
This is an author generated postprint version of the article:

Helland, M. S., Kjeldsen, A., Soest, T., Røysamb, E., Gustavson, K., & Nilsen, W. (2017). Parental Child-Rearing Conflicts Through Adolescence: Trajectories and Associations With Child Characteristics and Externalizing Patterns. *Journal of Research on Adolescence*, 27(2), 379-391.

Copyright 2017 JRA. This article may not exactly replicate the final version published in the APA journal. It is not the copy of record.

The final publication is available on <http://dx.doi.org/10.1111/jora.12302>

**Parental Child-Rearing Conflicts Through Adolescence: Trajectories and Associations
With Child Characteristics and Externalizing Patterns**

Maren S. Helland

Department of Child Development, Mental and Physical Health, Norwegian Institute of Public Health, Norway

Anne Kjeldsen

Department of Child Development, Mental and Physical Health, Norwegian Institute of Public Health, Norway

Tilmann von Soest

Department of Child Development, Mental and Physical Health, Norwegian Institute of Public Health, Norway and Department of Psychology, University of Oslo, Norway

Espen Røysamb

Department of Child Development, Mental and Physical Health, Norwegian Institute of Public Health, Norway and Department of Psychology, University of Oslo, Norway

Kristin Gustavson

Department of Mental Disorders, Environment and Mental Health, Norwegian Institute of Public Health, Norway

Wendy Nilsen

Department of Mental Disorders, Environment and Mental Health, Norwegian Institute of Public Health, Norway and Work Research Institute, Oslo and Akershus University College of Applied Science, Norway

Note: Correspondence concerning this article should be addressed to Maren S. Helland, Department of Child Development and Mental Health, Norwegian Institute of Public Health, Oslo, Postboks 4404 Nydalen, 0403 OSLO, Norway. E-mail: maren.helland@fhi.no

Abstract

Research on longitudinal interparental conflict patterns and offspring development is scarce. The population-based TOPP study ($N = 459$) was used to investigate 1) child-rearing conflict trajectories through four time points during childhood and adolescence (ages 8 to 16), and 2) associations between conflict trajectories and child characteristics (i.e., birth order, gender, externalizing patterns from early childhood).

Latent profile analysis identified six distinct trajectories. Conflict levels decreased for most respondents over the adolescent offspring period, but offspring's birth order and externalizing problems were related to less typical trajectories and higher levels of conflict. Onset of externalizing problems was of additional importance for the course of parental child-rearing conflicts. The results highlight the perception of the whole family as an interwoven system.

Parental Child-Rearing Conflicts through Adolescence:

Trajectories and Associations with Child Characteristics and Externalizing Patterns

Research has consistently shown that conflicts between parents in intact families are associated with psychosocial difficulties among offspring, such as internalizing and externalizing problems, difficulties with peers, and academic problems (Buehler et al., 1997; Heinrichs, Cronrath, Degen, & Snyder, 2010; Kelly, 2000). Moreover, recent reviews indicate that such associations are stronger during adolescence compared to early childhood (Lucas-Thompson & Goldberg, 2010; Rhoades, 2008) and it has been suggested that parental conflicts are particularly detrimental to child adjustment when they are child-related (Dadds & Powell, 1991; Grych & Fincham, 1990; Jouriles et al., 1991). However, knowledge about how parental conflicts develop over the child-rearing period is sparse. Increased knowledge about how parental couple relationships change over the child-rearing years and associated risk factors is desirable for prevention and intervention efforts. The present study therefore investigates whether distinct trajectories of child-rearing conflicts can be identified over an eight-year period spanning from middle childhood to late adolescence (ages 8 to 16), and whether birth order, gender, and externalizing patterns are associated with such trajectories.

Theoretical Foundations

According to the Family Systems Theory (Ackerman, 1958; Cox & Paley, 1997), individuals and dyads within families operate as sub-systems that influence and are influenced by other family sub-systems (Cox & Paley, 1997; Emery, 2014). Parental and child behavioral patterns are thus considered interdependent and reciprocal (Crouter & Booth, 2003; Emery, 2014). According to the family systems perspective, interparental conflict levels are thus likely to be influenced by challenges related to children's developmental stages, such as the adolescent transition, because changes in one family member are likely to spill over to other family sub-

systems (Whiteman, McHale, & Crouter, 2007). Likewise, children's individual characteristics and demanding child behaviors such as externalizing problems may also represent a further challenge to the parental couple relationship (Heinrichs et al., 2010).

