = 19.22$, $SD = 1.09$). Participants were recruited by presenting the study in various universities, and enlistment in the study was voluntary. Most of the students were enlisted in majors like Psychology, Communication Sciences, Public Relations, and Advertising. As a reward, the participants were offered an assessment and a developmental profile for a vocational test. All questionnaires were administered online.

Measures

For this study, we used exclusively the Romanian form of the P-PASS that was reported on in Study 1.

Results

An exploratory factor analysis (including target rotation) was carried out with IBM SPSS Statistics 22 (IBM Corp 2013).

Procrustes Rotation In order to explore if the item loadings in the Romanian version matched the ones reported in the original studies, we performed a target (Procrustes) rotation on the loadings resulted from an exploratory factor analysis (EFA), replicating the procedure followed by the original authors (maximum likelihood with oblimin rotation). We used as target matrix the loadings reported by the authors in 2 of their original studies (Mageau et al. 2015). The procedure used is described in detail in Iliescu (2017, p. 257). The results are presented in Table 1.

The Romanian structure is very close to the original one, for both target studies. All of the items have the largest loading in the same factor as in the original studies and the theoretical model. However, there are two items (Item 1 and Item 12) that have for the Romanian version slightly higher negative loadings in the other factor.

The result of this procedure is Tucker’s Phi congruence coefficient (Tucker 1951), which can be computed both for the entire questionnaire, and at the factor and item level. While there is no consensus in the literature as to what an adequate value of the Tucker index is, some authors have recommended thresholds (Iliescu 2017; MacCallum et al. 1999). According to these recommendations, the overall congruence indices we obtained (.94 and .95, respectively) signify a good fit/similarity. At the item level, there are some individual items that show a smaller congruence.

Item 1 has a lower congruence index with both original studies. This item shows for the Romanian data for the two

Table 1 Results for the Procrustes rotation for the Romanian sample in comparison with 2 Canadian samples

Item	Factor loadings ^a		Congruence Study 1 ^b	Congruence Study 2 ^c
	Factor 1	Factor 2		
Item 1	.28	-.29	.86	.85
Item 2	.77	.07	1.00	1.00
Item 3	-.15	.61	.85	.98
Item 4	.59	-.16	.91	1.00
Item 5	-.09	.56	1.00	.99
Item 6	-.31	.48	.91	.88
Item 7	.73	-.11	1.00	1.00
Item 8	.49	-.26	.89	.98
Item 9	.84	.11	.98	1.00
Item 10	-.19	.68	.94	1.00
Item 11	.20	.43	.81	.94
Item 12	-.46	.43	.84	.97
Item 13	.64	-.17	.93	.95
Item 14	.51	-.21	.93	1.00
Item 15	-.27	.66	.93	1.00
Item 16	.76	-.14	.99	1.00
Item 17	-.02	.51	.99	.99
Item 18	-.23	.57	.91	.99
Item 19	.89	.12	1.00	1.00
Item 20	-.25	.71	1.00	1.00
Item 21	-.34	.55	.93	.99
Item 22	.02	.50	.98	1.00
Item 23	.88	.06	.99	1.00
Item 24	.76	-.09	1.00	1.00
Factor congruence study 1	.93	.95	.94	
Factor congruence study 2	.97	.91		.95

Maximum likelihood extraction and direct Oblimin rotation were used for the EFA

^a For the Romanian sample, $N = 370$

^b First Canadian sample, $N = 210$

^c Second Canadian sample, $N = 315$

factors loadings approximately equal in magnitude (.28 and $-.29$). The suggestions made by the reviewers in the initial phase of the adaptation could contain a potential solution for a rewording of this item.

Items 3, 8 and 11 show a very good congruence with one original Canadian study, and a slightly lower congruence with the other (.85, .89 and .81 respectively); however the loadings of these items for the Romanian data are very convincing.

