



Development of a maternal psychological control scale: A study with Turkish university students

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Abstract

In the last few decades, parental control has received significant attention from scholars. In particular, much work has been dedicated to understanding psychological control, which is parental control intruding on the child's emotional and psychological development. This study aimed to develop a maternal psychological control scale (MPCS) and to test its psychometric properties in a sample of Turkish university students. Data were collected from two separate samples comprising a total of 425 participants. Exploratory factor analysis (EFA) was employed in Study Sample 1(215) and confirmatory factor analysis (CFA) was conducted using Study Sample 2 (210) to verify the parental manipulation and disregard dimensions of the proposed scale. The findings revealed supportive evidence for two dimensions of the 18-item MPCS. The bivariate correlations revealed that the MPCS scores were moderately and positively correlated with loneliness scores, and those from an existing psychological control scale; however, they were negatively correlated with behavioral control and self-esteem scores. The MPCS developed in this study can be utilized by researchers, clinicians, and educators as an efficient instrument to assess emerging adults' perceived psychological control. Overall, this study contributes to practitioners and researchers in the way that perceived parental psychological control is assessed in a wide range of populations.

Keywords Parental control · Psychological control · Measurement · Reliability · Validity · Emerging adults

Throughout the last few decades, parental psychological control has become an issue that has received great interest and has been extensively studied by psychologists (e.g., Barber, 1996; Barber & Harmon, 2002; Liga et al., 2017, 2020; Soenens, Park, Vansteenkiste, & Mouratidis, 2012; Soenens & Vansteenkiste, 2010). In general, it refers to parental use of manipulative tactics that intrude upon the children's feelings and thoughts (Barber, 1996; Barber & Harmon, 2002). Considerable research has shown the negative effects of such tactics, which includes guilt induction and withdrawal of love, on children's and adolescent's development and well-being (Barber, 1996; Creveling-Benefield & Varela, 2019; Cui, Morris, Criss, Houlberg, & Silk, 2014; Nanda, Kotchick, & Grover, 2012; Soenens et al., 2012; van der Kaap-Deeder, Vansteenkiste, Soenens, & Mabbe, 2017). More specifically,

the research has found the correlations between psychological control and adverse consequences, including anxiety, depression, aggression, delinquency, loneliness, low self-worth, and poor academic achievement in childhood and adolescence (Barber, 1996; Barber & Harmon, 2002; Bean, Bush, McKenry, & Wilson, 2003; Creveling-Benefield & Varela, 2019; Cui et al., 2014; Kindap, Sayıl, & Kumru, 2008; Nanda et al., 2012; Nelson, Yang, Coyne, Olsen, & Hart, 2013; Pettit, Laird, Dodge, Bates, & Criss, 2001; Sayıl & Kindap, 2010; Soenens et al., 2012).

Despite the documented evidence about its consequences particularly in Western individualistic cultures, there has been little advancement in conceptual understanding, operationalization and psychometric measurement equivalence of the parental psychological control construct (Soenens et al., 2012). Therefore, the present study strove to develop a valid and reliable tool that assesses emerging adults' perceived maternal psychological control in Turkey, a non-Western collectivistic and relational culture (Kağıtçıbaşı, 2007). More specifically, the rationale for developing the current maternal psychological control scale was two-fold: The first aim is to extend earlier attempts to adapt existing scales in a non-Western cultural context and add to the existing

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research by investigating the generalizability of detrimental outcomes of parental psychological control. The research on parental psychological control has mostly been conducted among Western samples (Soenens et al., 2012; Soenens & Vansteenkiste, 2010). Accordingly, researchers who measure parental psychological control generally use instruments originally developed in Western societies. However, the validity of this approach can be questioned, especially about the generalizability of the results about parental psychological control, particularly as applied to cultures with more collectivist backgrounds (Pomerantz & Wang, 2009; Soenens et al., 2012; Soenens & Vansteenkiste, 2010). It might be possible that the meaning, expression, prevalence, and consequent effects of psychological control on children's well-being vary across cultures.

Accordingly, one might argue that the harmful outcomes of parental psychological control that have been found in Western societies would not be found, would disappear or even reverse in collectivist cultures in which societal harmony and interdependence co-exist as values (Chao & Aque, 2009; Nelson, Hart, Yang, Olsen, & Jin, 2006; Soenens et al., 2012; Soenens & Vansteenkiste, 2010). To be specific, children's perception and interpretation of parental control as normative and legitimate might dampen its harmful effects (Kağıtçıbaşı, 2007; Lansford et al., 2010; Scharf & Goldner, 2018). Therefore, assessing the perceptions of parental behaviors in different cultural contexts is of critical importance to better understand the mechanisms for the effects of parenting on children's mental health. Accordingly, the first research question of this study pertains to whether the associations between perceived maternal psychological control and negative outcomes obtained in previous research in Western cultures are similar to those in non-Western cultural contexts.

In line with the first aim, the subsequent aim is to develop a new instrument to measure perceived maternal psychological control, particularly among emerging adults. Scholars measure parental psychological control either through parental reports (PPC- Parental Psychological Control Scale; Hart & Robinson, 1995, as cited in Nelson et al., 2013) or through adolescents' reports of parental behaviors (PCS-YSR- Psychological Control Scale-Youth Self-Report; Barber, 1996). However, only a limited number of studies have explicitly addressed perceived parental psychological control among emerging adults (Costa, Soenens, Gugliandolo, Cuzzocrea, & Larcan, 2015; Faherty, Lowe, & Arnett, 2020; Inguglia et al., 2016; Liga et al., 2017, 2020). In their research, scholars have investigated the mechanisms through which parental psychological control is linked to internalizing outcomes and revealed that satisfaction of psychological needs (e.g., autonomy, relatedness) mediate this relationship in Italian emerging adults (Costa et al., 2015; Inguglia et al., 2016; Liga et al., 2017). Furthermore, researchers have examined the relations among parental psychological control

(maternal and paternal), self-esteem, and adjustment in a sample of U.S. emerging adults, and demonstrated that perceived maternal and paternal psychological control are associated with more engagement in risky behaviors (Faherty et al., 2020). In addition, paternal psychological control is associated with lower life satisfaction and endorsement of adulthood status via lower self-esteem among emerging adults (Faherty et al., 2020).

