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**Author(s):** Aunola, Kaisa; Viljaranta, Jaana; Tolvanen, Asko

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Running Headline: DAILY DISTRESS AND PSYCHOLOGICALLY CONTROLLING PARENTING

Does Daily Distress Make Parents Prone to  
Using Psychologically Controlling Parenting?

Kaisa Aunola, Jaana Viljaranta & Asko Tolvanen

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Authors' Note

Kaisa Aunola (corresponding author), Department of Psychology, University of Jyväskylä, Finland; phone: +358 408053481, Fax: +358 142602801, email: [kaisa.aunola@jyu.fi](mailto:kaisa.aunola@jyu.fi).

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### Abstract

The aim of the present study was to investigate whether parental daily distress in terms of negative emotions is associated with the daily variation in parental use of psychological control with their children. Whether parental positive emotions play a role in the use of psychological control was also investigated. The participants were 152 Finnish families with a child between the ages of 6 to 7. Parents' negative and positive emotions, children's misconduct, and parental use of psychological control when interacting with their children were measured daily using diary questionnaires filled in by the mothers and fathers over seven successive days in the fall term of the children's first grade and, for replication purposes, again in the spring term. The results of multilevel modeling showed that, after controlling for the level of children's misconduct on a particular day, mothers' and fathers' negative daily emotions were related to a high level of psychological control in parenting. This relation was evident particularly when combined with parental perception of a high level of child misconduct. Positive emotions, in turn, were not found to be related to the daily variation in the use of psychological control. The results showed further that, at the level of individuals, mothers' and fathers' high overall level of negative emotions across the week was related to a high overall level of psychologically controlling parenting.

*Keywords:* parental distress, negative emotions, psychological control, diary study

### Does Daily Distress Make Parents

#### Prone to Using Psychologically Controlling Parenting?

Verbal expressions such as “Do you have any idea how much I do for you?” or “Stop crying—you’re embarrassing me” are typical examples of psychologically controlling parenting. Parental psychological control—defined as “parental behaviors that are intrusive and manipulative of children’s thoughts, feelings, and attachments to parents” (Barber & Harmon, p. 15)—has been shown to have various negative consequences for healthy child development, presenting itself in the form of, for example, anxiety and depression (Barber, 1996). It has been further shown that the use of psychological control in parenting is particularly typical for parents who themselves exhibit internalizing symptoms, such as depression or low self-esteem (Laukkanen, Ojansuu, Tolvanen, Alatupa, & Aunola, 2014; Lovejoy, Graczyk, O’Hare, & Neuman, 2000). However, besides individual differences in the use of psychological control, recent findings suggest that there is also a lot of intraindividual variation in the use of it; parents use psychological control more on some days than on others (Aunola, Tolvanen, Viljaranta, & Nurmi, 2013). This means that the use of psychological control is not only a behavioral pattern or style that is more typical for some parents than others but also a type of parenting behavior that *changes* from one day to another independently of the parent. However, why there is within-individual variation in the use of psychological control is unknown at the moment. The present study aimed to examine to what extent the daily variation in parents’ use of psychological control is associated with their daily emotions.

Much research has been conducted on the role of parenting in healthy child development. There seems to be consensus that, in addition to supportive and nurturing parental behavior, healthy child development also requires some parental authority in terms of control (Barber & Xia, 2013). There are, however, different types of parental control that

have been shown to have different impacts on child development (Pomerantz & Wang, 2009; Soenens & Vansteenkiste, 2010). Behavioral control, defined as the regulation of the child's behavior through firm and consistent discipline (Barber, 1996), has been linked to positive consequences for child development and is associated with, for example, a lack of problem behaviors (for a review, see Hart et al., 2003). Examples of behavioral control include maturity demands, setting clear and consistent limits and rules for behavior, monitoring, and structure (Aunola & Nurmi, 2004; Grolnick & Pomerantz, 2009). Unlike behavioral control, psychological control—that is, parents' control of the child's emotions and behaviors through psychological means (Barber, 1996)—has been shown to have negative impacts on child development being related to, for example, anxiety, depression, behavioral problems, and low achievement in both children (Aunola & Nurmi, 2004, 2005) and adolescents (Soenens, Park, Vansteenkiste, & Mouratidis, 2012) in various different cultural settings (Barber & Harmon, 2002). Examples of this kind of control include guilt induction and love withdrawal. It has been argued that the difference in behavioral control and psychological control lies in the focus of the attempt at control. While the aim of behavioral control is to socialize the child and regulate his or her behavior, psychological control focuses on exercising control over the child's psychological world (Barber, Olsen, & Shagle, 1994).

According to Belsky's (1984) model concerning antecedents of parental functioning, parental psychological resources (including personal maturity and psychological well-being) are one of the major determinants of parental functioning (see also Dix, 1991). Providing support for this line of argumentation, previous research has revealed that one antecedent of psychological control is the parental tendency to exhibit internalizing symptoms. For example, mothers' high levels of depressive symptoms (Aunola, Ruusunen, Viljaranta, & Nurmi, 2015) and low self-esteem (Laukkanen et al., 2014) have been shown to be related to their use of psychological control. Other antecedent factors have also been suggested, such as

parents' high sensitivity to hurtful messages from their child (sensitivity being evident as a high level of negative emotions in response to a child's hurtful messages) and their disapproval of negative emotions in themselves and their child (Walling, Mills, & Freeman, 2007), parental maladaptive perfectionism (Soenens, Elliot, Goossens, Vansteenkiste, Luyten, & Duriez, 2005; see also Soenens et al., 2010), a high level of separation anxiety (Kins, Soenens, & Beyers, 2011), and contingent self-esteem (i.e., parental self-worth being contingent on the child's behavior and achievements) (Grolnick, Price, Beiswenger, & Sauck, 2007; Ng, Pomerantz, & Deng, 2014). Overall, these studies suggest that, due to individual characteristics, some persons are more prone to use psychological control in parenting than others.

However, recent research suggests that besides these individual differences, there are also *intraindividual* differences in the use of psychological control (Aunola et al., 2013). In the study by Aunola et al. (2013), over 50% of the variation in parental psychological control was due to the day rather than due to the individual. This result suggests that parents use different amounts of psychological control on different days. In other words, regardless of whether the use of psychological control is a typical behavioral pattern for a parent or not, there is daily fluctuation in the use of it: parents use psychological control more on some days—and less on some other days—than is typical for them. However, little is thus far known about the processes that underlie within-person variability in psychological control. Why do parents use psychological control more on some days than on others? On what kinds of days are parents prone to use psychological control? Daily impacts of parental psychological control on children's expression of negative emotions in daily life (Aunola et al., 2013) may lead to vicious circle of negative daily interaction in the family and accumulate over time leading to “standing patterns of negative emotion” in some children

(Larson & Pleck, 1999). Consequently, it is important to unravel the factors that make parents prone to use psychological control in daily interaction.