Item 6 has a much higher factor loading for the Romanian data on the first factor ($-.31$) than reported in the Canadian studies ($-.03$ and $-.06$). Reviewing the translation of the item, one potential reason could be the translation of the word *differently*, which could be changed for the future with the translation of *in a different way*, in order to avoid confusions between *doing something different* and *doing something differently*.

Item 12 does not differentiate strongly between the 2 factors in the Romanian data (loadings are $-.46$ and $.43$), and it seems that this item (“My parents made me feel guilty for anything and everything”), is not only a sign of parental control but also a sign of low autonomy-support in the Romanian culture.

Study 3

The third study assessed the factor structure and the reliability of the Romanian version of the P-PASS, as well as its convergent and predictive validity. We analyzed the structure obtained in study 1, which is the same structure in the original Canadian studies, and computed internal consistencies (Cronbach’s alpha). We also analyzed convergent validity by comparing the measure with more used measures of parental

autonomy support and control, as well as predictive validity in relation to general self-efficacy.

Participants and Procedure

Participants were 167 college students, among them 18 males (10.80%), with ages between 19 and 25 ($M = 20.05$, $SD = 0.91$). A number of 75 (12% males) of these students completed a general self-efficacy measure (paper and pencil administration) one year after the P-PASS.

Measures

P-PASS The Romanian P-PASS version reported on in Study 1 was used.

Autonomy-Support AS was measured with the Autonomy-support scale from the College-Student Scale of the Perceptions of Parents Scales (POPS; Robbins 1994). The scale contains 9 items (e.g., “My mother/father allows me to decide things for myself”) measuring autonomy-supportive parenting, scaled between 1 (*not at all true*) and 7 (*very true*). For the present study, the Cronbach Alpha reliability coefficient was .87.

Parental Psychological Control C was measured with the Psychological Control Scale–Youth Self-Report (PCS-YSR; Barber 1996; Barber et al. 2012). The scale contains 8 items (e.g., “Often interrupts me”) scaled from 1 (*not like her/him*) to 3 (*a lot like her/him*). The Cronbach Alpha coefficient was .87 for the present study.

Self-Efficacy Self-Efficacy was measured with the Generalized Self-Efficacy Scale (GSES; Schwarzer and Jerusalem 1995). The scale contains 10 items (e.g., “I can usually handle whatever comes my way”) measuring the feeling of general personal self-efficacy. Responses range from 1 (*not at all true*) to 4 (*exactly true*). The Cronbach Alpha coefficient was .88 for the present study.

Results

The confirmatory factor analysis was conducted with Mplus7 (Muthén and Muthén 1998-2012), and descriptive statistics, reliabilities, convergent and predictive validity were carried out with IBM SPSS Statistics 22 (IBM Corp 2013).

CFA We conducted a WLSMV estimation test (as recommended by Li 2016) for 3 SEM models: a model with a single first order factor (M1), a model with 2 first order factors (M2), and a model with 2-s order factors, each

factoring 3 first-order factors, consistent with the 6 scale structure developed by the authors (M3).

The results for these CFAs are presented in Table 2. M1 and M2 have a poor fit, while M3 has an adequate fit. The fit indices of the final model (M3) were CFI = .98, TLI = .97, RMSEA = .08, WRMR = .84, which are very good indices according to the guidelines of Hu and Bentler (1999). The factor loadings are presented in Table 3.

Descriptive Statistics Descriptive statistics for the items, scales, and factors are presented in Table 4.

Interscale correlations are presented in Table 5. The AS and C scales are strongly and negatively correlated, but not as high as to capture the opposite constructs (−.76).

Internal consistency (Cronbach’s alpha) was computed for all the scales and shows that the P-PASS is a highly reliable measure, with coefficients ranging from .81 (Choice within Certain Limits) and Performance pressures) to .95. (Autonomy support) (Table 5).

Convergent Validity Convergent validity was examined by zero-order correlations between the POPS and the AS and C factors of the P-PASS, respectively the PCS-YSR and AS and C factors of the P-PASS. Results show high correlations between the POPS score and both AS (.83) and C (−.72), and between the PCS-YSR score and both AS (−.72) and C (.76). These results offer support for the convergent validity of the P-PASS (Table 6).