Parental Child-Rearing Conflicts during Adolescence

The transition from childhood to adolescence represents a central change in the family system that may place new demands on parents. This period is characterized by increased stress and challenges as children undergo major changes both biologically (e.g., the onset of puberty), cognitively (e.g., more abstract thinking), psychologically (e.g., increased focus on identity), and socially (e.g., onset of romantic and sexual relations) (Arnett, 1999; Compas, Hinden, & Gerhardt, 1995; Steinberg & Morris, 2001). Children thus become more psychologically independent from their parents and more skilled at argumentation (Steinberg & Morris, 2001), and empirical findings have linked the adolescent transition to increased parent-child conflicts (Laursen, Coy, & Collins, 1998; Shanahan, McHale, Osgood, & Crouter, 2007). However, few studies have addressed in detail how parental conflict levels change during different parenthood stages, as most empirical studies focus on the association between interparental conflicts and maladjustment in pre-adolescent childhood (Emery, 1982; Heinrichs et al., 2010). One exception is Cui and Donnellan (2009), who found that overall mean levels of child-rearing conflict were stable among parents from early adolescence (i.e., age 12.6) and four years onward. Whiteman et al. (2007) also found stable levels of interparental conflicts in pre-adolescence (i.e., mean age 10.9) and the following seven years. Whether conflict trajectories vary between different subgroups was not investigated in these studies. Challenges associated with adolescence may however vary significantly in degree and time across families. For instance, while increased boundary testing or other challenges associated with offspring adolescence may cause increasing uncertainty and conflicts for some, other parents may see increased autonomy of their child as a

relief, decreasing the intensity of interparental discord over how to raise their child. As challenges associated with raising adolescents may vary significantly in degree and time across families, knowledge of subgroup variations in parental conflict levels across time is desirable.

In recent years, statistical advances in latent class modeling have provided new possibilities for identifying subgroups of individuals with similar development across time. However, few empirical studies using contemporary statistical techniques have examined how conflict patterns among couples vary between subgroups. An exception is a study by Dush and Taylor (2012), identifying three stable trajectories of marital conflicts (i.e., frequency of spousal discord) over 20 years among married couples in general. Presence of children and their developmental stages were, however, not accounted for in this study. The present study expands upon these previous findings by investigating whether child-rearing conflict levels exhibit the same stable patterns from middle childhood until late adolescence by using latent profile analysis. Due to the changing demands of parenthood across this period, we expect to find more fluctuating trajectories than those identified by Dush and Taylor (2012).

Relations between Child Characteristics and Child-Rearing Conflict Trajectories

Findings are mixed on whether any particular child characteristics can predict interparental conflict patterns through adolescence. Cui and Donnellan (2009) found no significant differences in how adolescent children's birth order or gender related to child-rearing conflicts. Whiteman et al. (2007), however, found a gender effect, as increased conflicts during early adolescence were more typical among parents of boys. Findings also suggest that parent-child conflicts are generally larger during the adolescent transition of the firstborn child, compared with that of younger siblings (Shanahan et al., 2007; Whiteman, McHale, & Crouter, 2003), which supports Family Systems Theory's notion that changes are mirrored across family sub-systems. The present study supplements previous research by investigating how levels

conflict develop among different subgroups and whether child characteristics, such as birth order and gender, are associated with different conflict trajectories.

Offspring's externalizing or antisocial behavior is also thought to influence parental conflicts. According to Family Systems Theory, emphasizing reciprocity, patterns of child externalizing problems are likely to be related to similar changes in parental conflict levels. It is expected that parental conflicts would increase from childhood to adolescence, as the frequency of externalizing problems increases in this period (Moffitt, 1993). A handful of longitudinal studies have, in fact, shown mutual associations between changes in parental conflict levels and changes in adolescent children's externalizing problems (Jenkins, Simpson, Dunn, Rasbash, & O'Connor, 2005; Schermerhorn, Cummings, DeCarlo & Davies, 2007; Cui, Donnellan, & Conger, 2007). However, previous studies have not differentiated between different types of externalizing problems. More specifically, two different groups of individuals with high levels of externalizing behavior during adolescence have been identified in previous research; one group showing high levels of externalizing problems already in early childhood with continuing high levels into and throughout adolescence (i.e., a High Stable group), and one group with low levels of externalizing problems in childhood and increasing levels of such problems in adolescence (i.e., an Adolescent Onset group) (Kjeldsen, Janson, Stoolmiller, Torgersen, & Mathiesen, 2014; Moffitt & Caspi, 2001). Notably, Odgers et al. (2008) reported that increased levels of family conflict measured in middle childhood were found in families of children with a High Stable pattern, but not among those with an Adolescent Onset pattern. Whether the two patterns are associated with different interparental conflict trajectories during adolescence is yet to be investigated.

The present study expands on previous findings by investigating whether distinct externalizing patterns (i.e., High Stable versus Adolescent Onset) co-vary with different child-rearing conflict trajectories before and during adolescence.

The Present Study

The present study investigates patterns of change in child-rearing conflicts in families from middle childhood to the late adolescent offspring years. Due to a lack of previous studies examining interparental conflict trajectories over the adolescent years, the trajectory analyses are explorative in nature. However, some related findings and notions from Family Systems Theory guide initial expectations on possible findings.

First, according to Family Systems Theory, new demands related to the adolescent transition should be mirrored by co-occurring changes in the interparental relationship, but previous findings have indicated that mean interparental conflict levels are stable over the period. We do however expect that this stable mean level may mask fluctuations in conflict levels over the period for subgroups. Given that the sample under study consists of intact couples who have been together for a long period of time, we anticipate that most respondents will follow a pattern with stable low conflict levels, but subgroups may experience higher initial levels or larger fluctuations over the period.