Emerging adulthood is a distinct period of the life course from the late teens through the twenties that involves identity exploration and adjustment to the new life (starting university, making new friends, living away from home, to provide a few examples) (Arnett, 2000, 2004). This period is mainly characterized by young individuals' not having reached adulthood and taken its responsibilities and not being dependent on parents, yet meanwhile, demanding for greater autonomy, self-reliance, and independence (Arnett, 2000, 2004; Padilla-Walker & Nelson, 2012). Added to this, in many cultures in which family members have strong ties, most emerging adults do not leave the parental home, continue to stay with their parents, and postpone their economic independence, thus, extending the parents' involvement in their lives (Crocetti, Rabaglietti, & Sica, 2012; de Valk & Billari, 2007; Liga et al., 2020). Accordingly, parental controlling attempts that hinder emerging adults' autonomy and independence during this period might be developmentally inappropriate for acquiring self-sufficiency and lead to more negative consequences (Faherty et al., 2020; Padilla-Walker & Nelson, 2012). Although it is widely argued that parental psychological control has adverse effects during childhood and adolescence (i.e., Barber & Harmon, 2002; Soenens & Vansteenkiste, 2010), little is known about its nature and correlates during emerging adulthood (Faherty et al., 2020). Therefore, the second research question pertains to whether the associations between perceived maternal psychological control and negative outcomes obtained in previous research conducted in childhood and adolescence are similar to those in emerging adulthood.

Theoretical Conceptualization of Parental Psychological Control

The theoretical conceptualizations of parental psychological control can be traced back to Baumrind's research on parenting styles (Barber, 1996). In particular, Baumrind emphasized parental control strategies such as encouragement of a child's expressions and autonomy, recognizing a child's interests, guilt-induction techniques, and manipulation of love (Baumrind, 1966, 1978). Besides, Hauser (1991) underscored parenting behaviors similar to psychological control that facilitate or restrict parent-child interactions. Furthermore, clinical reports also addressed parental psychological control as

an antecedent of depression in children (Burbach & Bourdin, 1986).

In order to gain insight into the role of psychological control in the socialization process, it is important to distinguish it from other types of control (Barber, 1996). In general, psychological control refers to “parental attempts that interfere with the child’s development of autonomy and force dependency on parent” (Pettit et al., 2001, p. 584). A psychological controlling parent is considered as directive, intrusive, and overprotective (Schaefer, 1965a), and uses more manipulative strategies, including guilt induction, contingent love, instilling anxiety, love withdrawal, and not validating the child’s perspective (Barber & Harmon, 2002). On the other hand, parental behavioral control refers to “parents’ controlling behaviors that regulate and structure their child’s behaviors” (Barber, Olsen, & Shagle, 1994, p. 1121). A behaviorally controlling parent is seen to control the child’s behaviors rather than psychological experiences, tend to guide, monitor, and provide sets of rules for appropriate behaviors (Barber & Harmon, 2002; Pomerantz & Wang, 2009; Soenens & Vansteenkiste, 2010).

Considering the conceptual distinctiveness of the two concepts, Barber (1996) stated that parental control is aimed at different development aspects. That is, psychological control is directed towards the child’s psychological and emotional development; in contrast, behavioral control is directed towards the child’s behaviors. Yet, some scholars argue that psychological control not only involves parental pressure exerted upon the child’s thoughts and feelings but also forces that child to behave in line with expectations of the parents (Soenens & Vansteenkiste, 2010). The distinction between these two constructs has been empirically supported in studies, which reveal unique consequences of psychological and behavioral forms of parental control (Barber, 1996; Barber et al., 1994; Kindap et al., 2008; Pettit et al., 2001; Piquart, 2017; Shek, 2007). In those studies, researchers have revealed that psychological control is a positive predictor of adolescent’s problem behaviors, while behavioral control is a negative predictor in this respect, particularly indicating the preventive role of behavioral control on children’s externalizing problems.

Unlike behavioral control, psychological control is related to internalizing problems, in that it intrudes upon the formation of an affirmative sense of self and hence it might be a risk factor for low self-esteem and high anxiety and depressive symptoms (Barber & Harmon, 2002; Costa et al., 2015; Creveling-Benefield & Varela, 2019; Inguglia et al., 2016; Liga et al., 2017, 2020; Nanda et al., 2012; Piquart, 2017; Soenens et al., 2012; Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005). More specifically, scholars have shown that Italian emerging adults who perceive more parental psychological control (measured via the 8-item the PCS-YSR; Barber, 1996) reported lower satisfaction of psychological

needs, which in turn, was linked to more internalizing problems (Costa et al., 2015). Likewise, Italian emerging adults’ perceptions of psychological control (measured via Dependency-Oriented and Achievement-Oriented Psychological Control Scale -DAPCS; Soenens, Vansteenkiste, & Luyten, 2010) was associated with more internalizing distress including depressive symptoms and anxiety through decreased satisfaction of autonomy and relatedness (Liga et al., 2017, 2020). In another study among Italian and U.S. emerging adults, achievement-oriented (but not dependency-oriented) psychological control showed similar effects on internalizing outcomes (Inguglia et al., 2016). Given its link to maladjustment, scholars have focused, in particular, on the measurement of this construct, and have developed several instruments to capture parental psychologically controlling behaviors.

Measurement of Parental Psychological Control

The first attempts to measure the construct comes from early factor-analytic studies by Schaefer (1965a, 1965b) which contributed to the development of the Child’s Report of Parental Behavior Inventory (CRPBI), and its three dimensions: firm control vs lax control, rejection vs acceptance, and psychological control vs autonomy. Schaefer (1965a, 1965b) defined psychological control as parental dominance, aggression, rejection, and discipline, and psychological autonomy as the absence of these behaviors. Following Schaefer (1965a, 1965b), scholars have developed other instruments that differentiate parental psychological control from autonomy-granting and those that capture different dimensions of psychological control.