Predictive Validity A multiple linear regression was calculated using both AS and C, measured at the beginning of the first year in college, as predictors of general self-efficacy measured 12 months later. Only AS was found to be a significant predictor, ($F(2, 72) = 11.43$, $p < .001$, $B = .28$, $\Delta R^2 = .23$). These results are evidence for a good predictive validity of the P-PASS.

Study 4

After the confirmation that the original structure of the measure was adequate, we conducted a fourth study, to compute the test-retest reliability.

Participants and Procedure

The participants were part of the initial sample used for the EFA. From the original sample, a number of 171 students completed the questionnaire again after 6 months (28 of them male, 16.09%); the age of the participants in the second administration was between 17 and 24 ($M = 18.93$, $SD = 0.89$). Also from the original sample, a number of 121 participants (17 of them male, 14.00%) completed the measure after one year (ages between 18 and 24, $M = 19.92$, $SD = 0.81$).

Table 2 Goodness of fit statistics for the three models of the Romanian adaptation of P-PASS

Model	χ^2	<i>Df</i>	CFI	TLI	RMSEA	WRMR
M1 First order, one factor	1407.091*	252	.885	.874	.166 (.157–.174)	1.800
M2 First order, 2 factors	993.240*	251	.926	.919	.133 (.124–.142)	1.442
M3 Second order, 2 factors	477.393*	245	.977	.974	.075 (.065–.085)	.843

* $p < .0001$

Results

Test-Retest Reliability We computed the test-retest reliability for both the 6 and 12 months lag between administrations. For the 6 months lag, all scales are stable, with the exception of the

Performance pressures scale, which shows a somehow smaller reliability (.65). The same tendency is present for the 12 months lag (Table 5), with Performance pressures having the lowest of all the coefficients (.55). The Choice within certain limits scale also shows a lower coefficient for the 12 months lag. It may be worth mentioning that the P-PASS was not intended to be used at the scale level but at the factor

Table 3 Factor loadings of the P-PASS items in M3

Item/ Factor	<i>F1</i>	<i>F2</i>	<i>F3</i>	<i>F4</i>	<i>F5</i>	<i>F6</i>	<i>F7</i>	<i>F8</i>
Item 14	1.116							
Item 4	1.114							
Item 8	1.059							
Item 1	1.000							
Item 23		1.095						
Item 9		1.063						
Item 19		1.021						
Item 2		1.000						
Item 24			1.185					
Item 16			1.130					
Item 13			1.053					
Item 7			1.000					
Item 15				1.214				
Item 20				1.208				
Item 10				1.181				
Item 3				1.000				
Item 22					1.044			
Item 5					1.000			
Item 17					0.939			
Item 11					0.923			
Item 21						1.118		
Item 12						1.092		
Item 18						1.091		
Item 6						1.000		
F1							0.668	
F2							0.761	
F3							0.793	
F4								0.678
F5								0.595
F6								0.783

F1, Choice within certain limits; F2, Rationale for demands and limits; F3, Acknowledgement of feelings; F4, Threats to punish; F5, Performance pressures; F6, Guilt inducing criticisms; F7, Autonomy supportive parenting; F8, Controlling parenting