Second, in line with Family Systems Theory, we anticipate that some child characteristics may be associated with larger changes or higher conflict levels over the period. We anticipate that increasing conflicts over the period will be more typical for parents going through offspring adolescence for the first time (i.e., if the index child is their firstborn). We further expect that trajectories of child-rearing conflict will be mirrored by similar changes in child externalizing behavior over the period where patterns of both are investigated (i.e., from middle childhood and

onwards). Of particular interest is how the two patterns of relatively high levels of externalizing behavior during adolescence are mirrored by similar high or increasing levels of child-rearing conflicts in parents. The High Stable externalizing pattern is anticipated to be associated with a trajectory with high conflict levels prior to and throughout adolescence. On the other hand, the Adolescent Onset externalizing pattern is not likely to be preceded by more conflicts before adolescence, but may be accompanied by increasing conflicts over the period. Because previous findings are mixed in respect of gender effects, we also explored whether child gender is associated with specific child-rearing conflict trajectories.

Methods

Procedure and Participants

The present study used data from the Norwegian Tracking Opportunities and Problems (TOPP) study, a population-based, longitudinal study of families. All families from 19 geographical health care areas in Eastern Norway who visited a child health clinic for a scheduled 18-month check-up were invited to complete a questionnaire in 1993 (T1). More than 95% of all families in Norway with children attend the public health program provided by the child health clinics during the first four years of the child's life. Of the invited mothers, 87% ($N = 913$) completed the questionnaires at the first data collection. Non-respondents did not differ significantly from respondents with respect to maternal age, education, employment status, number of children, and marital status (Mathiesen, Tambs, & Dalgard, 1999). Data were collected by the staff at the health care centers again when the children were 2.5 (T2) and 4 years old (T3). Questionnaires were later sent by mail to mothers when the children were aged on average 8.7 (T4), 12.6 (T5), 14.6 (T6), 16.6 (T7), and 19 years (T8). The present study uses externalizing behavior data from T1 to T5 and conflict data from T4 to T7, when child-rearing conflicts were assessed.

Altogether 459 respondents were included in the analyses. The majority of parents (81%) were married at T4, whereas the remaining 19% were cohabiting. The mean age of the respondents was 37.7 years ($SD = 4.4$) at T4. The average number of children in the families at T4 was 2.4 ($SD = 0.81$). The index child was the firstborn child in 46.5% of the families and 50.3% were girls. Only participants who were living with the father of the index child throughout the study period and who participated on at least one wave between T4 and T7 (i.e., when child-rearing conflict data were collected) were included in the study. The sample was thus subject to both selection and attrition processes, as respondents who dropped out before T4 and those who did not continue to live with the father of the child throughout the period were excluded from the analyses. Out of the remaining sample, 59% had complete data or had participated on all but one data collection, whereas 22% only participated at one time point. Between 46% and 64% of the entire T1 sample participated at each wave between T4 and T7. Attrition analyses revealed that, of 16 examined variables (e.g., maternal temperament and psychological distress, child's temperament, and mothers' support from partner and from friends and family), only maternal education at T1 predicted drop-out at T7 ($OR = 0.62, p < .05$) (Gustavson, von Soest, Karevold, & Røysamb, 2012). Drop-out from the present sample between T4 and T7 was not related to T4 child-rearing conflict scores ($OR = 0.94, p = .78$) or to any of the included child characteristics (i.e., gender, birth order, or any of the externalizing patterns).

Measures

Child-rearing conflicts were measured at T4 to T7 with a six-item version of the Parental Problem Checklist (PPC) (Dadds & Powell, 1991). Response options on each item ranged from 0 = *almost never* to 4 = *almost always*, and mothers were asked to indicate how often each of the following issues had been a problem for them and their partners over the last month: Disagreement over household rules; Disagreement over type of discipline; Inconsistency between

parents; Parents undermining each other; Lack of discussion about anything; and Disagreement about offspring naughty behavior. Mean scores of these six items were calculated, ranging from 0 to 4. No further transformation of the mean scores was performed. Reliability was satisfactory with Cronbach's alphas ranging from .73 to .86 across time points. Two outliers were detected by visual inspections of the box plots at T4 and T7, respectively. These were moved to the fence (i.e., the closest reported value) in line with recommendations (Tabachnick & Fidell, 2007) and previous work on the TOPP sample (Moylan et al., 2013). Exploratory factor analyses showed that the six-item scale was captured by only one factor at each wave (i.e., eigenvalue > 1). The factor model was further investigated by applying confirmatory factor analysis. One latent child-rearing conflicts factor was constructed for each wave, and factors at each wave were modeled to correlate across time points. Error variances from identical items measured at different time points were allowed to correlate. The model showed satisfactory fit; root mean square error of approximation (RMSEA) = 0.044, Comparative Fit Index (CFI) = 0.93; Tucker-Lewis Index (TLI) = 0.92; standardized root mean square residual (SRMR) = 0.059. Additional confirmatory factor analyses, where factor loadings were constrained to be equal across time points, also provided evidence of considerable time invariance. The Bayesian information criterion (BIC) showed better model fit for the constrained, time invariant model (18578.06) than for the unconstrained model (18641.60). Moreover, almost identical model fits for constrained and unconstrained models were obtained when inspecting other fit indices; constrained model: RMSEA = .044; CFI = .93, TLI = .91, SRMR=0.054.

