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A further examination of the distinction between dependency-oriented and achievement-oriented parental psychological control: Psychometric properties of the DAPCS with French-speaking late adolescents

Gregory Mantzouranis* • Grégoire Zimmermann* •

Elodie Biermann-Mahaim • Nicolas Favez

G. Mantzouranis ✉ • G. Zimmermann ✉ • E. Biermann-Mahaim

LabDCI, Institute of Psychology, University of Lausanne, Site de Dorigny, Anthropole, CH-1015 Lausanne, Switzerland

e-mails: Gregory.Mantzouranis@unil.ch and Gregoire.Zimmermann@unil.ch

N. Favez

Faculty of Psychology and Educational Sciences, University of Geneva, Switzerland

* denotes equal author contributions

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Abstract

Psychological control refers to parental behaviors that intrude on the psychological and emotional development of the child. In 2010, Soenens and colleagues proposed a distinction between two domain-specific expressions of psychological control, that is, Dependency-oriented Psychological Control (DPC) and Achievement-oriented Psychological Control (APC). The aim of this study was to evaluate the factor structure, reliability, and convergent validity of the French form of the Dependency-oriented and Achievement-oriented Psychological Control Scale (DAPCS; Soenens, Vansteenkiste, and Luyten, 2010) in a sample of late adolescents (N = 291, mean age = 21.65). Confirmatory factor analyses confirmed the hypothesized two-factor solution of the DAPCS for paternal as well as for maternal ratings. Moreover, high indices of internal consistency indicated that both subscales produced reliable scores. Further, convergent validity was confirmed by theoretically consistent associations between the DAPCS' subscales and well-established assessments of general parenting style dimensions. Finally, results evidenced gender specific patterns supporting the relevance of domain differentiation in the assessment of psychological control. Overall, the results of this study indicated that the French form of the DAPCS might be a useful instrument to assess two domain-specific types of parental psychological control among French-speaking adolescents.

Keywords: parenting, psychological control, adolescence, confirmatory factor analysis, gender family socialization

Introduction

Parental psychological control is considered a parenting dimension characteristic of parents who intrudes upon the psychological and emotional development of the child (Barber, 1996). It refers to conscious or unconscious intrusive parental tactics such as love-withdrawal, shame induction or conditional approval that are used to make children and adolescents think, behave, and feel in conformity with parental demands (Barber, 1996; Barber & Harmon, 2002; Steinberg, Elmen, & Mounts, 1989). Psychological control has been shown to affect aspects of children's and adolescents' psychosocial development, including the development of identity, autonomy, self-esteem and sense of effectiveness (Barber, Olsen, & Shagle, 1994; Rogers, Buchanan, & Winchell, 2003; Schaefer, 1965; Soenens, Vansteenkiste, Luyten, Duriez, & Goosens, 2005). Thus, the parents' tendency to use psychological control has been regarded as a negative form of control, and has been linked to various adjustment problems and psychopathological outcomes (Barber, Stolz, & Olsen, 2005; Pettit, Liaird, Dodge, Bates, & Criss, 2001). Using different measures of psychological control, some studies also demonstrated a gender effect in the use of psychological control, where mothers showed a greater tendency than fathers to be perceived as psychologically controlling (Barber, 1996; Barber & Harmon, 2002). It should be noted, however, that not all studies could replicate this effect and that evidence for parental gender differences in psychological control is relatively inconsistent.

Generally, the concept of psychological control has been viewed as relatively uni-dimensional. However, inspired by Blatt's psychodynamic theory, Soenens, Vansteenkiste, and Luyten (2010) recently proposed a distinction between two domain-specific types of parental psychological control. Blatt (1974, 1990, 2004) distinguishes between two interrelated developmental dimensions in his approach of personality development: *interpersonal relatedness* and *self-definition*. *Interpersonal relatedness* involves the capacity for establishing satisfying interpersonal experiences and for intimately connecting with others. *Self-definition* relates to the development of a positive, differentiated and integrated self-concept, as well as a sense of purpose and achievement. According to Blatt (1990), optimal personality development involves the mutual interplay of these two dimensions. In contrast, extreme predominance of one dimension over the other may result in increased vulnerability to psychopathology (Blatt, 1990). On the one hand, an overemphasis on interpersonal relatedness to the detriment of self-definition can lead to an intense dependency and fear of loss and separation. On the other hand, when self-definition is over-invested to the

detriment of relatedness, this can induce feelings of guilt, a setting of harsh standards and vulnerability to failure or criticism (Blatt, D'Afflitti, & Quinlan, 1976).