In the present study, the aim is to examine whether parental daily distress in terms of negative emotions is associated with the daily variation in the use of psychological control in parenting. In previous literature parental tendency to show internalizing symptoms has been related to an increased use of psychological control (Laukkanen et al., 2014; Lovejoy et al., 2000). We therefore assumed that in daily situations distress evident as untypically high levels of negative emotions on certain days increases the risk of the use of psychological control on those particular days. A high level of daily negative emotions can be assumed to reflect a lack of parental psychological resources in daily situations, which research has suggested to be one of the major determinants of parental functioning (Belsky, 1984; Dix, 1991). In the present study, the role of positive emotions (or a lack thereof) in the use of psychological control was also investigated because in previous literature parental optimism (Brody et al., 1994), high self-esteem (Aunola, Nurmi, Onatsu-Arviolommi, & Pulkkinen, 1999), and a high level of psychological well-being overall (Newland, 2015) have been shown to be associated with optimal positive parenting.

The research questions were as follows:

- (1) To what extent is the daily variation (within-person variation) in parents' negative and positive emotions associated with the daily variation in parental use of psychological control?
- (2) To what extent are the individual differences (between-person variation) in the typical levels of negative and positive emotions associated with the individual differences in the use of parental psychological control?

According to Belsky's model (1984), in addition to parental psychological resources also child characteristics and behavior are important determinants of parental functioning.



The model suggests further that parental lack of psychological resources combined with a difficult child behavior leads to the most problematic parental functioning, whereas parental high level of psychological resources can protect parents against problematic parental functioning in the face of difficult child behavior (Belsky, 1984). To test the unique and joint effects of parental emotions and child misconduct on the use of psychological control, variable describing parental perceptions of the child's misconduct on different days was included in the analyses.

## Methods

### Participants

The study sample consisted of the parents of 152 first grade children (79 girls, 73 boys; age  $M = 7.5$  years,  $SD = 3.61$  months). We began the sampling by contacting 334 first-grade teachers and asking them to participate in the study. A total of 166 (49.7%) teachers agreed and signed a written consent form. Next, one student from each classroom was randomly selected, and the children's parents were asked to participate. If the parents did not respond or withheld their consent, another child from the class was selected, again at random, and his or her parents were contacted. This procedure continued until one student was obtained from each classroom. A total of 114 parents (68.7% of those asked to participate) agreed to participate in the first randomization round, 33 (63.5%) in the second round, 15 (78.9%) in the third round, and 4 (100%) in the fourth round. From this total of 166 children and their parents, 14 (8.4%) families were omitted from the analyses because the children were in special education classrooms. Thus, the final sample comprised 152 children in normal classrooms and their mothers and fathers. The schools participating in the study were located in three midsize towns in Finland.

The families were fairly representative of the general Finnish population in terms of socioeconomic status and family structure (Statistics Finland, 2008). In total, 52% of the

mothers and 31% of the fathers had completed at least a high school education, 47% of the mothers and 66% of the fathers had completed at least a junior high school education (comprehensive school), and 1% of the mothers and 3% of the fathers had not completed a junior high school education. A total of 24% of the mothers and 16% of the fathers had a university or college degree (e.g., a school teacher or a lawyer), 41% of mothers and 30% of fathers had a technical college degree (e.g., a nurse or a sales manager), 26% of mothers and 44% of fathers had a vocational school degree (e.g., a cleaner or a plumber), and 9% of mothers and 10% of fathers had no vocational degree (e.g., a sales clerk or a driver). Seventy-eight percent of the families were nuclear families (67 married, 11 cohabiting parents), 12% were blended families, and 10% were single-parent families. The number of children per family ranged from 1 to 10 ( $M = 2.39$ ,  $SD = 1.03$ ).

Both of the children's parents or legal guardians were asked to fill in a structured diary questionnaire concerning their daily interactions with their child and their emotions over seven successive days in the fall semester (October or November; Time 1) of their child's first grade. The diary was filled in separately by the mother and father on each of the seven days before going to bed. For replication purposes, the parents were asked to fill in similar diary questionnaires over seven successive days again in the spring term (April; Time 2). To increase parental engagement in the timely completion of the daily diaries, each parent was paid €50 (\$62.50) for participating in the study and returning all the questionnaires in time. From the 152 mothers asked to participate in the study, 150 (99%) returned the diary questionnaires on time at Fall and 139 (91%) at Spring. Of the mothers, 15 were single mothers. From the 137 fathers asked to participate in the study, 115 (84%) returned the diary questionnaires on time at Fall and 95 (69%) at Spring. On average, participating mothers responded with daily diaries concerning the variables used in the present study on each of the seven days at both measurement points. Participating fathers responded with daily diaries

concerning the variables used in the present study, on average, on six days at both measurement points. The major reason for not recording in the diary on a particular day was that the parent was not at home on that day.

### **Measurements**

**Parents' daily negative and positive emotions.** Mothers' and fathers' negative and positive emotions were assessed via the Daily Emotion Scale (DES; Aunola & Nurmi, 2007), which is based on the Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1988). On each day, parents completed a structured questionnaire measuring their negative (eight items; e.g., "I was angry/irritated today," "I was sad/dispirited today," or "I felt tired today.") and positive (three items; e.g., "I was happy/excited today," or "I was thankful today.") emotions. Parents rated each item on a five-point Likert scale (1 = not at all; 5 = very much). To create indices for daily negative and positive emotions, the mean of the items was calculated separately for each day. Separate scores were calculated with regard to negative emotions and positive emotions and with regard to mothers' and fathers' reports. The Cronbach's alpha reliabilities at Fall for mothers' negative and positive emotions, calculated separately on each of the seven days, were on average .81 (range .78–.84) and .64 (range .60–.72), respectively. For fathers' negative and positive emotions, they were .82 (range .79–.85) and .71 (range .68–.74), respectively. The respective reliabilities at Spring were .82 (range .79–.85), .73 (range .68–.78), .84 (range .80–.86), and .76 (range .72–.79).