Child gender and birth order were assessed by asking the mother about the gender of the index child, whether he/she had siblings and when these were born. Two dummy variables were computed for child gender (0 = boy; 1 = girl) and birth order (0 = not firstborn, 1 = firstborn), respectively.

Trajectories of *Child externalizing problems* were identified in a previous study based on the TOPP sample (Kjeldsen et al., 2014). These were based on mother reports about the index child from T1 to T6 (ages 1.5 to 14 years) with three different instruments in order to tap age appropriate behavior: the Behaviour Checklist (Richman & Graham, 1971) (T1-T3), the Conduct Problem subscale from the Strengths and Difficulties Questionnaire (Goodman, 1994) (T4) and the TOPP Scale on Antisocial Behavior (TSAB) (Kjeldsen et al., 2014) (T5-T6) were used. Based on these measures, Kjeldsen et al. (2014) identified five trajectories of child externalizing problems: 1) High Stable, with high levels of externalizing behavior from T1 through T6; 2) Adolescent Onset, with low levels of externalizing problems at the first four time points increasing to the second highest levels at T5 and T6; 3) Low Stable, with low levels of externalizing throughout the period; and 4+5) two childhood limited patterns, which both had elevated levels of externalizing behavior during early childhood but lower levels during adolescence. Due to age-appropriate alterations in the questionnaires, only relative change across groups can be interpreted, not absolute change. Instruments, analytic procedure, and trajectory solution are described thoroughly by Kjeldsen et al. (2014). We focus on the first two patterns (High Stable and Adolescent Onset) in the present study, and the latter three groups were therefore collapsed when used for comparisons. In the sample under study, 17% of the index children were classified as High Stable and 19% were classified as Adolescent Onset. The levels of externalizing problems for the children in the High Stable class are substantially elevated compared to those of average children in comparable studies, albeit the majority in this class is probably not clinically (deviant) high. We used individuals' probability for belonging to each externalising pattern according to the latent model (i.e., posterior probabilities), and the externalising pattern that each individual had the highest probability of belonging to (i.e., pseudo-classes) as covariates in the different analyses.

Statistical Procedures

Latent Profile Analysis. Distinct trajectories of child-rearing conflicts were identified using Latent Profile Analysis (LPA), a person-oriented approach designed to divide the population under study into a set of subpopulations with similar individual profiles. Such an approach enables empirical tests based on the assumption that the same developmental models do not necessarily apply to all individuals, by describing different longitudinal profiles or trajectories (Anderson, Van Ryzin, & Doherty, 2010; Bergman & Andersson, 2010). This approach may therefore contribute to an increased understanding of how changes in the parental couple relationship may be related to dynamic child characteristics, such as the transition to adolescence and associated externalizing problems.

Initially, the LPA model was tested with one class, in order to investigate the common trajectory for all respondents (Lavner & Bradbury, 2010). A series of LPAs were run to identify distinct trajectories and to clarify the number of latent classes fitting the data best. In this procedure, the complete model is run repeatedly, increasing the number of latent classes by one in each run. An optimal LPA solution was identified by finding the solution with the lowest BIC, with the bootstrapped likelihood ratio test (BLRT) indicating a significantly better fit to the data compared with a solution with fewer classes. The BLRT has performed best on simulated data, followed by the BIC (Nylund, Asparouhov, & Muthén, 2007).

Following Lavner and Bradbury (2010), we decided a priori to choose the solution with the best fit, provided that the smallest latent class consisted of at least 3% of the sample, to avoid overfitting the data while still capturing small but meaningful groups. Full information maximum likelihood estimators were used to allow for inclusions of participants with partial missing data, assuming that data were missing at random. LPA was conducted using Mplus version 7.

Investigations of Conflict Trajectories and Covariates. After identifying the number of latent classes fitting the data best, paired samples t-tests were used to investigate whether mean conflict levels changed significantly across time within each trajectory. In these analyses, we utilized maximum posterior probabilities and allocated each individual to the class in which they had the highest probability of membership (i.e., pseudo-classes).

Then we investigated the associations between each child-rearing conflict trajectory and index child characteristics in two steps. First, we examined bivariate associations between the pseudo-classes and the index child's gender, firstborn status, and externalizing pattern. For this purpose, we conducted analyses of single cells in the cross-tabulations based on the Fisher four-field hyper-geometric distribution test with the Exacon module in Sleipner version 2.1 (Bergman, Magnusson, & El Khouri, 2003). This analysis produces an exact test of single cells in a contingency table. Scores observed significantly more often than statistically expected are referred to as 'types' (observed > expected) whereas those observed less frequently than expected are referred to as 'antitypes' (observed < expected), thus allowing for a broader (person-oriented) description of the relationships between the child characteristics and trajectory memberships. Second, simultaneously estimated multinomial regression analyses and latent class analyses models were also conducted (Clark & Muthen, 2009), exploring the effects of child gender, firstborn status, and child externalizing on conflict trajectories separately, and then controlling for potential effects of child gender and firstborn status in the relationship between child externalizing and parental conflict trajectories while keeping the models latent.