Based on these two developmental dimensions distinguished by Blatt (1974, 2004), Soenens and colleagues (2010) recently proposed two-domain specific expressions in psychologically controlling parenting. Dependency-oriented psychological control (DPC) is characteristic of parents who pressure their children and adolescents to keep them within close physical and emotional relatedness. Achievement-oriented psychological control (APC) is characteristic of parents who are highly demanding and pressure their children and adolescents to excel in performance –relevant contexts (e.g. in academics or sports). Parents perceived as using mainly DPC most likely exploit the relational bond with their children when children distance themselves too much from family, thereby restricting children's autonomy. As previously reported in the literature (Barber & Harmon, 2002; Wood, 2006), these parents are generally overprotective, possessive, and may generate separation anxiety. Conversely, parents perceived as using mainly APC are likely to use intrusive tactics and induce shame and guilt when their children and adolescents do not meet parental demands (Soenens et al., 2010). In order to examine the validity of a distinction between DPC and APC, Soenens and colleagues (2010) proposed a new instrument designed to assess the adolescent's perception of these two dimensions of psychological control: the Dependency-oriented and Achievement-oriented Psychological Control Scale (DAPCS). This instrument was shown to be a useful and reliable scale allowing for an effective differentiation between the two dimensions of psychological control and thus permitting a more detailed analysis of intrusive parenting processes. For instance, both APC and DPC were related to low perceived autonomy-support and to high general psychological control, whereas only APC was related to low perceived parental support, indicating that parents perceived as high on APC are likely to be experienced as aloof or cold (Soenens et al., 2010). In contrast, parents perceived as high on DPC are not necessarily experienced as unresponsive and lacking of warmth, probably because they favor and even require parent-adolescent closeness.

At the moment, the DAPCS has only been used in the Dutch-speaking part of Belgium as well as in South Korea, and has not been translated in other languages (Soenens et al., 2010; Soenens, & Park, 2008). Thus, as suggested by Soenens et al. (2010), the distinction between DPC and APC, as well as their relationships with other parenting variables, needs to be assessed in countries with different linguistic and cultural backgrounds. The present study had two main objectives. The first was to assess factorial and convergent validity and reliability of French versions of the DAPCS with a sample of late adolescents. We expect to replicate the two-factor structure of the DAPCS, and to find

similar patterns of associations between DPC and APC and well-established measures of parental autonomy-support, general psychological control and responsiveness. Furthermore, we will explore the relationships between DPC and APC and behavioral control, which were not examined in previous studies. Given that behavioral and psychological control are qualitatively distinct and somewhat expected to be rather orthogonal parenting dimensions (Barber, 1996; Barber, & Harmon, 2002; Steinberg, 1990), we hypothesized that correlations between the DAPCS dimensions would be small or even non-significant. The second aim was to explore the effect of parent and adolescent gender on DPC and APC. Based on previous results (Soenens et al., 2010), it is specifically hypothesized that mothers would be perceived higher on DPC than fathers.

Method

Participants

Participants were 291 French-speaking undergraduate students recruited in two different universities (mainly from Faculties of Psychology and Social Sciences) in the French-speaking part of Switzerland with a mean age of 21.65 years (SD = 3.51). Within our sample, 244 (83.8%) participants were females. Most of them were Swiss citizens (261/291; 89.7%) or citizens of another European Community country (24/291; 8.2%), and 6 (2.1%) were citizens of a non-European country. The majority of them (183/291; 63.1%) came from an intact family structure and 108 (36.9%) from a non-intact family (e.g. children whose parents have divorced, are separated or deceased). Socioeconomic status (SES) measured with the IPSE (Genoud, 2005) indicated that 63.2% (184/291) were from middle to upper class families, which is consistent with national socioeconomic levels in Switzerland. Finally, most of the participants either still lived with their parents (152/291, 52.2%) or returned home for the weekend (64/291, 22%). Participants took part in this study on a voluntary basis and the data collection procedures were in compliance with the ethical code of the Swiss Society of Psychology (SSP).

Measures

Dependency-Oriented and Achievement-Oriented Psychological Control Scale (DAPCS)

The DAPCS (Soenens et al., 2010) is a 17-item questionnaire that assesses two modalities of parental psychological control: dependency-oriented (DPC, 8 items) and achievement-oriented (APC, 9 items) psychological control. The measure provides scores for maternal as well as paternal ratings. Participants indicate the extent of their agreement with statements on 5-point Likert scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Dimensions of General Parenting Style