For instance, Silk et al. (Silk, Morris, Kanaya, & Steinberg, 2003) developed an instrument that measures psychological control and autonomy-granting separately thereby clarifying the distinction between these constructs. Schaefer (1965a, 1965b) assumed that parental psychological control and autonomy-granting are two opposite ends of one continuum of parental behavior, indicating that the lack of parental psychological control equates to the existence of autonomy-granting. However, it is argued that parental psychological control is an intrusive behavior that occurs independently of autonomy-granting; therefore, the existence of parental psychological control might not imply the lack of autonomy-granting (Barber, Stolz, Olsen, Collins, & Burchinal, 2005; Silk et al., 2003; van der Kaap-Deeder et al., 2017). Supporting this notion, researchers have demonstrated a low correlation between parental psychological control and autonomy-granting, and a unique link between parental psychological control and adolescents’ internalizing problems (Silk et al., 2003). Furthermore, scholars (Costa et al., 2015;

Hauser Kunz & Grych, 2013; Inguglia et al., 2016; Liga et al., 2017, 2020) have addressed their distinct roles in that the two constructs might have separate effects. For instance, psychologically controlling parental behaviors that thwart children's needs are more likely to be related to detrimental outcomes than lack of autonomy-support (Costa et al., 2015; Inguglia et al., 2016; Vansteenkiste & Ryan, 2013).

On the other hand, due to conceptual ambiguity in Schaefer's items, Barber (1996) revised the existing scale that measures parental psychological control among adolescents and developed the PCS-YSR. The 16-item inventory assesses six different dimensions of parental psychological control, namely: constraining the child's verbal expressions, invalidating the child's feelings, love withdrawal, personal attack on the child, guilt induction, and erratic emotional behaviors. The final version of the 16-item scale was reduced to a set of eight items covering less controlling behaviors (constraining verbal expressions, invalidating feelings, and love withdrawal) in a single dimension (Barber, 1996). The items of the PCS-YSR have been extensively used by researchers across cultures (Costa et al., 2015; van der Kaap-Deeder et al., 2017).

By adapting the existing scales developed for adolescents (Barber, 1996) and adding new items, Hart & Robinson (1995, as cited in Nelson et al., 2013) developed a 37-item Parental Psychological Control (PPC) measure. It consists of items tapping into the dimensions of constraining verbal expressions, invalidating feelings, erratic emotional behavior, love withdrawal, guilt induction, and negative criticism. This measure has been used by several scholars as a parental self-report to examine how parental psychological control relates to child physical and relational aggression (Casas et al., 2006; Hart, Nelson, Robinson, Olsen, & McNeilly-Choque, 1998; Nelson et al., 2013; Nelson & Crick, 2002). Robinson, Mandlco, Olsen, and Hart (1995) also developed a 62-item Parenting Practices Questionnaire (PPQ) based on Baumrind's parenting style typologies for parents of preschool and/or school-age children. Similarly, a 34-item Parent Behavior Measure (PBM) was generated to assess adolescents' perceptions of supportive and controlling parenting behaviors (Bean et al., 2003; Bush, Peterson, & Cobas, 2002). Even though these two measures are intended to assess various parenting behaviors, they also capture some form of parental control.

Other scholars proposed two dimensions of parental psychological control -dependency-oriented and achievement-oriented (Soenens et al., 2010). It is mainly argued that parents use psychological control to make their children close to themselves both emotionally and physically and, and to make them fall in line with their achievement standards (Inguglia et al., 2016; Liga et al., 2017, 2020; Soenens et al., 2010). Building upon this argument, researchers developed the Dependency-Oriented and Achievement-Oriented

Psychological Control Scale (DAPCS; Soenens et al., 2010), which has been used in numerous several studies (e.g., Inguglia et al., 2016; Liga et al., 2017, 2020; Soenens et al., 2010, 2012). Even though these two domains are proposed to be positively correlated with each other, they can be distinguished (Soenens et al., 2010). For instance, studies have shown that only the achievement-oriented domain of psychological control is negatively correlated with parental warmth (Soenens et al., 2010, 2012), and positively correlated with depression and anxiety (Inguglia et al., 2016), indicating differentiation of the two domains.

In an attempt to investigate the universality of the parental psychological control construct, Barber and his colleagues (Barber, Olsen, Hunter, McNeely, & Bose, 2007; Barber, Olsen, Xia, McNeely, & Bose, 2008) generated eight culturally-relevant items from interviews conducted in various cultures, such as Costa Rica, South Africa, and Thailand, and administered these items together with theoretically developed classical eight items to adolescents. Research conducted using this scale supported the separation of these two sets including classical and culturally-relevant items. In addition, cross-cultural items showed higher reliability and explained unique variance in predicting the outcome behaviors in Eastern cultures such as Turkey (Sayıl & Kindap, 2010), indicating a need for further research on this construct across various cultures.

Parenting in Turkish Culture

Parenting practices vary across cultures depending upon cultural values and normativeness (Chen-Bouck & Patterson, 2017; Dwairy & Achoui, 2010; Gershoff et al., 2010; Rubin & Chung, 2006). That is, parenting behaviors may differ across cultures, or the same parenting behaviors may differ in their meanings and responses across cultures. In this vein, some scholars have proposed that parental control might represent involvement and warmth, be adaptive and not have negative connotations in some cultures (Soenens et al., 2012; Soenens & Vansteenkiste, 2010). To illustrate, given the strong emphasis on interdependence and loyalty in Mediterranean cultures (Manzi, Vignoles, Regalia, & Scabini, 2006), psychologically controlling practices might be perceived as less detrimental in Italian families in that it promotes family bonds and intergenerational loyalty (Costa et al., 2015; Liga et al., 2017). Likewise, in collectivistic cultures that emphasize close family ties, parental control might be considered as well-meaning parental involvement and attention (Chen-Bouck & Patterson, 2017; Dwairy & Achoui, 2010; Kağıtçıbaşı, 2007).