Results

Descriptive statistics for child-rearing conflicts at T4 to T7 are shown in Table 1. Conflict scores were on average lower than 1 at every time point, indicating that most parents rarely had child-rearing conflicts and very few participants (between 1.2% and 6.2% at each wave) reported mean

conflict levels of 2 or higher. Average conflict levels for the sample did not change significantly at any time according to paired sample t-tests ($p > .05$).

Trajectories of Child-Rearing Conflicts

Overall, results from LPA were supportive of a six-class solution. BIC from two to seven classes were: 1970.1; 1924.6; 1918.1; 1910.1; 1904.6; and 1912.0 respectively. BLRT indicated a better fit for a six-class model ($p < .001$), compared with a five-class model, but also a significantly better fit for a seven-class model compared with a six-class model ($p < .001$). We still decided to follow the BIC, due to the conceptual meaning of the model and because a seven-class model would include a class with less than 3% of respondents. A seven-class model did not provide additional conceptual value, as no substantially different patterns were provided by a seven-class model. A six-class model provided a sound distribution of participants between the latent classes, as 5% of respondents were assigned to the smallest trajectory. The Entropy for the six-class model was 0.70.

Because 27% of respondents dropped out between T4 and T7, we tested whether the trajectories were influenced by attrition. We obtained closely identical results when replicating the LPAs for the sub-set of respondents that participated at the last time point. The BIC still indicated a six-class solution, and trajectory distributions and shapes were closely identical. Missing data patterns showed that, in all trajectory classes but one (i.e. the largest class), more than 60% of respondents had participated in all or all but one time points and, in the three smallest classes, between 71% and 93% had responded at three time points or more. All further investigations were performed on the complete sample.

The average trajectory of child-rearing conflicts (i.e., from the LPA solution with one class), the six estimated trajectories, and the corresponding pseudo-classes are presented in

Figure 1. The average trajectory (shown by a bold, black line) was generally stable with no significant changes over the period ($p > .05$). Starting from top left side of the figure, the first trajectory was labeled High-Adolescent-Peak (HAP, pseudo class $n = 21$). This trajectory started 1.7 SD above the average level and increased significantly ($p < .05$) to levels approximately two SD above average at T5 and T6, thereafter declining significantly ($p < .01$), to a level slightly above the initial level by T7. The second trajectory was labeled Moderate-Stable (MS, $n = 71$), with child-rearing conflict levels being stable ($p > .05$) at approximately one SD above the average throughout the period. The third trajectory was labeled Moderate-Steep-Increasing (MSI, $n = 17$), starting at a level approximately 0.5 SD above the average and increasing throughout the period, with statistical significant increases from T5 to T6 and T6 to T7 ($p < .01$) to a level more than two SD above the average at T7. The fourth trajectory was labeled Moderate-Early-Adolescence-Peak (MEAP, $n = 67$), starting at a moderate level, slightly above the average, at T4 with a significant increase to T5 ($p < .01$), and a gradual decrease thereafter ($p < .01$) to a conflict level 0.5 SD below the average at T7. The fifth trajectory was labeled Low-Increasing (LI, $n = 43$), exhibiting low levels of conflicts through the first three waves, thereafter increasing significantly ($p < .01$) to a moderate level at T7. Finally, the sixth trajectory was labeled Low-decreasing (LD, $n = 240$), with low levels of child-rearing conflicts and small, but significant ($p < .01$), declines from T4 to T5 and from T6 to T7.

Four of the six trajectories had initial conflict levels that were significantly different from the level at the endpoint ($p < .01$): the Low-Increasing and Moderate-Steep-Increasing trajectories ended up with a significantly higher conflict level, whereas the Low-Decreasing and Moderate-Early-Adolescence-Peak trajectories ended up significantly lower at T7, compared with baseline.

Associations with Child Characteristics

Single-cell Exacon tests were run to investigate the distributions of girls, firstborn children and proportions of children with each externalizing pattern within each child-rearing conflict pseudo-class. The analyses showed that higher than expected (i.e., types) as well as lower than expected (i.e., antitypes) proportions of children were identified for some combinations between the conflict trajectories and firstborn status and externalizing patterns; see Figure 2. More specifically, parents of firstborn children were more likely to follow the MEAP ($p < .05$) and less likely to follow the LD ($p < .05$) conflict trajectory. Moreover, parents of adolescents with a High Stable pattern of externalizing problems were more likely to follow the HAP ($p < .01$) trajectory and less likely to follow the LD ($p < .01$) conflict trajectory. Parents of children with an Adolescent Onset externalizing pattern were more likely to follow a MEAP ($p < .05$) trajectory and less likely to follow a HAP ($p < .05$) conflict trajectory. Actually, no families in the current sample had the combination of a child classified with an Adolescent Onset externalizing pattern and parents with a HAP conflict trajectory. No gender differences were identified through the single-cell analyses.