To validate the distinction between DPC and APC, participants were administered four scales tapping into general dimensions of perceived parenting style, that is, (1) *Responsiveness/support* (7 items; Schaefer, 1965), (2) *Behavioral control* (16 items; Barber, 2002; Soenens, Vansteenkiste, Luyckx, & Goossens, 2006), (3) *Autonomy support* (7 items; Grolnick, Deci, & Ryan, 1991) and *Psychological control* (8 items; Barber, 1996). Participants indicate the extent of their agreement with statements on a five-point Likert scale ranging from 1 (*disagree*) to 5 (*agree*) for both mothers and fathers. *Responsiveness* measures the degree to which the participant perceives his or her mother/father as involved, responsive and loving. *Behavioral control* assesses the extent to which mothers and fathers make effort to be attentive and better know their daughter's or son's acquaintances and activities, as well as the extent to which they clearly communicate about rules and expectations for behaviors. *Autonomy support* evaluates the degree to which mothers and fathers are empathic to their offspring's point of view and encourage them to explore and act upon their true personal interests and values. Finally, *Psychological control* assesses the extent to which mothers and fathers attempt to control and to intrude into their daughter's or son's psychological world. In our sample, Guttman-Cronbach's α for maternal and paternal ratings was respectively .90 and .89 for *Responsiveness*, .82 and .83 for *Behavioral control*, .85 and .82 for *Autonomy support* and .85 and .84 for *Psychological control.*

Procedure

According to the recommendations of the International Test commission (Hambleton, 2001), the two sets of questionnaires included in the present study were adapted from English to French by three independent translators. They discussed all the discrepancies identified between the two versions until finding a satisfactory solution. On this basis, a bilingual translator who did not have prior knowledge of the original versions then back-translated the French versions. The back-translation procedure from French to English proved to be identical in content with the original DAPCS and GPS.

Results

Confirmatory Factor Analyses

Before conducting structural equation modeling, we screened our dataset in order to identify outliers and missing data. First, we detected the univariate outliers using absolute z-scores greater than 3.29, as recommended by Tabachnik and Fidell (2007). We then modified the corresponding raw scores so that they were one unit larger (or

smaller) than the next most extreme score in the distribution when possible. For the case of multivariate outliers, we identified them by means of the Mahalanobis distance method ($p < .001$) and removed them (N =45) from the database (Tabachnick & Fidell, 2007). Next, to deal with missing values, we used a multiple imputation procedure with the bootstrapped-based expectation maximization (EMB) algorithm (Honaker & King, 2010) in R-Software 2.11.1 (R Development Core Team, 2010). In line with what is traditionally recommended (Collins, Schafer, & Kam, 2001), we generated five complete data sets of 246 participants (205 women (83.3 %), mean age of 21.52 (SD = 3.32), 220 Swiss citizens (89.5 %), 22 citizens of a European country (8.9 %), and 4 citizens of a non-European country (1.6 %)), which were used for CFAs.

We conducted CFAs to test the factor structure of the French version of the DAPCS. Analyses were conducted on the variance-covariance matrix using maximum likelihood estimation. To avoid inflated rejection rates due to our relatively small sample size, we used item parceling as recommended by Bandalos (2002). To be more specific, we randomly formed six parcels for each rating (i.e. paternal and maternal) so that each latent factor (DPC and APC) had three parcels allocated to. We evaluated the fit of these models using the mean of the following fit indices: the goodness-of-fit index (GFI), the adjusted goodness-of-fit index (AGFI), the comparative fit index (CFI), the standardized root mean square residual (SRMR), and the root mean square error of approximation (RMSEA). These indices are regarded as indicative of a good fit when GFI is greater than .90, AGFI greater than .80, CFI greater than .95, and SRMR and RMSEA values are smaller than .08 (Bentler & Bonett, 1980; Cole, 1987; Hu & Bentler, 1999; Vandenberg & Lance, 2000). Because analyses were conducted using the five imputed data sets, we calculated mean fit indices to assess model fit (Collins, Schafer, & Kam, 2001).

Our results indicated a good fit for the paternal model (range of $\chi^2(8) = 18.61$ to 22.67, mean GFI = .97, mean AGFI = .93, mean CFI = .98, mean SRMR = .06, mean RMSEA = .08) as well as for the maternal model (range of $\chi^2(8) = 23.12$ to 25.00, mean GFI = .97, mean AGFI = .92, mean CFI = .98, mean SRMR = .04, mean RMSEA = .09), with standardized regression coefficients of the five imputation models ranging respectively from .39 to .94 and from .66 to .93. The only exception for both models is the RMSEA value, which fell somewhat above the usual cutoff criterion. Results of similar CFAs on a sample without the non-European participants (N = 242) showed similar results (Paternal model: range of $\chi^2(8) = 20.53$ to 24.00, mean GFI = .97, mean AGFI = .92, mean CFI = .98, mean SRMR = .06, mean RMSEA = .09 / Maternal model: range of $\chi^2(8) = 20.50$ to 28.98, mean GFI = .97, mean AGFI = .92, mean CFI = .98, mean SRMR = .04, mean RMSEA = .09).