Turkey is a collectivist culture (Hofstede, Hofstede, & Minkov, 2010) with high family cohesion, and parents in

Turkey prefer to value their children's obedience to family rules and dependence on authority (Kağıtçıbaşı, 2007). On the other hand, parents in individualistic cultures (e.g., European-American parents) mostly value their children's development of autonomy and independence (Arnett, 2002; Claes et al., 2018; Inguglia et al., 2016). Furthermore, parents in collectivistic cultures like in Turkey (Güngör, 2008; Kağıtçıbaşı & Sunar, 1992; Yağmurlu & Sanson, 2009) use higher levels of control to maintain the harmony of the family (Dwairy & Achoui, 2010; Triandis, 1995) whereas parents in individualistic cultures mostly reject coercive control (Arnett, 2002; Claes et al., 2018; Inguglia et al., 2016). Yet, parental control is usually accompanied by high levels of parental warmth in Turkish families (Kağıtçıbaşı, 2007). For instance, a previous study conducted in Turkey showed that parental controlling behaviors (e.g., overprotection and guilt induction) were positively correlated with perceived parental warmth, yet not correlated with insecure attachment among school children (Sümer & Kağıtçıbaşı, 2010). Likewise, maternal warmth buffered the adverse effects of behavioral and psychological control on young children's adjustment (Akcinar & Baydar, 2014). Therefore, in collectivistic cultures such as Turkey, parental control might not have detrimental effects on child well-being as it has in individualistic cultures (Inguglia et al., 2016; Scharf & Goldner, 2018; Soenens et al., 2012).

These differential cultural contexts and family characteristics make the understanding of the consequent effects of parental control on children's well-being more critical. In the light of methodological and contextual issues raised above, the current study aimed to develop an instrument that assesses the perceived maternal psychological control among emerging adults, and examine its correlates in a collectivistic and relational culture. Therefore, it investigates the associations among perceived maternal psychological control, behavioral control, loneliness, and self-esteem in order (1) to test the psychometric properties of this newly developed scale and, (2) to explore whether these associations are similar in a non-Western cultural context, particularly among Turkish emerging adults.

Method

Participants

This study aimed to develop a maternal psychological control scale designed for emerging adults. Therefore, the participants of the current study included a total of 425 undergraduate and graduate students that were selected from two universities from Ankara, Turkey. The selection of the participants' universities and their departments was based on convenience sampling. The students enrolled in various departments,

including psychology, business and administration, engineering, and statistics. Study Sample 1 consisted of 215 participants (128 female, 88 male). Of those 250 questionnaires distributed, 216 usable questionnaires were obtained with a response rate of 86.4%. Exploratory factor analysis (EFA) was conducted on a sample of 215 Study 1 participants after deleting one case due to the detection of a univariate outlier. Confirmatory factor analysis (CFA) was conducted on the Study Sample 2 data to confirm the two dimensions of the proposed scale (Carpenter, 2018; Costello & Osborne, 2005). Initially, 250 questionnaires were distributed and 211 were returned (109 female, 102 male), with a response rate of 84.4%. After deleting one case, Study Sample 2 consisted of 210 participants. Table 1 displays the participants' characteristics in the two samples.

Procedure

The data collection started after the approval for the study that was received from the ethical review board of the university. After signing an informed consent form, the participants filled out the questionnaires during class time. The students in Sample 1 filled out demographic information (age, gender, university, department, class, etc.) and responded to items assessing perceived parental psychological control, parental behavioral control, loneliness, and self-esteem. The students in Sample 2 completed a questionnaire consisting of items assessing demographic information, items of the newly developed MPCS, and items of a previously adapted parental psychological control scale. The participation was voluntary in the study, and the students received extra credit for their participation. The participants were

Table 1 The characteristics of participants in Sample 1 and Sample 2

	Sample 1 (N=215)	Sample 2 (N=210)
Age		
Mean (SD)	22 (1.93)	21 (4.12)
Range	17–29	17–35
Gender		
Female	127 (59.1%)	108 (51%)
Male	88 (40.9%)	102 (49%)
Staying with		
Families	83 (38.6%)	122 (58.1%)
Friends	83 (38.6%)	37 (17.6%)
Alone	23 (10.7%)	26 (12.4%)
Other	26 (12.1%)	25 (11.9%)
Working		
Yes	31 (14.4%)	24 (11.4%)
No	184 (85.6%)	186 (88.6%)

asked to answer the questionnaires with respect to their mothers as target parent.

Instruments

Maternal Psychological Control Scale (MPCS) The most important step in scale development is considered as the item generation stage, the primary concern of which is content validity (Hinkin, 1995). In order to decide on maternal psychological control items, initially, an extensive review of the literature using EBSCOhost, Psych ARTICLES, Scopus, and ProQuest electronic databases were conducted. To select potential articles for inclusion, the keywords and the abstract sections were thoroughly screened out. This inspection resulted in the inclusion of 15 research articles particularly addressing psychological control, parental psychological control, and scale development issues. Following the prescreening stage, the item selection stage started. At this item selection stage, several items were identified based on formerly established scales (e.g., Barber et al., 2007, 2008) and several items were newly constructed. Among the formerly established scales, 7 items from the earlier 16-item version of Barber (1996)'s PCS-YSR scale, 4 items from Schaefer (1965a, 1965b)'s CRPB Inventory, 4 items from Silk et al. (2003), and 4 items from Hart and Robinson's PPC scale (1995, as cited in Nelson et al., 2013) including overprotection and overanxiety dimensions were selected with partial changes. The items (original in English) were translated by two natives who are also fluent in Turkish and, then, were back-translated into English by a bilingual psychologist revealing semantically similar items.

In addition to 19 items adopted from the existing scales, newly constructed items were also added to the item pool. This process was generated by a group panel composed of seven professionals with experience and practice in the psychology field. Special attention was made to assure establishing a link between the items and their theoretical domain. In this respect, items representing the phrases of compelling verbal expressions, invalidation of the feelings, attacking the child, withdrawal of love, induction of guilt, embarrassing the child, and erratic emotional behaviors were generated. Overall, attention was paid not to include double-barrel questions tapping more than one behavior as well as not to include negatively-worded items. Consequently, the final item pool consisted of 94 items containing all possible alternatives.

The content validity of this instrument was assessed by confirming the number of the items by an expert group. In assessing the qualitative content validity, the expert group's recommendations were adopted using appropriate words (Zamanzadeh et al., 2015). In determining the quantitative content validity, the content validity ratio (CVR) method was used (Ayre & Scally, 2014; Lawshe, 1975; Zamanzadeh et al., 2015). In the CVR method process, the expert group

was asked to determine the necessity of the item by scoring each of the 94 items as 1-'not necessary', 2: 'useful but not essential', 3: 'essential'. Then, the items in which all 6 experts evaluated the item as 'essential' were included in the final item pool. This process ended up with 41 items in the final pool.