Table 4 Descriptive statistics for the P-PASS items, scales, and factors

Item	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
Item 1	5.31	1.48	−0.94	0.20
Item 2	4.80	1.69	−0.57	−0.57
Item 3	3.58	1.81	0.25	−1.18
Item 4	5.37	1.62	−0.88	−0.11
Item 5	3.74	1.79	−0.02	−1.13
Item 6	3.43	1.81	0.24	−1.11
Item 7	5.23	1.69	−0.85	−0.22
Item 8	5.86	1.12	−1.14	1.25
Item 9	4.92	1.73	−0.64	−0.64
Item 10	2.92	1.71	0.62	−0.77
Item 11	4.90	1.67	−0.63	−0.56
Item 12	2.56	1.71	0.75	−0.74
Item 13	4.19	1.81	−0.14	−1.06
Item 14	5.05	1.66	−0.65	−0.46
Item 15	2.66	1.66	0.90	−0.17
Item 16	4.78	1.64	−0.39	−0.71
Item 17	4.23	1.88	−0.08	−1.11
Item 18	3.12	1.89	0.48	−1.06
Item 19	4.57	1.72	−0.37	−0.86
Item 20	2.75	1.67	0.78	−0.44
Item 21	2.80	1.81	0.67	−0.78
Item 22	4.13	1.94	−0.15	−1.24
Item 23	4.64	1.67	−0.42	−0.70
Item 24	4.72	1.76	−0.45	−0.84
Choice within certain limits	5.40	1.18	−0.54	−0.55
Rationale for demands and limits	4.73	1.54	−0.46	−0.74
Acknowledgement of feelings	4.73	1.51	−0.38	−0.65
Threats to punish	2.98	1.53	0.62	−0.54
Performance pressures	4.25	1.55	−0.17	−0.89
Guilt inducing criticisms	2.98	1.59	0.51	−0.80
Autonomy supportive parenting	4.95	1.30	−0.48	−0.55
Controlling parenting	3.40	1.36	0.33	−0.68

 $N = 167$

Table 5 Reliability analysis and correlations among the P-PASS scales and factors

Variable	Alpha ^a	Test-Retest ^b 6 months	Test-Retest 12 months ^c	Correlations ^d							
				1	2	3	4	5	6	7	
1 Choice within certain limits	.81	.70**	.64**	–							
2 Rationale for demands and limits	.93	.74**	.78**	.67**	–						
3 Acknowledgement of feelings	.90	.74**	.70**	.78**	.85**	–					
4 Threats to punish	.91	.73**	.70**	–.68**	–.62**	–.68**	–				
5 Performance pressures	.87	.65**	.55**	–.49**	–.40**	–.49**	.56**	–			
6 Guilt inducing criticisms	.90	.70**	.71**	–.71**	–.69**	–.75**	.74**	.63**	–		
7 Autonomy supportive parenting	.95	.78**	.77**	.87**	.93**	.96**	–.71**	–.50**	–.78**	–	
8 Controlling parenting	.93	.75**	.71**	–.72**	–.65**	–.74**	.88**	.84**	.91**	–.76**	–

^{a, d} N = 167

^b N = 171

^c N = 121

* p < .05, ** p < .01, *** p < .001

level, and the factors are perfectly stable for both the 6 and the 12 months lag.

Discussion

The present paper describes a series of 4 studies that reported on the adaptation process of the P-PASS to the Romanian culture. The results of our studies have implications from both empirical and methodological perspectives.

CFA revealed that a structure with two second order factors, each factoring 3 first-order factors, describes the data best. This result is consistent with the 6 factors initially developed by the authors (Mageau et al. 2015). Their paper does not report on CFA results; instead, their EFA results reveal two strong factors, corresponding to AS and C, and the authors drew the conclusion that autonomy-supportive behaviors and respectively controlling behaviors “strongly covary in young adults’ perceptions” (p. 257). For our samples, while the Procrustes analysis suggests a very good equivalence with the original version with two factors, the CFA indices for the corresponding model are not adequate; a second order factor model is much more suitable to the data. We concluded that

for the Romanian sample, the perception of differences between the significance of the 6 scales is clearer.

While the overall indices of the second order factorial solution are adequate, a look at the modification indices shows that one item could possibly share variance with the other subscales in its factor: item 5 (“My parents refused to accept that I could want simply to have fun without trying to be the best.”) is a part of the Performance pressures subscale, but may also be included in the Threats to punish and Guilt inducing criticism subscales (in the same second order factor). One possible explanation for this overlap could be the inclusion of the term *refused* in the item, which could imply some form of action from parents, such as threatening to punish or criticism if their requirements are not met. Replications of the study on additional samples should analyze this finding in more depth.