Internal consistency

In order to assess the internal consistency of the DAPCS' subscales for both paternal and maternal ratings, we computed Guttman-Cronbach's alpha coefficient (Cronbach, 1951; Guttman, 1945) and McDonald's omega coefficient (McDonald, 1985, 1999). Although coefficient alpha is widely used and familiar to researchers, it can easily be affected by factors such as the number of items, item intercorrelations, or dimensionality and can thus overestimate reliability (Cortina, 1993). Therefore it is often recommended to report another measure of reliability in addition to the alpha coefficient (Revelle & Zinbarg, 2009; Sijtsma, 2009). McDonald's omega is based on a factor analytic approach and uses the estimates of uniqueness and error variance of each item to estimate the test's reliability. It is considered as a more precise measure of a test's true score (McDonald, 1999). All the subscales proved to have good internal consistency indices. For the DPC subscales these indices were $\alpha = .78$, $\omega = .83$ and $\alpha = .82$, $\omega = .88$ for fathers and mothers, respectively. For the APC subscales these indices were $\alpha = .93$, $\omega = .95$ and $\alpha = .93$, $\omega = .94$ for fathers and mothers, respectively.

Convergent validity

The correlations between all the subscales of the DAPCS and the dimensions of general parenting style are reported in Table 1. Because DPC and APC are significantly correlated, it was necessary to control for their shared variance in order to determine their unique associations with the comparison measures. Partial correlations were consequently computed.

- Insert Table 1 -

Globally, both subscales of the DAPCS were associated positively with a general measure of psychological control and negatively with autonomy support. Regarding the associations with responsiveness, DPC was slightly and positively related to parental support (average *partial-r* of paternal and maternal ratings = .12, $p = .057$), whereas APC was significantly negatively associated with parental support (average *partial-r* of paternal and maternal ratings = -.44, $p < .01$). Finally, we also investigated the links between the two dimensions of psychological control and behavioral control, which were not previously examined in the literature. DPC showed small but significant positive correlations with behavioral control (average *partial-r* = .24, $p < .01$) but APC did not (average *partial-r* = .05, $p = .37$).

Gender differences

Means and standard deviations of both subscales of the DAPCS for paternal and maternal ratings are reported in Table 2.

- Insert Table 2 -

To explore the effects of parent and participant gender on APC and DPC, we conducted 2 (participant gender) x 2 (parental gender) mixed analyses of variance (*ANOVA*) with participant gender as a between-subjects variable and parental gender as a within-subjects variable. Analyses yielded a statistically significant main effect of parental gender on DPC [$F(1,266) = 21.77$, $p < .05$, partial $\eta^2 = .08$], indicating that mothers were rated higher than fathers on dependency-oriented psychological control. We found a statistically significant main effect of parental gender on APC ($F(1,266) = .397$, $p < .05$, partial $\eta^2 = .00$) but not a statistically significant main effects of participant gender on APC and DPC (APC: $F(1, 266) = .07$, *ns*, partial $\eta^2 = .00$ / DPC: $F(1, 266) = .09$, *ns*, partial $\eta^2 = .00$). Mothers were rated as higher on APC than fathers, and ratings from male and female participants did not differ. There was finally a statistically significant interaction effect between participant and parental gender on APC ($F(1,266) = 6..36$, $p < .05$, partial $\eta^2 = .02$), indicating that the ratings of maternal and paternal achievement-oriented psychological control differed in men and women. Whereas fathers were rated higher on APC by female ($M = 1.61$, $SD = .83$) than by male ($M = 1.42$, $SD = .60$), mothers were, on the contrary, rated higher on APC by male ($M = 1.62$, $SD = .77$) than by female ($M = 1.49$, $SD = .72$).

Discussion

Our aim was to validate the French-form of the Dependency-oriented and Achievement-oriented Psychological Control Scale (DAPCS; Soenens et al., 2010) in a sample of undergraduate students in late adolescence. Globally, our results showed that the French translation of the scale is a valid and reliable instrument for the evaluation of two subcategories of psychological control: dependency-oriented (DPC) and achievement-oriented (APC) psychological control.

The confirmatory factor analyses on the French form indicate that the two-factor solution of the DAPCS proposed by Soenens et al. (2010) fits our data relatively well. All the indices calculated for the paternal as well as the maternal ratings confirm a good fit of the model, except for the RMSEA values. However, RMSEA is known to yield a high probability of type II errors when sample size is smaller than 250 (Hu & Bentler, 1999), which is the case in the samples we used for the CFAs. Because these two constructs are both part of a larger *psychological*

control construct, it was also not surprising to find them considerably correlated (average *r* of paternal and maternal ratings = .49). Internal consistency indices of the DPC and APC subscales were as well excellent and very similar to those of the original version (Soenens et al., 2010).