Subsequently, the face validity of the maternal psychological control items was examined by a group of 3 undergraduate psychology students. Face validity answers the question of whether the designed measurement tool is related to the studied construct, and it focuses on the appearance of the instrument (Nunnally & Bernstein, 1994). The psychology students evaluated the comprehensibility and relevancy of the items. As a result of face validity evaluation, no inadequate or irrelevant items were detected.

After ensuring content and face validity, the final scale consisted of 41 items. The students were asked to evaluate each item on their experience of the item. The response format was from 1 (never) to 6 (always) in terms of the frequency with which they experienced the item. Although in the Turkish adaptation of psychological control scale (Sayıl & Kindap, 2010), adolescents rated controlling behaviors on a 4-point scale (1 = not similar to my mother, 4 = very similar to my mother), in the current version, a 6-point frequency scale (1 = never, 6 = always) was used since it would be convenient and manageable for young adults (Krosnick, Judd, & Wittenbrink, 2005). There are no reversed items, thus, the composite score is generated by averaging the scores of the remaining items after item and factor analyses. High scores specify higher perceived maternal psychological control.

Psychological Control Scale - Youth Self-Report (PCS-YSR; Barber, 1996; Barber et al., 2007, 2008) The participants' perceived parental psychological control was also measured by a 16-item scale consisting of Barber's classic PC items (Barber, 1996) and cross-cultural items (Barber et al., 2007, 2008). The study used a Turkish adaptation of this scale having good reliability (Sayıl & Kindap, 2010). The participants rated the items (e.g., "My mother does not respect me") on a scale ranging from 1 (not like my mother at all) to 4 (very much like my mother). There were no reverse items, and higher scores indicated higher levels of perceived parental psychological control. The Turkish adaptation of this scale (Sayıl & Kindap, 2010) revealed two factors, with internal consistency coefficients ranging between .77 to .79 for the 'psychological control factor' and between .85 to .89 for the 'parental disrespect factor'. In the current study, the internal consistency coefficients were .83 for the psychological control subscale, .88 for the parental disrespect subscale, and .90 for the whole scale.

Parental Monitoring Scale Parental monitoring, a component of behavioral control, was measured with a scale developed by Stattin and Kerr (2000) to assess parents' awareness and

supervision of a child's whereabouts, activities, and friendships. The eight items (e.g., "Does your mother know: what you do in your free time") were rated on a scale ranging from 1 (never) to 5 (always). There were no reverse items, and higher scores indicated high parental monitoring. The scale was adapted to Turkish by Sayıl et al. (2012). In the present study, the Cronbach's alpha was .88, indicating a high internal consistency.

UCLA Loneliness Scale The participants' feelings of loneliness were measured using a 20-item scale developed by Russell, Peplau, and Cutrona (1980). One sample item is 'I'm a shy person. The response format was from 1 (never) to 4 (often). Higher scores indicated higher loneliness. The scale was adapted to Turkish by Demir (1989). In the present study, the internal consistency coefficient was .89.

Self-Esteem Scale Rosenberg's (1965) self-esteem scale was used. Ten items (e.g., "In general, I am happy with myself") were rated on a scale ranging from 1 (totally correct) to 4 (totally wrong). It included five reverse items, and higher scores indicated high self-esteem. The scale was adapted to Turkish by Çuhadaroğlu (1985). In the current study, the internal consistency coefficient was .87.

Data Analysis Strategy

The factorial structure of the MPCS was examined with EFA and CFA. In EFA, a principal axis factoring (PAF) was conducted via SPSS 21.0 (IBM Corp, 2012), whereas in CFA, the covariance matrix and the maximum likelihood estimation were used via AMOS program (Arbuckle, 2011). The goodness of fit of the model was assessed by applying the following indices: χ^2 , χ^2/df , comparative fit index (CFI), Tucker-Lewis index (TLI), and standardized root mean square residual (SRMR) and root-mean-square error of approximation (RMSEA), Akaike information criterion (AIC) and Bayesian information criterion (BIC) (Bentler & Bonett, 1980; Hu & Bentler, 1999).

Furthermore, the convergent validity of the scale was examined through bivariate correlations of the MPCS with a 16-item measure of psychological control (Barber et al., 2007, 2008) that was previously adapted into Turkish (Sayıl & Kindap, 2010). The discriminant validity of the scale was observed via bivariate correlations between parental psychological and behavioral control because they are proposed as distinct constructs with differential consequences on child outcomes (Barber, 1996; Barber et al., 1994). In addition, the predictive validity was examined through bivariate correlations of psychological control with self-esteem and loneliness, because parental psychological control is posited to interfere with a positive sense of self and to increase individuals' vulnerability for developing

internalizing problems (Barber & Harmon, 2002). Finally, the reliability of the MPCS was measured with an internal consistency coefficient.

Results

Factor Structure of the MPCS

Exploratory Factor Analysis Initially, the data were inspected for missing cases, normality, and outliers. As there were a few missing values at random below the threshold of 5% (Tabachnick & Fidell, 2007), they were replaced with mean values. The skewness (< 3.00) and kurtosis values (< 3.00) were within the accepted ranges (Klein, 2011) indicating univariate normality. Two cases were detected as univariate outliers with ± 3.29 standard deviations points above the standardized mean. After removing these cases, the final sample consisted of 215 participants for EFA and 210 participants for CFA. Considering the rule of thumb subject to item ratio of 5:1, it indicates that the data holds a minimum number of 5 observations per item (Costello & Osborne, 2005; Tabachnick & Fidell, 2007).

EFA was conducted to explore the data and identify the number of factors (Carpenter, 2018). In doing so, principal axis factoring (PAF) was utilized with the 41 items of the psychological control measure. PAF was preferred to principal component analysis because it discriminates between shared and unique variances (Carpenter, 2018; Costello & Osborne, 2005; Fabrigar, Wegener, MacCallum, & Strahan, 1999). All of the 41 psychological control items were factor analyzed with oblique rotation, which permits correlations among factors (Carpenter, 2018; Fabrigar et al., 1999). The oblique rotation is preferred as a rotation method because (a) in social sciences some correlation among the factors are expected and the use of orthogonal rotation might result in loss of valuable information when factors are correlated. (b) when the factors are uncorrelated, both orthogonal and oblique rotations produce similar results (Osborne, Costello, & Kellow, 2014).