While our data showed good reliability for the Choice within certain limits subscale and good item-scale correlations, there is one item that could potentially be conceptually problematic, as shown by the Procrustes analysis. It is possible that item 1, in its present translated form, is missing its original meaning, by lacking the word *opportunities* used in the original item. Creating opportunities is what could differentiate

Table 6 Correlations between the P-PASS and other measures (Study 3)

Variable – measure	Correlations				
	1	2	3	4	5
1 Autonomy-support – P-PASS	–				
2 Control – P-PASS	–.76**	–			
3 Autonomy-support – POPS	.83**	–.72**	–		
4 Control - PCS-YSR	–.72**	.76**	–.76**	–	
5 General self-efficacy – GSES – after 1 year	.47**	–.24*	.49**	–.28*	–

* p < .05, ** p < .01

between permissiveness and autonomy-support. In the conceptualization of autonomy support as promotion of volitional functioning (Soenens et al. 2007), the main factor is that the parent is present and is actively creating opportunities for decision making. In this light, there is a risk that item 1, while capturing independent decision making, does not capture promotion of volitional functioning. For example, for a high school graduate deciding what to do after graduation can be made independently as a choice or with support from parents, or the parents can just stay out of the decision in a *laissez faire* way. Therefore, we recommend that future studies with the Romanian form of the questionnaire change the translation of item 1, adding the word “opportunities”. For example, the new item could be: “Părinții mei îmi ofereau multe oportunități pentru a lua propriile decizii în legătură cu ce făceam.” (“My parents used to offer me many opportunities to make my own decisions about what I was doing.”)

One other issue we should address is the use in items 3 and 10 of the equivalent of the word rights instead of that of privileges. We opted for that after careful consideration and because the direct translation has different connotations in English and Romanian. In Romanian, the word privilege is rarely used in common language and when applied to parenting has a slightly negative cultural meaning, such as the fact that the child is spoiled if he/she has privileges. A more suitable word would have been permission, but there is no equivalent in Romanian for this term. We continue to consider this as the correct choice, since the word “rights” is more common in Romania, more severe and captures the meaning of the subscale (Threats to punish), and the CFA confirmed this choice.

In terms of the correlation between the two constructs, our results are consistent with recent research (Cheung et al. 2016; Costa et al. 2018; Fousiani et al. 2016; Marbell and Grolnick 2013; Ratelle et al. 2017; Shih 2013; Soenens et al. 2018) and are evidence of the fact that AS and C are separate negatively correlated constructs, rather than poles of the same construct. Nevertheless, we have to note the magnitude of the correlation for our sample ($-.78$), which is the highest correlation reported in all the studies that we documented. This suggests the fact that it is possible that Romanian parents have the tendency to not show the two types of behaviors together, i.e. to have a preference for showing either AS or C behaviors and show the other very rarely. For example, parents who use shame and guilt to control their children, or exert pressure to perform, will rarely allow them freedom of choice. Also, because the range of the reported correlations is large, future studies could explore if this difference is due to the characteristics of the sample (e.g., children, adolescents, or emerging adults; normal or clinical; assessment of mother or father).

One other goal of the study was to assess the temporal stability of the questionnaire, since this issue was not covered by previously published studies. Our results show that the P-

PASS is a highly reliable measure. There is one single scale that shows a slightly lower stability coefficient after 12 months (.55), and that is the Performance pressures scale. Future studies should investigate the source of this result. Possible explanations could be that the sample filled in the questionnaire first at the beginning of their freshman year, after the period of admission exams (written exams that decide admission into university), when the memory of parental pressure was very fresh. Another explanation could be that the structure of the scale is not refined enough (item 5 is part of this subscale).

Another goal of our studies was to investigate the predictive validity of the P-PASS. According to Social Cognitive Theory (Bandura 1986), one of the factors that can make a contribution to the development of self-efficacy is social modeling. We expected parenting styles to influence the feeling of general self-efficacy and we tested this assumption in a longitudinal design. The findings are in line with the results of Reed et al. (2016) and suggest that parental AS is an antecedent of general self-efficacy.