Convergent validity of the French-form of the DAPCS was examined using partial-correlations between APC and DPC and well-established measures of parenting style dimensions. As expected, our results were very similar to those of the Soenens et al. (2010) original study and supported the validity of the differentiation between DPC and APC. First, our results showed that both APC and DPC are positively related to psychological control and negatively related to autonomy support. This latter result is in line with the initial work of Schaefer (1965) and the recent theoretical insights of Soenens and Vansteenkiste (2010) about the overlap of intrusive psychological control and autonomy-threatening style intervention described in Self Determination Theory (SDT: Deci & Ryan, 2004). Regarding the associations of these two subscales with parental support, as previously indicated by Soenens et colleagues (2010), we observed that APC was globally negatively related to responsiveness, whereas DPC was unrelated in the maternal ratings and slightly positively related to responsiveness in the paternal ratings. These results confirm that psychological control centered on the setting of excessively high standards (APC) is likely to be associated with an experience of parental "love" perceived as distant, conditional and inauthentic. Consistent with this interpretation, several previous studies evidenced that perception of conditionally approving or psychologically controlling parents was negatively associated with parental support (Assor, Roth, & Deci, 2004; Barber, et al, 2005; Bean, Bush, McKenry, & Wilson, 2003). Conversely, although DPC involves a strong emphasis on the bond between parents and offspring, this dimension of psychological control is very weakly associated with perceptions of parental support. This result may be partly due to the fact that DPC entails conditional socialization practices very similar to a form of "parental conditional regard" (Rogers, 1951) in that both pertain to parents providing less warmth and affection when children try to emancipate from their parents. Finally, our results indicated that DPC was positively related to behavioral control, whereas APC was not. This suggest that behavioral control, defined in this study as parental efforts to regulate and structure the child's behavior (i.e. communicating expectations and monitoring child's behavior) is likely to be done in an autonomy-inhibiting fashion when parents are characterized by dependency-oriented psychological control. For example, parents may insist that their late adolescents share meals every evening (for those living with them) or at least the Sunday family meal (for those only returning home

for the weekends) using guilt induction strategies to keep their children within close boundaries (e.g. “your father and I pay for your college education, you know, the least you can do is to share your meals with us”).

Regarding the role of gender in family relationships, our results highlighted some differences in the use of DPC and APC when we consider parent and participant’s gender. Despite increases in egalitarianism in many segments of western societies, there are still marked differences of socialization of girls and boys throughout development, as well as important parental gender differences in family roles (Galambos, Berenbaum, & McHale, 2009). An important body of literature on family relationships documents that, compared to fathers, mothers are more involved in instrumental activities with their children (i.e. caregiving and learning) and more oriented towards interpersonal closeness, and that fathers are more involved in playing and leisure activities and more oriented towards assertion, power and dominance when they interact with their children (Leaper, Anderson, & Sanders, 1998; McHale, Crouter, & Whiteman, 2003). As expected, our participants perceived consequently their mothers higher than their fathers on DPC. However, as already observed by Soenens et al. (2010), we found no evidence for the idea that fathers were perceived higher than mothers on APC (mothers were even perceived as higher than father on APC). The gender differences in DPC may explain previous results relying on general measures of psychological control suggesting a general trend for fathers to be lower on psychological control than mothers (Barber, 1996; Barber & Harmon, 2002). Last, our results evidenced that male participants experienced more APC than female participants from their mothers, and conversely that female participants experienced more APC than male participants from their fathers. This result was unexpected and may be explained by factors related to family gender socialization. Despite the fact that equality of men and women is regulated by law in Switzerland, gender-specific patterns seem to be somewhat more traditional than in many other European countries, especially North European countries (Nakamura, Bieri-Buschor, & Sedlak, 2007). In Switzerland, recent data indicated that women's family situations - in particular, when they have children – continue to be highly associated to part-time employment (OFS, 2009). Consequently, mothers often bear the responsibility of raising children and still do most of parenting, even if fathers’ childcare time has been increasing over the years (Levy, Gauthier, & Widmer, 2006). Furthermore, we know that the question of gender equality is not a main concern for the majority of women (de Singly, 2007; Roux, 2001). It can be thus hypothesized that mothers treat their sons and daughters differently because of gender stereotypes and may pressure boys more than girls for academic success and achievement. Conversely, female participants perceived theirs fathers higher on APC than male participants. This is in line with previous explanations suggesting that in “traditional” family

structures (mothers more involved than fathers), mothers socialize their girls by serving as a model of gender roles and stereotypes (e.g. involvement in housework) not oriented toward achievement, whereas fathers may exert more pressure within the area of achievement and performance.