For the factorability of the items, Bartlett's test of sphericity was significant ($X^2(820) = 3563, p < .001$) and the Keiser-Meyer-Olkin measure was .88, which is above the recommended value of .70 (Tabachnick & Fidell, 2007). The initial factor solution yielded 11 factors with eigenvalues greater than one, explaining 63% of the total variance. The first factor explained 28%, the second factor explained 6%, the third factor explained 4.4%, the fourth factor explained 4%, the fifth factor explained 3.4%, the sixth, the seventh and the eighth factors each explained 3%, the ninth and the tenth factors each explained 2.7, and the eleventh factor explained 2.5% of the total variance.

The determination regarding the number of factors to rotate was taken by three criteria: Eigenvalues over one, the scree plot test, and parallel analysis. As indicated previously, 11 factors emerge based on the eigenvalue criteria. However, the examination of the graph of the scree plot showed a breakpoint in the data, suggesting the retention of two factors. Furthermore, the parallel analysis (PA) with Monte Carlo simulation was conducted to determine the factor numbers. Thus, the factors are reserved when initial eigenvalues are greater than those of the random data (Carpenter, 2018). The comparison of the initial and random eigenvalues supported the extraction of two factors. Therefore, EFA was further conducted with restriction to the number of factors as two by using PAF with oblique rotation.

The decision for retaining or discarding an item was given based on three criteria: Item communalities, factor loadings, and item-total correlations. Accordingly, 23 items were removed due to item communalities below .30, the factor loadings below .40, and the item-total correlation below .30. The 18 items of the revised scale were further factor analyzed by forcing the number of factors to two by using PFA with oblique rotation. The first factor had an eigenvalue of 5.83 and accounted for 32.39% of the total variance. It was labeled as ‘parental manipulation’ because it included 10 items mostly capturing parental guilt induction, love withdrawal, and invalidating feelings. The second factor had an eigenvalue of 1.18 and accounted for 6.53% of the total variance. It was labeled as ‘parental disregard’ because it included 8 items mostly capturing parental ignorance, disrespect, and embarrassing the child. Each item loaded on a single factor, with loadings ranging between .40 to .72. These two factors were significantly and positively correlated.

Confirmatory Factor Analysis To verify the two-factor structure of the 18-item MPCS extracted from EFA, a CFA was conducted on a separate sample of 210 undergraduate university students (Carpenter, 2018; Costello & Osborne, 2005). The test of the two-factor model fit in CFA revealed an acceptable fit to the data with $X^2 = 290.548$, $df = 134$, $p = 0.001$, $X^2/df = 2.16$, CFI = .90, TLI = .89, RMSEA = .07, AIC = 364, BIC = 488, SRMR = .07. Furthermore, a one-factor structure model of the MPCS was examined, and the test of the model fit in CFA revealed a poor fit to the data, with $X^2 = 457$, $df = 135$, $p = 0.001$, $X^2/df = 3.38$, CFI = .77, TLI = .74, RMSEA = .10, AIC = 529, BIC = 649, SRMR = .08. When these two models were compared, a decrease in both ECVI and AIC indexes indicated that the two-factor model (AIC = 364, BIC = 488, ECVI = 1.65) had a better fit than the one-factor model (AIC = 529, BIC = 649, ECVI = 2.53). No any other improvements or modifications were utilized to achieve a better fit (e.g. correlating errors). Overall, these results strongly support the adequacy of the two-factor solution of the 18-item MPCS. The factor loadings of the items are presented in Table 2.

Convergent, Discriminant and Predictive Validities for the MPCS

Convergent validity is demonstrated through bivariate correlation of the MPCS scores with psychological control scores of the previously adapted scale (Barber et al., 2007, 2008). The results revealed a positive correlation between the MPCS scores and those from the previously adapted scale ($r = .84$, $p < .001$). Discriminant validity is demonstrated through the correlation of the MPCS scores with behavioral control scores. As shown in Table 3, the MPCS scores were moderately and negatively correlated with behavioral control scores as in the previous study on the topic (Sayil & Kindap, 2010). Finally, predictive validity is demonstrated through the correlations of the MPCS scores with loneliness and self-esteem scores. The MPCS scores were moderately and negatively correlated with self-esteem scores, while positively correlated with loneliness scores, consistent with prior findings (Sayil & Kindap, 2010).

Reliability Analysis for the MPCS and Gender Differences

The reliability analysis was conducted using the 41 items and the Cronbach’s alpha was .93. The items with a low item-total correlation (smaller than .30) and items with higher “alpha if deleted” coefficients (above the computed alpha) were considered to eliminate. Thus, 5 items had low item-total correlations, and these items had also low communality scores and/or factor loadings. As shown in Table 4, when the final form of the measure with 18 items was analyzed for reliability in Study Sample 1, the internal consistency coefficients were .89 for the whole scale, .85 for the parental manipulation subscale (factor 1), and .82 for the parental disregard subscale (factor 2). All of the 18 items had higher item-total correlations (ranging from .41 to .57). Similarly, in Study Sample 2, the internal consistency coefficients were .89 for the whole scale, .84 for the parental manipulation subscale (factor 1), and .85 for the parental disregard subscale (factor 2). Similarly, all of the 18 items had higher item-total correlations (ranging from .33 to .65).