**Psychological control.** The scale for parental psychological control was created on the basis of the Finnish version (Aunola & Nurmi, 2004) of Block's Child Rearing Practices Report (CRPR; Roberts, Block, & Block, 1984) to measure parenting styles in daily interaction contexts. Both parents were asked to evaluate their daily parenting behaviors by responding to 15 items on a five-point Likert scale (1 = not at all true; 5 = very much true) at the end of each day. Psychological control—reflecting parental behaviors appealing to guilt

and expressing disappointment—was measured by five items (“I told things could have been done better,” “I let my child know that I am disappointed in her/him,” “I reminded my child how much I do and how much effort I make for her/him,” “I showed my child how ashamed I am because of her/his behavior,” and “I tried to make my child think or feel in an another way.”). To create indices for psychological control, the mean of the items described above was calculated separately for each day. The Cronbach’s alphas for the scale at Fall, calculated separately on each of the seven days, were on average .75 (range .70–.83) for mothers’ psychological control and .73 (range .67–.82) for fathers’ psychological control. The respective reliabilities at Spring were .72 (range .68–.78) and .75 (range .62–.80).

**Child misconduct (control variable).** Parents’ perception of their children’s misconduct was assessed via daily diaries using the statement “My child did something forbidden today.” On each day, parents answered the question on a five-point Likert scale (1 = not at all true; 5 = very much true). The correlations between mothers’ and fathers’ evaluations during each day varied from .27 to .43 ( $M = .35, p < .01$ ) at Fall and between .14 and .60 ( $M = .32, p < .01$ ) at Spring.

### **Analysis Strategy**

The analyses were conducted using three-level modelling in which the variation in mothers’ and fathers’ negative and positive emotions, in their use of psychological control, and in their perception of their child’s misconduct, was divided into three parts: between-person (Level 3), between measurement points (Fall vs. Spring) within-person (Level 2), and between days within measurement points (Level 1) variations. In this context, path model including separate variables for mothers and fathers was constructed. In Level 1 (day-level), parents’ daily variation in psychological control was predicted by the daily variation in parental negative and positive emotions. In Level 2 (measurement point-level), measurement point-related variation in psychological control was predicted by measurement point-related

variation in parental negative and positive emotions. In Level 3 (person-level), individual variation in the overall level of psychological control across days and two measurement points was predicted by the overall levels of negative and positive emotions. At all three levels of the data, the impact of the child's misconduct on the results was controlled for by estimating paths from the parent-reported child misconduct variable to psychological control. The equations of the model are presented as a supplemental Appendix.

The analyses were carried out along the following steps. First, model including paths from mothers' and fathers' negative and positive emotions and child misconduct to their psychological control on each of the three levels of the data was constructed, and the equality of paths between mothers and fathers was tested. As follow-up analyses, the role of the child's gender in the studied associations was tested. Second, the interaction terms Negative emotions X Child misconduct and Positive emotions X Child misconduct were added to each level of the model to find out whether parental emotions and the level of child misconduct would illustrate joint effects on psychological control at different levels of the data. After these main analyses, additional supplemental analyses were carried out. First, various cross-level interactions were tested to discover whether the overall level of child misconduct, or negative or positive emotions, or psychological control, typical for the parent would moderate the daily associations between emotions and the use of psychological control. Second, the possibility that emotions displayed by one parent would affect the psychological control of the other parent was tested by adding cross-parent paths from positive and negative emotions to psychological control to the model on each level of the data. Finally, the possibility that positive and negative emotions on a certain day would predict parental use of psychological control on the next day, or that parental use of psychological control on a certain day would predict positive and negative emotions on the next day, was examined by carrying out multilevel prospective change models (see also Aunola et al., 2013).

The statistical analyses were performed using the Mplus statistical software program. The standard missing-at-random (MAR) approach (supposing that data are missing at random) (Muthén & Muthén, 1998–2013) was used because a MCAR test for study variables revealed that the data was not completely missing at random. The number of observations in the analyses was 1978 observations, average cluster size for measurement point (Level 2) being 6.892 and for person (Level 3) 13.275. The covariance coverage ranged from .622 to .973 ( $M = .730$ ). Missigness did not systematically vary due to the day or any particular study variable. However, the missingness did vary systematically due to parent's gender and measurement point; there were more missing data for fathers (range of the covariance coverage from .649 to .661;  $M = .653$ ) than for mothers (range of the covariance coverage from .969 to .973;  $M = .972$ ). Moreover, there were more missing data in Spring than in Fall (8 % of mothers and 15% of fathers participating in Fall did not participate anymore on Spring). The parameters of the models were estimated using the full information maximum likelihood (FIML) estimation with standard errors that are robust to non-normality (MLR estimator) (Muthén & Muthén, 1998–2010). This method allowed the use of all observations in the data set to estimate the parameters in the models.

The within- (Level 1) and between-person (Level 3) level correlations of study variables as well as means and standard deviations and Level 3 intraclass correlations are presented in Table 1. The between-measurement points (Level 2) correlations of study variables and Level 2 intraclass correlations are shown in Table 2. When reporting the results, Level 1 and Level 3 data is used to answer the research questions. Level 2 data provides additional information about the possible variation in study variables and associations due to the measurement point (Fall vs. Spring).

## Results

The intraclass correlations of the variables of interest indicated that 23–46% of the variance in the study variables was due to the between-person effect (Level 3), 5–12% was due to the measurement point (Level 2), and the rest of the variance (45–71%) was due to the variance between days (Level 1). Overall, mothers' and fathers' emotions and use of psychological control, as well as their perceptions of child misconduct, varied more between days than between persons or measurement points. The correlations of study variables (Tables 1 and 2) signified further that at each of the three levels of the data, mothers' and fathers' negative emotions and perceptions of child misconduct positively and significantly correlated with their use of psychological control, whereas no statistically significant correlations were found between parental positive emotions and their use of psychological control. Correlations between mothers and fathers showed that at the both day- and person-level of the data mothers' and fathers' reports of a particular variable correlated positively and significantly with each other, albeit with one exception: at the person-level, mothers' positive emotions did not correlate with fathers' positive emotions. At the measurement point level, mothers' and fathers' perceptions of child misconduct correlated positively and significantly, but no other statistically significant cross-parent correlations were evident.