These findings should be considered in the light of some limitations. First, we examined the validity of DAPCS in a sample of college students, which consisted primarily of female late adolescents (83.8 % of the sample), mirroring the unbalanced distribution of gender usually observed in social sciences and psychology students. It is consequently not known whether the results would have been different if a more gender-balanced sample had been used, and further research is needed to assess structure invariance across gender. Second, we only evaluated the late adolescents' perceptions of APC and DPC and as previously recommended, further research on psychological control may include both parents' and adolescents' reports (Soenens et al., 2010). Third, despite the fact that self-report may be the most valid method to evaluate parenting dimensions because of the subjective nature of this experience (Barber, 1996), researchers are nonetheless encouraged to investigate the relationships between adolescent self-report and direct observation of parenting dimensions. Some recent evidence supports the convergent validity of an observational coding system of parenting dimensions, indicating among others, that self-report parental psychological scores were positively related to observational ratings of parental psychological control (Seja Kaugars, Zebracki, Kichler, Fitzgerald, Neff Greenley, Alemzadeh, & Holmbeck, 2011).

Despite these limitations, our results provide evidence of the reliability, factorial and convergent validity of the French version of the DAPCS. Furthermore, our findings suggest that the distinction between APC and DPC in psychological control is not strictly language or culture dependant, and provide additional support to the cross-cultural validation of both expressions of psychological control. Third, interestingly, as suggested by McHale et al. (2003), our results confirm that the impact of family gender socialization is manifest in the transition to adulthood. Thus, the French version of the DAPCS is a useful instrument for family socialization research, including gender issues in family, and may allow more subtle analysis of the processes involved in intrusive forms of parenting. Finally, the DAPCS may also be useful in clinical settings with adolescents and their families, to make clinicians more aware of the psychological control issue in the family and to offer preventive intervention.

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Reference

Assor, A., Roth, G., & Deci, E. L. (2004). The emotional costs of perceived parents' conditional regard: A self-determination theory analysis. *Journal of Personality, 72*, 47–88. doi: 10.1111/j.0022-3506.2004.00256.x

Bandalos, D. L. (2002). The effects of item parceling on goodness-of-fit and parameter estimate bias in structural equation modeling. *Structural Equation Modeling, 9*(1), 78-102. doi: 10.1207/S15328007SEM0901_5

Barber, B. K. (1996). Parental psychological control: Revisiting a neglected construct. *Child Development, 67*(6), 3296-3319. doi: 10.1111/j.1467-8624.1996.tb01915.x

Barber, B. K. (2002). *Regulation as a multicultural concept and construct for adolescent health and development*. Unpublished manuscript.

Barber, B. K., & Harmon, E. L. (2002). Violating the self: Parental psychological control of children and adolescents. In B. K. Barber (Ed.), *Intrusive parenting: How psychological control affects children and adolescents.* (pp. 15-52). Washington, DC: American Psychological Association.

Barber, B. K., Olsen, J. E., & Shagle, S. C. (1994). Associations between parental psychological and behavioral control and youth internalized and externalized behaviors. *Child Development, 65*(4), 1120-1136. doi: 10.2307/1131309

Barber, B. K., Stolz, H. E., & Olsen, J. A. (2005). Parental support, psychological control, and behavioral control: Assessing relevance across time, culture and method. *Monographs of the Society for Research in Child Development, 70*, 1-136.

Bean, R. A., Bush, K. R., McKenry, P. C., & Wilson, S. M. (2003). The impact of parental support, behavioral control, and psychological control on the academic achievement and self-esteem of African American and European American adolescents. *Journal of Adolescent Research, 18*(5), 523 -541. doi:10.1177/0743558403255070

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88*(3), 588-606. doi: 10.1037/0033-2909.88.3.588

Blatt, S. J. (1974). Levels of object representation in analytic and introjective depression. *Psychoanalytic Study of the Child, 29*, 107-157.

Blatt, S. J. (1990). Interpersonal relatedness and self-definition: Two personality configurations and their implications for psychopathology and psychotherapy. In J. L. Singer (Ed.), *Repression and dissociation:*

Implications for personality theory, psychopathology, and health. (pp. 299-336). Chicago: University of Chicago Press.

Blatt, S. J. (2004). *Experiences of depression: Theoretical, clinical, and research perspectives.* Washington, DC: American Psychological Association.

Blatt, S. J., D'Afflitti, J. P., & Quinlan, D. M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal Psychology, 85*(4), 383-389.

Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychology, 55*(4), 584-594.