Besides the practical implication of the P-PASS adaptation, a number of contributions of our paper to test adaptation practice should also be mentioned. A priori exploratory techniques, such as those used in our first study, have been considered good practice in test adaptations for a long time (e.g., Hambleton et al. 2005), but they are rarely used or reported in research papers. By contrast with a posteriori techniques, that can only report on the quality of an adaptation, these a priori techniques are those that actually help in crafting a good quality adapted form of a test. The recent literature emphasizes the need to employ and describe such techniques in detail (Greiff and Iliescu 2017). Our paper follows this recommendation. The Item Translation and Adaptation Review Form (Hambleton and Zenisky 2011), while highly cited in the test adaptation literature, is only rarely referenced in empirical studies, and to our knowledge none of these studies have ever reported details on its actual use. Our study, while reporting on how specifically this checklist was used, also combined the results with a quantitative exploratory approach, multidimensional scaling. The paper also advances a suggestion for the improvement of the Hambleton & Zenisky checklist. As shown by the similarities between the various methods (interviews with raters, multidimensional scaling and CFA) in identifying problematic items, the addition of a construct validity section through which reviewers may assess the adequacy of the translated item for the target scale, would improve the usability of the checklist for psychological tests.

Limitations and Future Studies

A number of limitations of the present research should be mentioned. First, we note the composition of the sample that consists of freshman college students and contains

significantly more female than male participants, a fact that may affect the generalizability of our results. Future studies should also include high school graduates who don't attend university, and high school students. Second, the participants assessed AS and C for both their parents together. We used this approach in order to assess the overall AS and C perceptions developed by students about their childhood. Although studies with the P-PASS report a high correlation between the perceived mother and father AS and C (Mageau et al. 2015; Costa et al. 2016a, 2019), this issue should be addressed in future research. Third, this paper used self-report data. The literature is split regarding the agreement between AS and C reported by the child and the parents (Cheung et al. 2016; Su et al. 2015). However, it is possible that the child's perception (e.g., the feeling of being supported or not, controlled or not) is more predictive of outcomes than the actual parent behavior: Cheung et al. (2016) suggest that child perception is the key mechanism by which parenting exerts its influence.

Future studies regarding the P-PASS should re-analyze the Performance pressures scale and the particular cultural influences on the test, in the Romanian cultural background that is characterized by power distance, avoidance uncertainty, restraint and collectivism (Hofstede et al. 2010). Other studies could also investigate if in this or other cultures there are other facets to AS and C (Yau and Watkins 2018), and the gender differences for AS and C in relation to their outcomes (Pedersen 2017).

Other future studies should also focus on outcomes of AS and C relevant to the emerging adults population, such as career variables, since the literature in this field is still scarce (Pedersen 2017; Pesch et al. 2016). Further career studies in the framework of the Social Cognitive Career Theory (Lent et al. 1994) need to be conducted, such as the study of the influence of AS and C in career decision making. The temporal dynamic of parental AS and C should be very relevant to approach in a country where more than half of the emerging adults aged 25–29 y.o. live with their parents (Eurostat 2018).

Conclusion

These results establish good psychometric properties for the Romanian form of the P-PASS, offering a valid measure for the use of researchers collecting data on Romanian samples, and also contributing to the expanding general literature on the P-PASS with evidence of validity from another culture, and with validity data related to a new variable, general self-efficacy. Overall, the results reported for the Romanian form of the P-PASS are promising and should encourage its use in the study of the AS and C components of Romanian speaking young adults. They should as well encourage further cross-cultural work on these important constructs that

have been proven to be relevant for numerous outcomes for children and emerging adults, such as adaptive psychosocial functioning, academic performance, and internalizing and externalizing problems.

Data Availability Statement The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no conflict of interest.

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

This article does not contain any studies with animals performed by any of the authors.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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