### **Parents' Emotions and Use of Psychological Control**

Model constructing was started by first estimating the unconstrained three-level model for mothers' and fathers' negative and positive emotions, perception of child misconduct, and psychological control (fit of the model:  $\chi^2(18) = 14.62$ ,  $p = 0.69$ , scaling correction factor for MLR = 1.16;  $CFI = 1.00$ ;  $RMSEA = 0.00$ ;  $SRMR^{within} = 0.01$ ,  $SRMR^{between Level 2} = 0.06$ ;  $SRMR^{between Level 3} = 0.03$ ). Then, constrained model where all paths in the model were constrained to be equal among mothers and fathers was tested (fit of the model:  $\chi^2(27) = 23.54$ ,  $p = 0.66$ , scaling correction factor for MLR = 1.21;  $CFI = 1.00$ ;  $RMSEA = 0.00$ ;  $SRMR^{within} = 0.02$ ,  $SRMR^{between Level 2} = 0.06$ ;  $SRMR^{between Level 3} = 0.04$ ) and compared with the

unconstrained model using the  $\chi^2$ -difference test. The comparison of the models showed that the unconstrained model was not statistically significantly better than the constrained model ( $\chi^2_{\text{diff}}(9) = 8.80, p = 0.46$ ), suggesting that paths from parents' negative and positive emotions (and from their perceptions of child misconduct) to the use of psychological control can be treated as equal among mothers and fathers. The results of this final constrained model are presented in Figure 1.

First, the results showed that at the *person-level* of the data (Level 3; between-person level), mothers' and fathers' distress in terms of negative emotions were positively associated with their use of psychological control, after controlling for the level of child misconduct; the more negative emotions the parent reported across the week overall, the more typical it was for her or him to apply psychological control with her or his child overall. Parents' positive emotions were not associated with their use of psychological control.

Second, the results showed that a high level of negative emotions and psychological control were also associated at the *day-level* (Level 1; within-person level); the higher the level of negative emotions reported on a particular day, the higher the level of psychological control on that same day, after controlling for the child's misconduct. In other words, mothers and fathers applied psychological control more than typical for them on the days they felt distressed. Parents' positive emotions, in turn, were not found to be associated with the use of psychological control.

The results showed further that at the measurement point level (Level 2) parental emotions were not related to the use of psychological control after controlling for the impact of child misconduct.

As a follow-up analysis, the interactive effects of a child's gender and independent variables were tested on each level of the data. None of these interactive effects were statistically significant, suggesting that there were no differences depending on a child's



gender in the reported associations. The follow-up analysis asserted further that the found association of negative emotions on a particular day ( $t$ ) with psychological control on that same day ( $t$ ) did not change after controlling for psychological control or emotions on the previous day ( $t-1$ ).

### **Joint Effects of Parental Emotions and Child Misconduct**

Next, the possibility that a child's misconduct would impact the association of negative emotions and psychological control was investigated by adding interaction term Negative Emotions X Child Misconduct to each level of the model. The  $\chi^2$ -difference test comparing unconstrained (interaction terms estimated separately for mothers and fathers) and constrained model (interaction terms constrained to be equal among mothers and fathers) showed that the added interaction terms can be estimated as equal among mothers and fathers ( $\chi^2_{\text{diff}}(3) = 0.66, p = 0.88$ ). The results depicted that the interaction term was statistically significant at the day (Level 1; *standardized estimate* = 0.121,  $p < .001$ ) and person (Level 3; *standardized estimate* = 0.180,  $p = .01$ ) levels of the data, suggesting that the impact of negative emotions on psychological control was dependent on the parent's perception of child misconduct. The results (see Figure 2) showed that the association of mothers' and fathers' negative emotions with their use of psychological control was stronger when combined with a high level of child misconduct than when combined with a low level of misconduct. This result was true both at the day level (Level 1) and at the level of individuals (Level 3). Overall, this pattern of results suggests that it is the combination of parental negative emotions and perception of child misconduct in particular that makes parents prone to use psychological control with their child both in daily situations and in general.

When testing the interaction term Positive Emotions X Child Misconduct, no statistically significant interaction effects were found in any levels of the data.

### **Additional Supplemental Analyses**

To examine the associations of parental emotions and psychological control further, supplemental analyses were carried out. First, various cross-level interactions were examined to find out whether children's overall level of misbehavior, or overall levels of parental negative emotions, positive emotions, or psychological control (Level 3 variables), would impact the found association of daily negative emotions and psychological control (Level 1 association). The results of these analyses showed that the overall levels of positive or negative emotions or child misconduct did not impact the daily associations between emotions and use of psychological control. However, a statistically significant ( $p < .05$ ) moderating effect was found for the overall level of psychological control typical for the parent both among mothers and fathers. The results concerning these interaction effects are presented in Figure 3. The results showed (Figure 3) that the positive association of daily negative emotions with the use of psychological control was stronger among parents who exhibited a high overall level of psychological control than among those showing a low overall level of psychological control. This suggests that the use of psychological control may be more readily available in a parent's behavioral repertoire in daily interaction situations if it is typical way for the parent to behave<sup>1</sup>.

Second, to investigate the possibility that mothers' emotions would be related to fathers' use of psychological control beyond fathers' own emotions (and vice versa), a model including paths from one parent's positive and negative emotions to the use of psychological control of the other parent was tested. The results of these analyses showed, however, that there were no statistically significant cross-parent effects.

Finally, the possibility that positive and negative emotions on a certain day would predict the parental psychological control on the next day (or the possibility that parental psychological control on a certain day would predict positive and negative emotions on the next day) was examined by carrying out multilevel prospective change models (see Aunola et

al., 2013). In these models, negative and positive emotions at day  $t$  were predicted by the level of psychological control on day  $t-1$ , and psychological control at day  $t$  with the level of negative and positive emotions at day  $t-1$ , after controlling for the level of child misbehavior on day  $t$ . The results of these analyses showed no statistically significant prospective cross-day associations between parental emotions and psychological control.

### Discussion

The aim of the present study was to examine whether parents' daily distress in terms of negative emotions is associated with daily variation in the use of psychological control in parenting. In addition, whether or not parents' positive emotions play a role in the use of psychological control was also investigated. The results showed that mothers' and fathers' negative emotions on a particular day were related to an atypically high level of psychological control on that same day. The results showed further that, at the level of individuals, mothers' and fathers' high overall level of negative emotions across the week was related to a high overall level of psychological control. Among both mothers and fathers, the associations of negative emotions with psychological control were found to strengthen when combined with parental perception of a high level of child misconduct.