Collins, L. M., Schafer, J. L., & Kam, C.-M. (2001). A comparison of inclusive and restrictive strategies in modern missing data procedures. *Psychological Methods, 6*(4), 330-351. doi:10.1037/1082-989X.6.4.330

Cortina, J. M. (1993). What is coefficient alpha? An examination of theory and applications. *Journal of Applied Psychology, 78*(1), 98-104. doi: 10.1037/0021-9010.78.1.98

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*(3), 297-334. doi: 10.1007/BF02310555

Deci, E. L., & Ryan, D. M. (2004). *Handbook of self-determination research*. Rochester, NY: Rochester University Press.

de Singly, F. (2007). Justifier une inégalité, affirmer une identité… In F. de Singly (Ed.), L'injustice ménagère (pp. 9-23). Paris: Armand Colin.

Galambos, N. L., Berenbaum, S. A., & McHale, S. M. (2009). Gender development in adolescence. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology: Contextual influences on adolescent development* (3rd ed., Vol. 1) (pp. 305-357). Hoboken, NJ: John Wiley & Sons.

Genoud, P. A. (2005). *Indice de Position SocioEconomique (IPSE)*. Unpublished manuscript. Chaire de Psychologie Clinique, Université de Fribourg, Fribourg, Switzerland.

Grolnick, W. S., Ryan, R. M., & Deci, E. L. (1991). The inner resources for school performance: Motivational mediators of children's perceptions of their parents. *Journal of Educational Psychology, 83*, 508-517. doi: 10.1037/0022-0663.83.4.508

Guttman, L. (1945). A basis for analyzing test-retest reliability. *Psychometrika, 42*(4), 567-578. doi: 10.1007/BF02288892

Hambleton, R. K. (2001). The next generation of the ITC test translation and adaptation guidelines. *European Journal of Psychological Assessment, 17*(3), 164-172. doi: 10.1027//1015-5759.17.3.164

Honaker, J., & King, G. (2010). What to do about missing values in time-series cross-section data. *American Journal of Political Science, 54*(2), 561-581. doi:10.1111/j.1540-5907.2010.00447.x

Hu, L.-T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55. doi: 10.1080/10705519909540118

Leaper, C., Anderson, K. J., & Sanders, P. (1998). Moderators of gender effects on parents' talk to their children: A meta-analysis. *Developmental Psychology, 34*(1), 3-27.

Levy, R., Gauthier, J.-A., & Widmer, E. (2006). Entre contraintes institutionnelle et domestique : les parcours de vie masculins et féminins en Suisse. *Revue canadienne de sociologie, 31*(4), 461-489.

McDonald, R. P. (1985). *Factor analysis and related methods*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.

McDonald, R. P. (1999). Test homogeneity, reliability, and generalizability. In R. P. McDonald (Ed.), *Test theory: A unified treatment.* (pp. 76-120). Mahwah, New Jersey: Lawrence Erlbaum Associates.

McHale, S. M., Crouter, A. C., & Whiteman, S. D. (2003). The family contexts of gender development in childhood and adolescence. *Social Development, 12*(1)*,* 125-148. doi: 10.1111/1467-9507.00225

Nakamura, Y. M., Bieri Buschor, C., & Sedlak, I. (2007). Adolescence in Switzerland. In J. J. Arnett (Ed.), *International Encyclopedia of Adolescence* (Vol. 2) (pp. 966-979). New York: Routledge.

Office fédérale de la statistique (OFS) (2009). Modèles d'activié dans les couples, partages des tâches et garde des enfants. Quelques éléments de la conciliation entre vie familiale et vie professionnelle: la Suisse en comparaison internationale. Neuchâtel: Office fédéral de la statistique.

Pettit, G. S., Liaird, R. L., Dodge, K. A., Bates, J. E., & Criss, M. M. (2001). Antecedents and behavior-problem outcomes of perental monitoring and psychological control in early adolescence. *Child Development, 72*(2), 583-598. doi: 1132415

R Development Core Team. (2010). *R: A language and environment for statistical computing*. Vienna, Austria: R Foundation for Statistical Computing.

Revelle, W., & Zinbarg, R. E. (2009). Coefficients alpha, beta, omega, and the glb: Comments on Sijtsma. *Psychometrika, 74*(1), 145-154. doi: 10.1007/s11336-008-9102-z

Rogers, C. R. (1951). *Client centered therapy*. Boston: Houghton–Mifflin.

Rogers, K. N., Buchanan, C. M., & Winchell, M. E. (2003). Psychological control during early adolescence: Links to adjustment in differing parent/adolescent dyads. *Journal of Early Adolescence, 23*(4), 349-383. doi: 10.1177/0272431603258344

Roux, P. (2001). Perception of discrimination, feelings of injustice and women's resistance to gender equality. In F. Butera, & G. Mugny (Eds.), Social influence in social relaity. Promoting individual and social change (pp. 165-190). Berne: Hogrefe & Huber.