In order to examine gender differences in the study variables, a one-way multivariate analysis of variance (MANOVA) was conducted to determine the effects of gender on perceived maternal psychological control (the whole scale and the two subscales), behavioral control, loneliness and self-esteem among participants in Study Sample 1. A significant difference was found between males and females on the study variables, Wilks’ $\Lambda = .74$, $F(6, 208) = 12.34$, $p < .001$, partial $\eta^2 = .26$. Given the significance of overall test, analyses of variance (ANOVA) on each dependent variable were conducted as follow-up tests to the MANOVA. Using the Bonferroni method to reduce the chance of Type I error (Tabachnick & Fidell, 2007), each ANOVA was tested at the .008 level. The univariate effect of gender was found to be significant on the behavioral

Table 2 Results of confirmatory factor analysis and descriptive statistics for the final scale

Items	Factor Loadings	M	SD
Parental Manipulation (Factor 1)			
My mother cannot help worrying that I might make mistakes.	.70	2.43	1.47
My mother makes me feel guilty each time she asks “If you love me, why don’t you do what I am asking you to?”	.69	1.76	1.08
My mother reacts sharply (e.g. yells) whenever I do the opposite of what she had warned me against.	.65	2.50	1.38
My mother tries to change my opinion regarding issues that we disagree upon.	.62	2.86	1.46
My mother keeps on telling me that I do not appreciate what I have.	.61	2.56	1.59
My mother gets angry when I spend time with my friends she does not approve of.	.56	2.56	1.44
My mother often complains about the way I treat her.	.54	2.54	1.44
My mother gets disappointed if I fail to live up to her expectations.	.52	3.21	1.57
No matter how hard I try, my mother always expects me to achieve more.	.49	2.93	1.75
My mother often warns me how to behave in the presence of others (e.g., guests).	.48	2.45	1.45
Parental Disregard (Factor 2)			
My mother changes the subject when I talk about my feelings (e.g., sadness, happiness).	.82	1.40	.88
My mother often ignores me whenever I share an important matter with her.	.80	1.38	.84
My mother often insults me and humiliates me in front of my friends.	.74	1.13	.59
My mother blames me for all the family troubles.	.68	1.46	.94
Fearing that I might get spoiled, my mother feels reluctant about appreciating me.	.67	1.53	1.02
My mother never appreciates my hard-won accomplishments.	.65	1.99	1.36
Whenever I ask for something, my mother tries to dissuade me by asking “what are you going to do with that, forget it”.	.64	2.16	1.25
My mother embarrasses me in front of my friends by recalling memories about me that are personal.	.44	1.65	1.13

Note. The original items were in Turkish

control scores [$F(1,213) = 61.52, p = .001, \text{partial } \eta^2 = .22$] with females ($M = 3.59, SD = .06$) perceiving higher behavioral control than males ($M = 2.82, SD = .08$). However, there were no significant gender differences on perceived maternal psychological control scores from the whole scale [$F(1,213) = .06, p = .81, \text{partial } \eta^2 = .00$], from the subscales of parental manipulation [$F(1,213) = .02, p = .89, \text{partial } \eta^2 = .00$] and disregard [$F(1,213) = .45, p = .51, \text{partial } \eta^2 = .00$], on self-esteem scores [$F(1,213) = 1.57, p = .21, \text{partial } \eta^2 = .00$] and loneliness scores [$F(1,213) = 2.75, p = .10, \text{partial } \eta^2 = .01$].

Discussion

Parental psychological control is a dimension of parental control that manipulates, limits, and invalidates children’s psychological and emotional experiences. In the current study,

an 18-item scale was developed to measure emerging adults’ perceived maternal psychological control, and its psychometric qualities were explored on two university student samples. Overall, the results supported the adequacy and reliability of the two-factor structure of the 18-item MPCS. Therefore, it is consistent with the factor structure of Barber’s cross-cultural measure of parental psychological control (Barber et al., 2007, 2008) and its Turkish adaptation (Sayil & Kindap, 2010).

The present findings reveal good internal consistency for the newly developed instrument. It also shows adequate validity for the MPCS. In particular, maternal psychological control scores were positively correlated with loneliness scores and scores from the previously adapted psychological control scale, while being negatively correlated with behavioral control and self-esteem scores. These findings indicate that perceived parental psychological control is associated with negative developmental outcomes congruent with earlier

Table 3 Bivariate correlations among scores of the 18-item MPCS and other scales

	1	2	3	4	5	6
1. MPCS	1	.96***	.80***	-.28***	.36***	-.38***
2. Manipulation Subscale		1	.61***	-.26***	.34***	-.36***
3. Disregard Subscale			1	-.26***	.30***	-.33***
4. Behavioral Control Scale				1	-.22**	.23**
5. Loneliness Scale					1	-.46***
6. Self-esteem Scale						1

findings in Western samples (Costa et al., 2015; Creveling-Benefield & Varela, 2019; Cui et al., 2014; Inguglia et al., 2016; Liga et al., 2017, 2020; Nanda et al., 2012; van der Kaap-Deeder et al., 2017) and non-Western samples, including Turkey (Kindap et al., 2008; Sayıl & Kindap, 2010). Other cross-cultural studies also support the link between intrusive parenting and lower quality of psychological and social experience among adolescents (Barber et al., 2005).

Some scholars suggest that control might indicate parental involvement, and be functional and adaptive in some cultures (for more detail, see Soenens et al., 2012; Soenens & Vansteenkiste, 2010). The previous studies have shown that controlling behaviors are related to perceived parental warmth and yet not related to insecure attachment among Turkish school children (Sümer & Kağıtçıbaşı, 2010). Likewise, maternal warmth moderates the effects of parental behavioral and psychological control on young children's adjustment (Akcinar & Baydar, 2014). Nevertheless, in line with earlier findings (Costa et al., 2015; Inguglia et al., 2016; Liga et al., 2017, 2020), the current study demonstrates that maternal psychological control perceived by emerging adults is associated with lower levels of self-esteem and higher levels of loneliness.

Kağıtçıbaşı's Family Model of Psychological/Emotional Interdependence (Kağıtçıbaşı, 2007) may explain this finding. According to this model, children of urban, middle-class Turkish families have become increasingly autonomous in the material domain, while remaining interdependent in the emotional domain, with the changes in the traditional family system from a rural society into an urban, industrial one (Kağıtçıbaşı, 2007). In other words, autonomy is emphasized with strong family ties and interdependence in child-rearing. With an increased emphasis on the development of autonomous individuals among modern Turkish families, it can be argued that any parental attempt that violates one's sense of autonomy would be perceived more negatively.