In previous literature, the individual differences in the use of psychological control in parenting has been related to parental distress; parents exhibiting internalizing symptoms (e.g., high levels of depressive symptoms or low self-esteem) seem to use more psychological control in parenting than those without these kind of symptoms (Laukkanen et al., 2014; Lovejoy et al., 2000). The first aim of the present study was to investigate whether parental distress, evident as negative daily emotions, would also be associated with the *intraindividual* variation in parental use of psychological control. Consistent with our expectations, the results revealed that this was the case. The more negative emotions the parents reported on a particular day, the more they used psychological control on that same day. This result was

true even after controlling the impact of the child's misconduct on psychological control.

Overall, the results suggest that daily distress may be a risk factor for the use of psychological control in parenting. Future research is needed to discover different sources of parental daily distress. Possible sources include the daily variation in work pressure and the transference of work-related emotions to home (i.e., work-to-family spillover), marital conflicts, or the rush of everyday life.

The results presented further that it was a high level of negative emotions rather than a low level of positive emotions that was associated with the daily variation in the use of psychological control. One explanation for this result is that negative emotions may reflect parents' distress or level of psychological resources more so than a lack of positive emotions. Support for this kind of argumentation comes from recent meta-analytic findings that asserted that disruptions in the functioning and dynamics of negative emotions were more indicative of psychological (mal)adjustment than those of positive emotions (Houben, Van Den Noortgate, & Kuppens, 2015). Overall, the fact that it was negative emotions rather than a lack of positive emotions that was associated with the use of psychological control is in line with recent literature according to which the negative side of parenting should be separated from the positive side of parenting since, for example, the presence of psychologically controlling parenting is more than just an absence of autonomy-supportive parenting (Costa, Soenens, Gugliandolo, Cuzzorrea, & Larcan, 2015; Vansteenkiste & Ryan, 2013). Following this line of argumentation, it might thus be assumed that while negative emotions are related to the negative side of parenting (i.e., psychological control), positive emotions might be associated more with the positive (i.e. autonomy-supportive parenting) than the negative side of parenting.

The second aim of the present study was to examine whether or not the overall level of negative or positive emotions typical for the parent is associated with the *individual*

*differences* in the use of psychological control in parenting (between-person variation). In line with our hypotheses and the previous literature (Aunola et al., 2015; Lovejoy et al., 2000), the results showed that, among both mothers and fathers, a high overall level of negative emotions was associated with a high overall level of psychological control use. Consistent with previous literature, the results of the present study thus suggest that parents exhibiting a high overall level of distress are generally more prone to use psychological control in their parenting than those with a low level of distress. One explanation for this result is that parents with a high level of distress do not have enough psychological resources to think about the different, more adaptive and constructive options to react to their children's behavior in daily situations. Another explanation is that parents with a high overall level of negative emotions observe their children's behavior more negatively (Cummings & Davies, 1994) and, at the same time, feel that they have no resources to handle this observed negative child behavior (see, e.g., Dix, 1991), leading them to use psychological control in parenting (Aunola et al., 2015).

The results also showed that there were some differences in the association of negative emotions with the use of psychological control depending on the perception of child misconduct and the overall level of psychological control typical for the parent. First, it was found that the association of negative emotions with the use of psychological control was intensified when combined with the perception of high level of child misconduct. Thus, it was the combination of negative emotions and perception of child misconduct that was associated with the use of psychological control both in daily interaction and in general, rather than negative emotions alone. This result is in line with the notion that it is a parental lack of psychological resources combined with difficult child behavior that leads to the most problematic parental functioning (Belsky, 1984). Second, besides child misconduct, the overall level of psychological control typical for the parent was found to moderate the daily

association between negative emotions and psychological control so that the association was particularly evident among those parents whose overall level of psychological control was high. This result suggests that the use of psychological control in daily situations may be more readily available in parents' behavioral repertoire if it is typical way to parent to behave.<sup>1</sup> Because use of psychological control has been shown to be associated with parental characteristics such as sensitivity to hurtful messages from the child (Walling et al., 2007), maladaptive perfectionism (Soenens et al., 2005), and contingent self-esteem (Grolnick et al., 2007; Ng et al., 2014), it is possible that parents who typically use psychological control in their parenting have few psychological resources to handle daily distress. This then may be evident in daily situations as an intensified use of psychological control when distressed.

The present study includes some limitations. First, the design of the study was correlational; thus, no causal conclusions can be drawn of the findings. For example, although negative emotions on a particular day were found to be related to an atypically high level of psychological control use on that same day, it is not known whether it is negative emotions that foster the use of psychological control or the use of psychological control in daily situations that is reflected in increased negative emotions. The procedure of the present study made it possible to test (as additional analyses) the cross-lagged effects between emotions and psychological control from one day to another. None of these kinds of cross-day effects were found, however, likely due to the time span between measurement points being too long. Consequently, further studies with more intensive measurements are needed to model the daily dynamic between parents' emotions and parenting behaviors. Second, parents' self-ratings were used to measure all the constructs under interest; thus, some of the results may be due to the shared method variance. However, the strength of the study was that the variation in the study variables was divided into within- and between-individual variation, which partly increases the reliability of the findings. It is recommended, however, that future

studies use multiple informants, or observational data to replicate the results reported here. Third, in the present study, other forms of parental control than psychological control were not included; thus, whether parental negative emotions are uniquely associated with their use of psychological control, or whether parental negative emotions are associated with all kinds of parental control attempts, is not clear. In the data used in the present study, parental daily behavioral control was also assessed. However, because of poor validity (being evident as inconsistent factor loadings of the items measuring behavioral control across data sets and as high positive correlations of behavioral control construct with psychological control construct at different levels of the data), it was not included into the present study. To find out whether parental daily emotions have a distinct role in different forms of parental control, future studies with high-quality validated assessment tools measuring different forms of parental control are needed. Fourth, the present study focused on the period when children were in their first grade of primary school. To find out whether the associations of parental emotions and parenting behaviors would be the same across different stages of child development, longitudinal research across school years is needed. Fifth, although the possibility that the pattern of results is different for boys and girls was tested in the present study, due to the small sample size the power to detect statistically significant gender differences was weak. Finally, the present study was carried out in only one cultural setting—that of Finland. Finland is a highly egalitarian, stable welfare society, wherein families are supported in parenthood and childcare arrangements in several ways (Gaias et al., 2012; MSAH, 2006). In order to determine whether the results found in the present study can be generalized to other cultures as well, replications of the results in other cultural settings are needed.

Overall, the results of the present study suggest that parents' daily distress evident as atypically high levels of negative emotions on a certain day may lead a heightened risk of psychological control use in daily interaction with the child on that day. Because parental use

of psychological control in daily interaction has been proven to foster heightened daily distress in children (Aunola et al., 2013), attention should be paid to finding ways to support daily parenting by decreasing parents' daily distress.