Schaefer, E. S. (1965). A configurational analysis of children's report of parent behavior. *Journal of Consulting Psychology, 29*(6), 552-557.

Seja Kaugars, A., Zebracki, K., Kichler, J. C., Fitzgerald, C. J., Neff Greenley, R., Alemzadeh, R., & Holmbeck, G. N. (2011). Use of the Family Interaction Macro-coding System with Families of Adolescents: Psychometric Properties Among Pediatric and Healthy Populations. *Journal of Pediatric Psychology, 36*(5), 539 -551. doi:10.1093/jpepsy/jsq106

Sijtsma, K. (2009). On the use, the misuse, and the very limited usefulness of cronbach's alpha. *Psychometrika, 74*(1), 107-120. doi: 10.1007/11336-008-9101-0

Soenens, B. & Park, S. Y. (2008, May). Distinguishing between separation-anxious and achievement-oriented psychological control: A cross-national comparison between Belgium and South-Korea . In B. Soenens & C. Manzi (Chairs), *The cross-cultural significance of control and autonomy in parent-adolescent relationships*. Symposium conducted at the Biennial Meeting of the European Association for Research on Adolescence, Torino, Italy.

Soenens, B., & Vansteenkiste, M. (2010). A theoretical upgrade of the concept of parental psychological control: Proposing new insights on the basis of self-determination theory. *Developmental Psychology, 30*(1), 74-99. doi:10.1016/j.dr.2009.11.001

Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L. (2006). Parenting and adolescent problem behavior: An integrated model with adolescent self-disclosure and perceived parental knowledge as intervening variables. *Developmental Psychology, 42*(2), 305-318. doi: 10.1037/0012-1649.42.2.305

Soenens, B., Vansteenkiste, M., Luyten, P., Duriez, B., & Goossens, L. (2005). Maladaptive perfectionistic self-representations: The mediational link between psychological control and adjustment. *Personality and Individual Differences,38*(2), 487–498. doi:10.1016/j.paid.2004.05.008

Soenens, B., Vansteenkiste, M., & Luyten, P. (2010). Toward a domain-specific approcah to the study of parental psychological control: Distinguishing between dependency-oriented and achievement-oriented psychological control. *Journal of Personality, 78*(1), 217-256. doi: 10.1111/j.1467-6494.2009.00614.x

Steinberg, L. (1990). Autonomy, conflict, and harmony in the family relationship. In S. S. Feldman & G. R. Elliot (Eds.), *At the threshold: The developing adolescent* (pp. 255-276). Cambridge, MA: Harvard University Press.

Steinberg, L., Elmen, J. D., & Mounts, N. S. (1989). Authoritative parenting, psychosocial maturity, and academic success among adolescents. *Child Development, 60*(6), 1424-1436. doi: 1130932

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics.* (5th ed.). Boston: Allyn & Bacon.

Vandenberg, R. J., & Lance, C. E. (2000). A review and synthesis of the measurement invariance literature: Suggestions, practices, and recommendations for organizational research. *Organizational Research Methods, 3*(1), 4 -70. doi:10.1177/109442810031002

Wood, J. J. (2006). Parental intrusiveness and children's separation anxiety in a clinical sample. *Child Psychiatry and Human Development, 37*(1), 73-87. doi: 10.1007/s10578-006-0021-x

Table 1. Correlations and partial correlations between DAPCS' subscales and dimensions of general parenting style

	r		Partial *r*	
	DPC	APC	DPC	APC
Maternal ratings				
Psychological control	.61**	.62**	.39**	.42**
Autonomy support	-.46**	-.60**	-.18**	-.46**
Responsiveness	-.21**	-.50**	.10	-.47**
Behavioral control	.39**	.24**	.31**	.03
Paternal ratings				
Psychological control	.49**	.57**	.35**	.47**
Autonomy support	-.28**	-.45**	-.13*	-.39**
Responsiveness	-.04	-.39**	.13*	-.41**
Behavioral control	.21**	.16**	.16**	.08

Note. DPC = Dependency-oriented psychological control; APC = Achievement-oriented psychological control.

*$p < .05$. **$p < .01$

Table 2. Means and standard deviations of paternal and maternal ratings for DAPCS' subscales

	Dimensions of psychological control	
	DPC	APC
Fathers (*sd*)	1.79 (.62)	1.58 (.80)
Mothers (*sd*)	2.08 (.75)	1.53 (.74)

Note. DPC = Dependency-oriented psychological control; APC = Achievement-oriented psychological control.