From the perspective of Self-Determination Theory (SDT; Deci & Ryan, 2000), psychologically controlling parenting undermines the satisfaction of psychological needs for

experiencing autonomy, competence, and relatedness, and, thus, may lead to adverse consequences on individuals' psychological functioning (Soenens & Vansteenkiste, 2010; Soenens et al., 2012). That is, "parental pressure to think, feel, and act in a particular way hinders child's need for autonomy, parental criticism expressed through guilt-induction and shaming undermines child's need for competence, and parental conditional regard frustrates child's need for relatedness" (Scharf & Goldner, 2018, p. 18; Soenens & Vansteenkiste, 2010, pp.89–90). Supporting this argument, empirical research has shown that parental psychological control results in decreased senses of autonomy and relatedness, thereby leading to more internalizing problems among Italian (Costa et al., 2015; Inguglia et al., 2016; Liga et al., 2017) and the U.S. emerging adults (Inguglia et al., 2016). More importantly, the effect of perceived parental psychological control becomes detrimental during emerging adulthood when the demands for greater autonomy are strongly emphasized (Padilla-Walker & Nelson, 2012). Thus, a social environment that supports emerging adults' autonomy and does not force them to think, feel and act in a certain way would lead to more positive effects on their well-being (van der Kaap-Deeder et al., 2017). In line with this, the findings of the current study suggest that parenting programs should aim at raising awareness of the possible consequences of psychologically controlling behaviors, preventing the use of psychological control, and promoting autonomy-supportive behaviors (Costa et al., 2015; Cui et al., 2014; Faherty et al., 2020; Liga et al., 2020). Interventions should also teach emerging adults "how to identify, deal with, and manage psychologically controlling parenting practices" (Faherty et al., 2020, p.710).

The current study did not reveal any gender difference in the emerging adults' perceived maternal psychological control, even though male adolescents have been shown to perceive more psychological control than females in previous studies conducted in Turkey (Sayıl & Kindap, 2010; Yaban, Sayıl, & Kindap-Tepe, 2014). However, it converges with other research (see Endendijk, Groeneveld, Bakermans-Kranenburg, & Mesman, 2016 for a meta-analysis). Scholars have also argued that the gender difference lies in the themes involved in parental psychological control, such that mothers' use and girls' experience of psychological control involves the themes of separation and interpersonal closeness; whereas, fathers' use and boys' experience of psychological control involves the themes of achievement and performance (Soenens et al., 2010). The mixed findings regarding gender differences in parental psychological control indicate a need for further research (Scharf & Goldner, 2018).

Limitations and Avenues for Future Research

The current findings should be considered in light of methodological limitations. First, the sample size is relatively small

Table 4 Descriptive statistics and internal consistency coefficients for all scales

	Sample 1 (<i>N</i> =215)		Sample 2 (<i>N</i> =210)	
	M (SD)	α	M (SD)	α
PCS-YSR			1.56 (.51)	.90
MPCS	2.15 (.77)	.89	2.08 (.80)	.89
Manipulation Subscale	2.58 (.96)	.85	2.53 (1.00)	.84
Disregard Subscale	1.59 (.69)	.82	1.52 (.72)	.85
Behavioral Control Scale	3.28 (.80)	.88		
Loneliness Scale	1.66 (.45)	.89		
Self-esteem Scale	3.20 (.51)	.87		

and consists of only university students. Furthermore, the sample was selected using a nonprobability convenience sampling method that involves drawing the sample from a population that is close to hand and accessible (see Bornstein, Jager, & Putnick, 2013). The convenience sampling has been chosen as it has proven its effectiveness in terms of availability, easiness, and readiness of use, speed, and cost-prohibitive (Jager, Putnick, & Bornstein, 2017). Despite its easy use, the risk of underrepresentation of several subgroups in the sample concerning the population might limit the generalizability of the findings. Thus, future research is needed to extend the results into larger and more heterogeneous samples to assure generalizability. In addition, the psychometric characteristics of this newly developed scale have been examined only among Turkish emerging adults in the current study, so that scholars should examine its reliability and validity among samples of various age groups in different cultural contexts in future research.

Second, the current study used the minimum number of 5 observations per item in conducting EFA (Tabachnick & Fidell, 2007). There are several recommendations regarding adequate sample size and/or observation per item ratios in EFAs. That is, some scholars agree that a minimum number of 1:5 and 1:7 ratios are sufficient, some suggest 1:10 and 1:20 ratio are best (Osborne et al., 2014), while some others do not support the idea of a subjects-per variable ratio as a guiding value for the sample size (Goretzko, Pham, & Bühner, 2019). Some scholars also (e.g. Fabrigar et al., 1999) suggest the existence of at least four items for an expected factor. Even though the general trend is that the higher sample sizes produce better factor structures, if reaching that sample size is not possible, one could consider that relatively small sample sizes might yield valid results under favorable conditions such as high communalities and reliabilities (MacCallum, Widaman, Zhang, & Hong, 1999). Nevertheless, future research might replicate the EFA with greater sample sizes.

Third, the participants reported how they perceive their mothers' controlling behaviors. As the data were not collected from mothers, the possibility of social desirability is low. Nevertheless, there is more than one social source for controlling behaviors, each of which has unique associations with child outcomes (van der Kaap-Deeder et al., 2017). The perceptual discrepancies between adolescents' and parental reports of psychological control might also contribute to a better understanding of child maladjustment (Yaban et al., 2014). Therefore, future studies should address multiple informants (for instance, mothers, fathers, siblings, teachers) to assess parental psychological control. Third, to test convergent validity, scholars should consider alternative methods, such as observing psychologically controlling behaviors (Hauser Kunz & Grych, 2013; Scharf & Goldner, 2018), and examine other related variables, such as parental autonomy-support. As

a result, further studies should explore additional ratings and examine their correlations with this newly developed scale.

Despite those limitations, the development of this instrument contributes to future research examining the antecedents (e.g., parental depression, Aunola, Ruusunen, Viljaranta, & Nurmi, 2015) and consequences (e.g., internalizing problems, Inguglia et al., 2016) of parental psychological control as well as the mechanisms (e.g., emotion regulation, Cui et al., 2014) that play a role in these relations (see Scharf & Goldner, 2018 for a review). In this way, it provides an impetus for the development of interventions and preventive strategies that aim to reduce the adverse consequences of parental control on psychological well-being. As a concluding remark, the MPCCS can be utilized by researchers, clinicians, and educators as an efficient instrument for assessing perceived maternal psychological control among emerging adults.

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

Declarations

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

Ethical Standards 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.

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

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