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**Footnotes**

<sup>1</sup>We would like to thank the anonymous reviewer for pointing this possibility out.

Table 1

*The Level 1 (Day-Level) and Level 3 (Person-Level) Correlations of Study Variables as well as Means (M), Variances (Var) and Intraclass Correlations (IC)*

	1.	2.	3.	4.	5.	6.	7.	8.	<i>M</i>	<i>Var</i>	<i>IC</i>
Mother-rated											
1. Negative emotion	1.000	-.066	.503***	.290*	.451***	.098	.302*	.337***	1.617	0.111	.388
2. Positive emotion	-.374***	1.000	-.001	.004	-.050	.111	-.187	-.156	3.250	0.279	.418
3. Psychological control	.259***	-.097***	1.000	.691***	.260*	.125	.547***	.492***	1.469	0.121	.329
4. Child misconduct	.147***	-.076**	.554***	1.000	.243*	-.018	.298*	.495***	1.716	0.265	.234
Father-rated											
5. Negative emotion	.139**	-.071	.056	.056	1.000	-.209	.545***	.431***	1.602	0.112	.384
6. Positive emotion	-.075	.106**	-.069	-.036	-.462***	1.000	.098	-.028	2.999	0.338	.457
7. Psychological control	.075	-.022	.178***	.177***	.135**	-.031	1.000	.747***	1.459	0.108	.344
8. Child misconduct	.087	.015	.150***	.218***	.046	.022	.526***	1.000	1.716	0.321	.292
<i>Var</i>	0.149	0.351	0.228	0.797	0.145	0.336	0.173	0.656			



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*Note 1.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . *Note 2.* Level 3 correlations shown above the diagonal; Level 1 correlations shown below the diagonal.

Table 2

*Level 2 (Measurement Point –Level) Correlations of Study Variables as well as Means (M) and Variances (Var) and Intraclass Correlations (IC)*

	1.	2.	3.	4.	5.	6.	7.	8.	Var	IC
Mother-reported										
1. Negative emotion	1.000	-.044	.319*	.302*	-.091	.058	.128	.243	0.026	.092
2. Positive emotion		1.000	.235	-.128	.140	.264	.066	-.344	0.037	.056
3. Psychological control			1.000	.450*	.260	.348	.064	.045	0.018	.050
4. Child misconduct				1.000	.194	.102	.309	.562**	0.068	.060
Father-reported										
5. Negative emotion					1.000	-.088	.403	.686***	0.035	.120
6. Positive emotion						1.000	.153	-.239	0.067	.090
7. Psychological control							1.000	.595***	0.033	.105
8. Child misconduct								1.000	0.121	.110

*Note.* \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

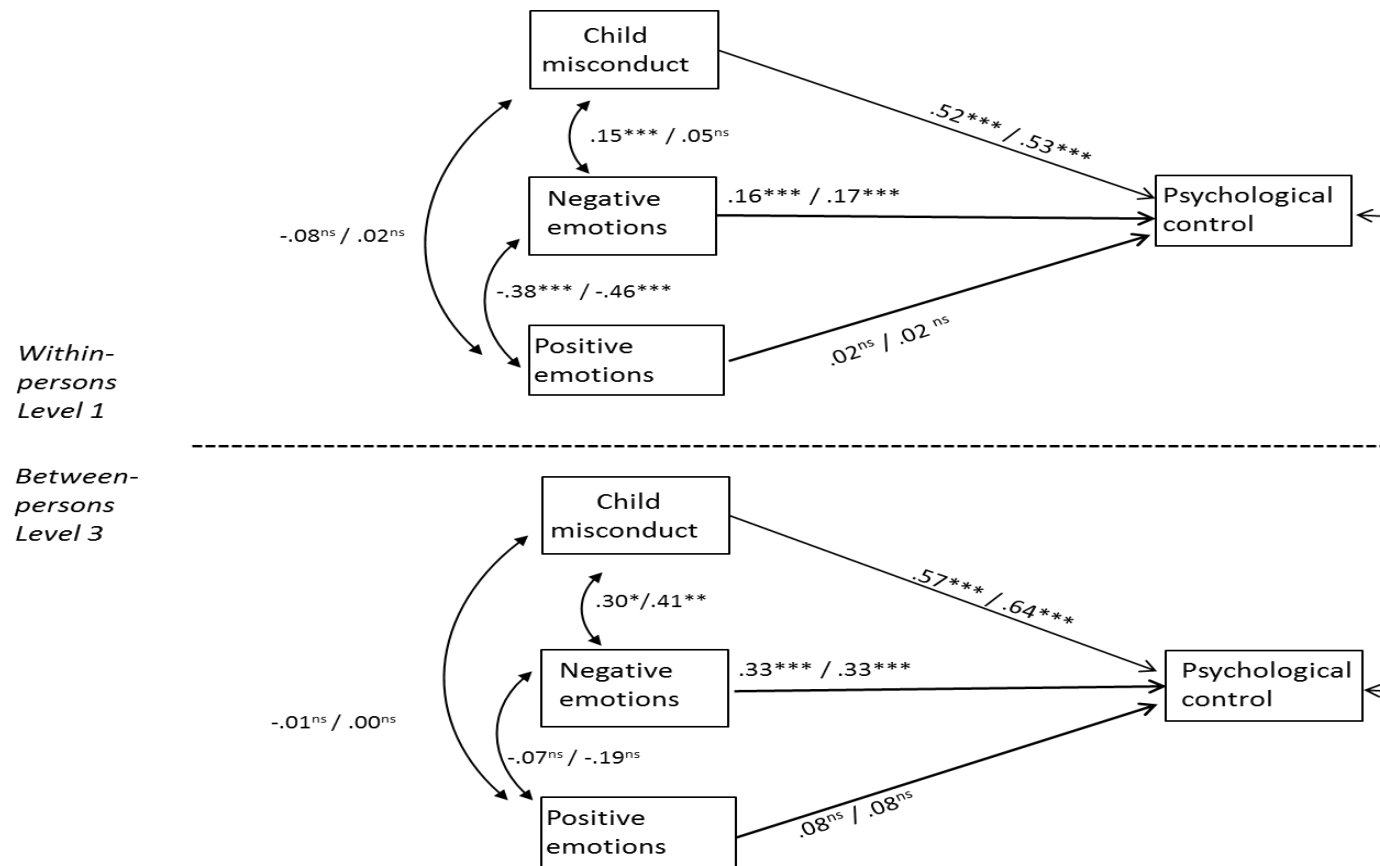


Figure 1. The Level 1 (day-level) and Level 3 (person-level) associations (standardized estimates) between parents' negative and positive emotions and their use of psychological control in parenting. The first value refers to the standardized estimate among the mothers and the second among the fathers after controlling for children's level of misconduct. Note 1. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ . Note 2. The model included separate variables for mothers and fathers. All paths in the model were estimated as equal among mothers and fathers.