Finally, to validate our findings, we also repeated the LPA analyses (utilizing the latent model) and included the child characteristics as predictors in multinomial logistic regression analyses. Separate regression analyses were conducted with child birth order and gender, respectively, as predictors. The results from these two logistic regression analyses generally confirmed the single-cell results indicating that parents of firstborn children were more likely to follow the MEAP conflict trajectory, compared with the LD trajectory. However, in contrast to the results from single-cell Exacon tests, a significant gender effect was identified through these analyses, as parents of daughters were more likely to follow the Moderate-Stable trajectory, compared with the Moderate-Early-Adolescence-Peak and the Moderate-Steep-Increasing conflict trajectories (OR = 3.83 and 5.29, respectively, $p < .05$). Second, the analyses were run

including the externalizing patterns along with child gender and birth order in the multinomial logistic regression analyses. This enabled investigations of the associations between child-rearing conflict trajectories and externalizing patterns respectively, while adjusting for the effect of child birth order and gender. These analyses also confirmed the associations between the High Stable externalizing pattern and the HAP conflict trajectory, and between the Adolescent Onset externalizing pattern and the MEAP conflict trajectory.

Discussion

This study expanded on previous findings by indicating that substantial fluctuations in parental conflict levels are common over the adolescent offspring years. The overall mean level of child-rearing conflicts was stable, but subgroups differed substantially and most respondents experienced significant changes over the period. These fluctuations were in line with the Family Systems Theory, which posits that different family sub-systems are interwoven, with changes in one sub-system (i.e., child adolescent transition) mirroring changes in other sub-systems (i.e., the parental couple relationship). Specific child characteristics were associated with less typical and more fluctuating trajectories, indicating that offspring adolescence may be more challenging for particular groups of parents. Increased child-rearing conflicts over the early adolescent period were more likely when the index child was the firstborn child in the family. Trajectories of parental conflict levels over the period were also mirrored by adolescent offspring's externalizing patterns, and high levels of externalizing problems during adolescence were associated with different trajectories of child-rearing conflicts, depending on whether such problems were persistent or had their onset in adolescence.

Child-Rearing Conflict Trajectories

In line with Family Systems Theory, adolescence was associated with changes in the interparental relationship which may mirror changes related to the adolescent transition. The

stability of the average levels of child-rearing conflicts over the period was in line with previous findings (Cui & Donnellan, 2009), but our results indicated that this may have masked more typical patterns of significant fluctuations in conflict levels over the period. For instance, about 40% of the parental couples experienced significant increases in conflict levels at one time or another, and significant changes in child-rearing conflict levels were more typical than a stable level across the adolescent offspring years. Moreover, parents with low conflict levels in middle childhood were more likely to follow a decreasing trajectory over the period, whereas stable or increasing conflict levels were more common among those with higher initial levels. This highlights that parents with higher than average conflict levels during their offspring's pre-adolescent childhood may need particular support to handle their offspring's adolescent transition.

Although the trajectory analyses were explorative in nature, the identified six-class model was conceptually meaningful as it seemed to capture the heterogeneity of parental child-rearing experiences across adolescence. The current findings contrasted with previous findings by Dush and Taylor (2012) of conflict trajectories among married people in general, by showing a larger variability in conflict patterns and larger fluctuations over the period. However, Dush and Taylor (2012) investigated spousal conflicts in general among both parents and childless married couples. The different findings may thus indicate that fluctuations are more typical in levels of child-rearing conflicts compared to general spousal conflicts, that parental conflict levels fluctuate more over the adolescent offspring years, or both. Moreover, the peaks of the different conflict trajectories were distributed throughout all four time points, indicating that challenges may occur at different phases of the adolescent child-rearing years for different families.

Three trajectories (i.e. MEAP, MSI and HAP) had significant increases in conflict levels from middle childhood (i.e., age 8.7) to early adolescence (i.e., age 12.6), indicating that a

substantial group of parents experience increased conflict levels when their offspring enter early adolescence. This finding is in line with previous findings of increased interparental conflict levels related to offspring pubertal transition (Whiteman et al., 2007). Our study expands on these findings by showing that increased conflict levels were part of three substantially different patterns. For most respondents, increased levels were transient (i.e., MEAP), but for two important subgroups (i.e., MSI and HAP) conflict levels continued to be high or even increased until late adolescence. Targeting parents following these patterns is important, and finding risk factors associated with these patterns may therefore be an important next step. Notably, few preventive programs focus on parental couple relationships over the late child-rearing years. The current findings, however, indicate that even among parents who have been living together for a substantial period of time, offspring's adolescence may pose challenges to their couple relationship.

A substantial group of mothers (i.e., those following the LI trajectory) also experienced increasing conflict levels between middle adolescence and late adolescence. Even though such increases in later adolescence were not anticipated, it still seems meaningful, given that several developmental challenges occur later in adolescence. For instance, an increasing number of adolescents start experimenting with alcohol in later adolescence. Only a very small proportion of Norwegian adolescents drink to intoxication prior to age 14, but after this age drinking is to a larger degree seen as normative behavior (Bu, Watten, Foxcroft, Ingebrigtsen, & Relling, 2002). These and similar risk behaviors may represent a new source of conflicts between parents, in spite of prior low conflict levels.