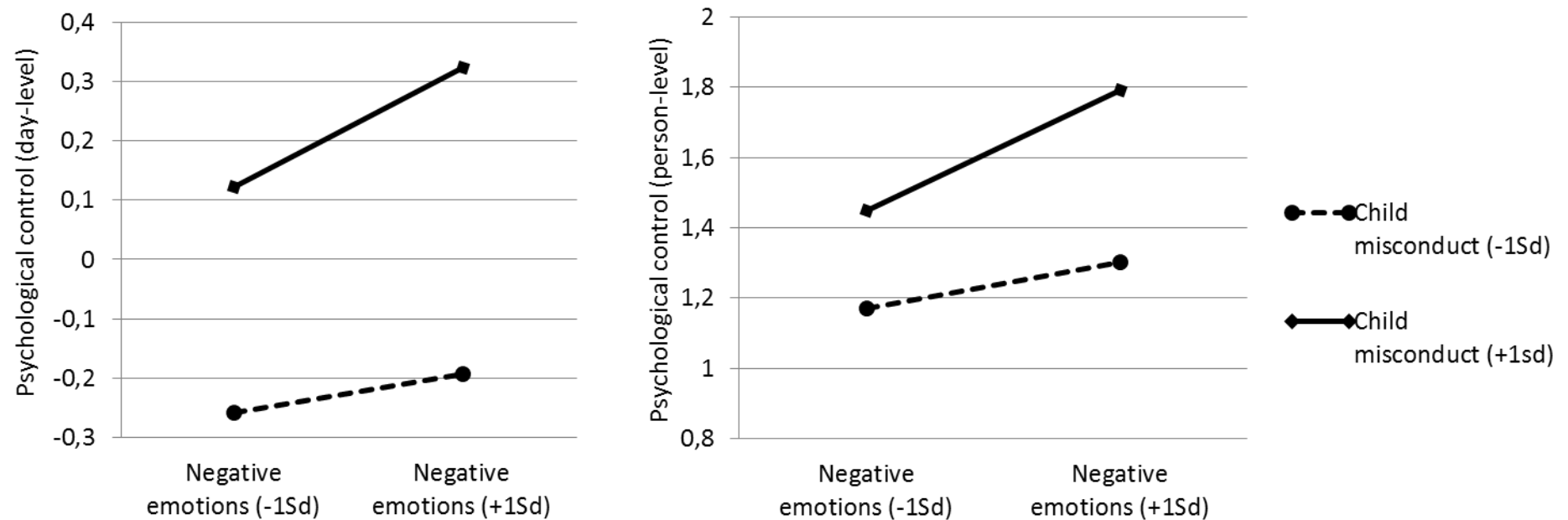


Figure 2. The association of parents' negative emotions with the use of psychological control at Level 1 (day-level) and Level 3 (person-level) of the data among parents reporting high a level of child misconduct (+1SD, high) and parents reporting a low level of child misconduct (-1SD, low). The figure on the left side describes the results at Level 1, and that on the right side describes the results at Level 3.

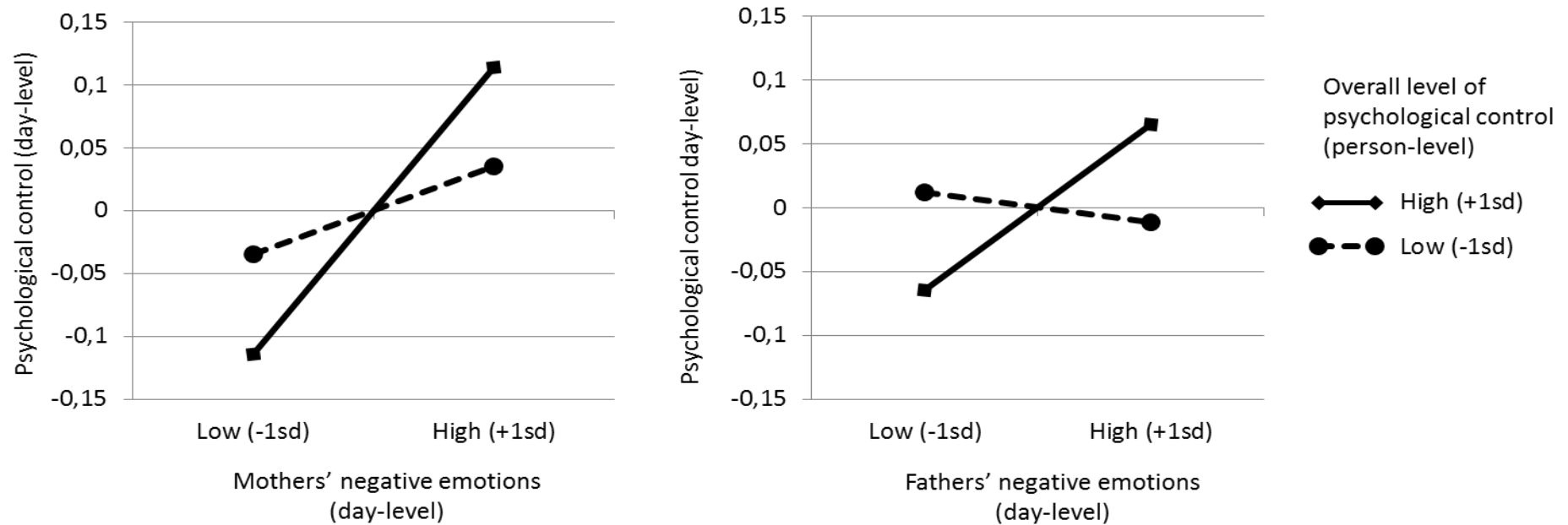


Figure 3. The association of mothers' (left side of the figure) and fathers' (right side of the figure) daily negative emotions with the use of psychological control (Level 1; day-level) among parents reporting high overall level of psychological control (+1SD, high) and parents reporting low overall level of psychological control (-1SD, low).