Notably, the largest sub-group of respondents (i.e., LD trajectory) had decreasing conflict levels over the period and nearly 60% of the respondents were classified in trajectories with decreasing levels over the entire period. Although significant fluctuations were typical, increases

in conflict levels were temporary for most respondents. These findings may be characteristic for the present sample, consisting of parents who had lived together for a long period of time and continued to live together throughout the investigated period. While some parents followed comparatively higher conflict trajectories, conflict levels were relatively low throughout.

Inclusion of dissolving couples would likely lead to detections of additional trajectories with higher conflict levels. Nevertheless, our findings indicated that, at least for parents who continue to live together over the period, challenges related to offspring's adolescence are most often temporary and not necessary detrimental. The large proportion of parents following decreasing conflict trajectories over the period may in fact mainly see increased autonomy of their child as a relief, decreasing the intensity of interparental discord over how to raise their child. Such a notion is in accordance with Arnett's (1999) reminder of adolescent development as less dramatic than what may have been supposed.

Associations with Birth Order and Child Gender

Although most parents followed low and decreasing conflict trajectories, some child characteristics were associated with parents following less typical adverse conflict patterns. The relevance of the birth order of the child going through adolescence gained some support in the study findings, both when using single-cell Exacon tests and logistic regression analyses.

According to Family Systems Theory, the novelty of going through offspring adolescence for the first time should be more challenging compared to adolescence of younger siblings, and some previous findings have accordingly found indications of such firstborn effects (Shanahan et al., 2007; Whiteman et al., 2003). We found that parents with firstborn children going through adolescence over the period were more likely to follow the MEAP trajectory compared with parents who had older children. Importantly, the increased conflicts were only temporary, indicating that the adolescent transition of a firstborn child is not likely to be associated with

long-term changes in the parental couple relationship. Moreover, parents who had an older child were most likely to follow a trajectory with low and decreasing conflicts over the period (i.e., LD), indicating that there may be a learning effect buffering against challenges with younger siblings, in accordance with previous findings (Shanahan et al., 2007; Whiteman et al., 2003). Note that the design of the present study did not enable investigations of other children in the family. More studies of parental experiences of going through the adolescent transitions of firstborn versus younger siblings are therefore warranted to further clarify these associations.

Some support was also provided for child gender effects on interparental conflict trajectories. Logistic regression analyses indicated that parents of boys were more likely to experience increased conflict levels when the child reached adolescence (i.e., following the MSI and the MEAP conflict trajectory), supporting Whiteman et al. (2007). Parents of girls were however more likely to experience higher conflict levels also prior to adolescence that continued to be relatively high over the period (i.e., following the MS conflict trajectory). This might be due to gender differences in pubertal changes, as girls have an earlier pubertal onset. Previous findings have also indicated that middle childhood can be a more vulnerable time period for girls than boys and that psychosocial adjustment problems in middle childhood can predict subsequent problems and self-reported depressive symptoms during adolescence for girls in particular (Nilsen, Gustavson, Røysamb, Kjeldsen, & Karevold, 2013). Accordingly, it has been suggested that the middle childhood years may be a demanding period for children and their families, which has received too little attention from researchers (Huston & Ripke, 2006). Given that this period may be relatively more challenging for girls, it is not surprising to find a gender effect where parents of girls are more likely to experience moderate child-rearing conflict levels that start in pre-adolescence and continue throughout the period. Note, however, that the gender effect was only identified through the simultaneously estimated LPA and multinomial logistic regression

analyses, whereas no such associations were found when using other analytical frameworks. The simultaneously estimated logistic regression and LPA analyses are more sensitive in detecting predictor effects than models where predictors of latent classes are kept outside the LPA model (e.g., Exacon or auxiliary models) as the predictors are allowed to be more strongly associated with some of the indicators in the LPA than others, instead of fixing the total LPA solution before testing how predictors are related to this totality. Thus, identifying more relationships when utilizing a simultaneously estimated model is as expected.

Associations between Child Externalizing Patterns and Child-rearing Conflict Trajectories

Different patterns of child-rearing conflicts emerged for parents of children with externalizing problems starting in childhood versus adolescence. Supporting our predictions, the High Stable externalizing pattern generally discriminated between high and low conflict trajectories, whereas the Adolescent Onset pattern was consistently associated with a trajectory with lower initial conflict levels which increased over the early adolescent period.

Parents of children with High Stable externalizing problems were most likely to experience conflict levels that were initially high, and increasing during the early adolescent years (i.e., the HAP trajectory). High interparental conflict levels prior to adolescence among children with High Stable externalizing problems are in accordance with previous findings and developmental models of early onset externalising problems (Odgers et al., 2008; Patterson, 2002). The results from the present study expand on previous findings by identifying an additional increase in interparental conflict levels in early adolescence for the HAP trajectory. It is noteworthy that, although a pattern of High Stable externalizing problems was associated with increasing conflicts during early adolescence for some, it was not associated with increased interparental conflicts over the entire period. This may be due to the impact of child externalizing behavior on parenting practices, as previous findings have indicated that child antisocial behavior

may cause parental disengagement (Kerr & Stattin, 2003). Thus, parents may have given up on parenting as High Stable externalizing children reach late adolescence, causing decreased child-rearing conflict levels. Nevertheless, the associations between the High Stable externalizing pattern and high interparental conflict levels highlight the importance of addressing parental couple relationships in families of children with externalizing problems.