**Supplemental Appendix.** The Equations of the tested three-level model and visualization of equations.

**Level -1 (day)**

$$Y1_{itd} = \pi_{1it} + \sum_{k=9}^{11} (\pi_k \times Xk_{itd}) + e_{1itd}; \quad e_{1itd} \sim N(0, \sigma_1^2)$$

$$Y2_{itd} = \pi_{2it} + \sum_{k=12}^{14} (\pi_k \times Xk_{itd}) + e_{2itd}; \quad e_{2itd} \sim N(0, \sigma_2^2)$$

$$Xk_{itd} = \pi_{(2+k)it} + e_{(jk)itd}; \quad e_{(2+k)itd} \sim N(0, \sigma_{2+k}^2) \quad k = 1, 2, \dots, 6$$

where

Y1 and Y2 are observed psychological control variables for fathers and mothers, respectively; X1, X2 and X3 are fathers' negative emotions, positive emotions, and perception of child misconduct, respectively; and X4, X5 and X6 are mothers' negative emotions, positive emotions and perception of child misconduct, respectively.

*i* refers to individual, *t* refers to measurement point (Fall and Spring), *d* refers to day (Monday, Tuesday, ..., Sunday). Residuals are allowed to covariate

$$\text{cov}(e_{1itd}, e_{2itd}), \text{ and } \text{cov}(e_{(2+k)itd}, e_{(2+j)itd}) \quad j, k = 1, 2, \dots, 6 \text{ and } k \neq j.$$

In constrained model parameters  $\pi_{8+k} = \pi_{11+k}$   $k = 1, 2, 3$  are set equal.

**Level -2 (measurement point)**

$$\pi_{1it} = \beta_{1i} + \sum_{k=9}^{11} (\beta_k \times \pi_{(k-6)it}) + r_{1it}; \quad r_{1it} \sim N(0, \sigma_{r1}^2)$$

$$\pi_{2it} = \beta_{2i} + \sum_{k=4}^6 (\beta_k \times \pi_{(k-6)it}) + r_{2it}; \quad r_{2it} \sim N(0, \sigma_{r_2}^2)$$

$$\pi_{(2+k)it} = \beta_{(2+k)i} + r_{(2+k)it}; \quad r_{(2+k)it} \sim N(0, \sigma_{r_{(2+k)}}^2) \quad k = 1, 2, \dots, 6$$

where residuals are allowed to covariate

$$\text{cov}(r_{1it}, r_{2it}), \text{ and } \text{cov}(r_{(2+k)it}, r_{(2+j)it}) \quad j, k = 1, 2, \dots, 6 \text{ and } k \neq j.$$

In constrained model parameters  $\beta_{8+k} = \beta_{11+k} \quad k = 1, 2, 3$  are set equal.

### Level-3 (person)

$$\beta_{1i} = \gamma_1 + \sum_{k=9}^{11} (\gamma_k \times \beta_{(k-6)i}) + u_{1i}; \quad u_{1i} \sim N(0, \sigma_{\gamma_1}^2)$$

$$\beta_{2i} = \gamma_2 + \sum_{k=12}^{14} (\gamma_k \times \beta_{(k-6)i}) + u_{2i}; \quad u_{2i} \sim N(0, \sigma_{\gamma_2}^2)$$

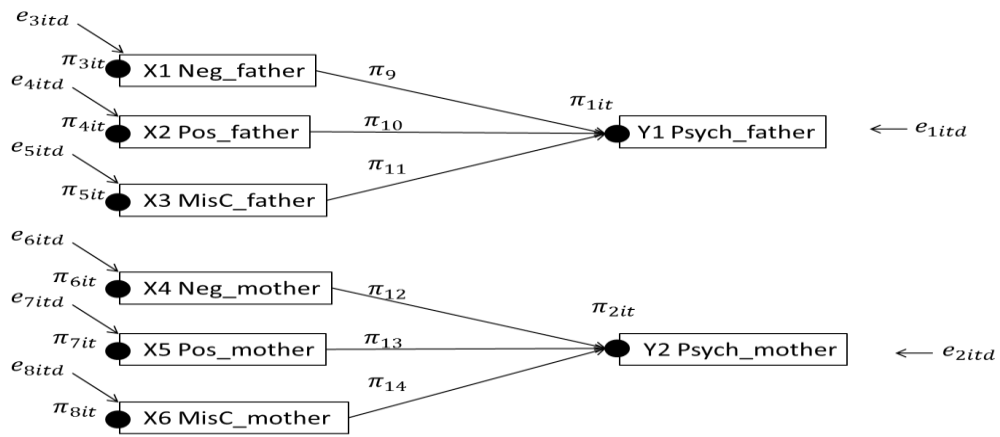
$$\beta_{(2+k)i} = \gamma_{(2+k)} + u_{(2+k)i}; \quad u_{(2+k)i} \sim N(0, \sigma_{\gamma_{(2+k)}}^2)$$

where residuals are allowed to covariate

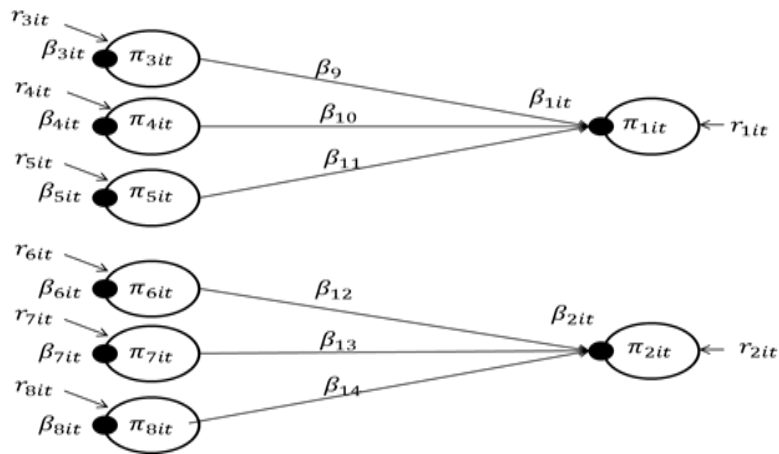
$$\text{cov}(u_{1i}, u_{2i}), \text{ and } \text{cov}(u_{(2+k)i}, u_{(2+j)i}) \quad j, k = 1, 2, \dots, 6 \text{ and } k \neq j.$$

In constrained model parameters  $\gamma_{8+k} = \gamma_{11+k} \quad k = 1, 2, 3$  are set equal.

Level1



Level2



Level3