Adolescent Onset externalizing problems were not preceded by pre-adolescent high interparental conflict levels, in accordance with previous findings (Odgers et al., 2008). Our findings did however expand on this by indicating that this externalizing pattern was to some degree associated with increasing child-rearing conflicts over the period (i.e., following the MEAP trajectory). The increased conflict levels were temporary for parents, indicating that family problems related to adolescent offspring transitions may be transient.

Strengths and Limitations

The present study has considerable methodological strengths, such as examining families longitudinally from early childhood throughout middle adolescence. This enabled the identification of previously unstudied patterns of interparental conflicts, improving the understanding of adolescent child-rearing. Still, the findings should be seen in the light of some limitations, which may guide future research in this area.

First, our data rely on the viewpoint of the mothers on parents' conflict as well as externalizing problems of one child in the family. Future studies should include reports from fathers and children as well, to examine differences and similarities between informants and reduce common method bias. However, a previous study investigating child-rearing conflict over the adolescent offspring years did not find any significant differences between mothers and fathers in their reports regarding child-rearing conflicts (Cui & Donnellan, 2009). On the other hand, findings have indicated that maternal ratings of child behavior may be more strongly

associated with couple functioning than paternal ratings (Sullivan & Baucom, 2005).

Furthermore, Family Systems Theory emphasizes that several factors are likely to influence sub-systems within families. In the current study, we only investigated factors associated with the development of one child in the family. Family size, characteristics of other children as well as social factors are likely to influence the family as well and focus should be widened to include such family factors in future studies.

Second, it is important to keep in mind that this study was exploratory in nature (i.e., the trajectory analyses) and needs to be validated and the issues further explored in future studies. The number of participants may have provided insufficient statistical power in some respects. Fit indices in latent profile analyses gave some indication of the potential for more than six classes. However, it was not possible to extract additional classes because such classes would have been rather small in size. Studies with larger samples would provide the possibility to test models including more classes and thus more diversity in the trajectories. Thus, future studies with larger samples using a hypothesis-testing approach are needed to gain further validation and generalization of the results from the present study.

Third, the child-rearing conflict trajectories only partly overlapped with externalizing problem trajectories. Although the study has the important strength of including preceding patterns of externalizing behavior, we were only able to investigate co-occurring patterns from ages 8.7 to 14.6. The peak of antisocial behavior has been found to be at age 17 (Moffitt, 1993). It would have been advantageous to assess externalizing patterns into older ages than what was possible in the present study.

Fourth, as in most longitudinal studies, attrition may limit the generalizability of the findings. Importantly, drop-out from the entire TOPP study was not related to child

characteristics at T1 such as temperament (Gustavson et al., 2012) and drop-out from the current sample was not related to child-rearing conflict levels or any child characteristics. Still, even though maternal educational level was the only variable predicting drop-out, this variable may be associated with unmeasured living condition factors. Furthermore, we cannot rule out the possibility that those with the highest conflict levels did not fill out the questionnaire.

Associations between externalizing problems and parental conflicts may be stronger in high risk samples due to higher variation in the responses. All analyses, however, were carried out using full information maximum likelihood estimation, which includes subjects with partial data and minimizes biases due to attrition.

Finally, mean conflict levels among parents were low in the present study. Generalization to populations with risk of high conflict levels, such as marginalized families or families with divorced parents is thus limited. In a similar vein, using a rather homogenous population of Norwegian mothers, the findings may not be generalizable to other cultures or ethnic groups. In particular, the Scandinavian welfare system and its support of families with children differs considerably from such systems in other Western countries. Likewise, Norway is considered to be one of the most egalitarian societies worldwide (Malik, 2014). Such differences with other Western countries may influence parental conflict levels and associations with other variables.

Conclusions

The present study yielded important nuances to previous findings indicating that child-rearing conflict levels are generally stable over the adolescent child-rearing years. Six different longitudinal trajectories were identified and fluctuations were more typical than stability over the period. Findings suggested that, although the offspring adolescent transition may not be particularly challenging for most parents, the period was associated with increased conflicts for specific subgroups and that these increases occurred at different time points for different families.

In line with Family Systems Theory, the findings indicate that the early adolescent stage of offspring might be more challenging for parents when experiencing it for the first time (i.e., with their firstborn child). Associations between High Stable externalizing patterns and high interparental conflict levels that persisted over the entire period indicate the value of addressing the parental couple relationship in mental health services when meeting families with children exhibiting externalizing behavior. Parents of children with an Adolescent Onset externalizing pattern were more likely to experience only temporary increases in interparental conflict levels, and may not need targeted interventions for their couple relationship. Although some indications of gender effects were found, such associations need to be further examined.

References

- Ackerman, N. W. (1958). Theory of family dynamics. *Psychoanalysis and the Psychoanalytic Review*, *46*, 33-49.
- Anderson, J. R., Van Ryzin, M. J., & Doherty, W. J. (2010). Developmental trajectories of marital happiness in continuously married individuals: a group-based modeling approach. *Journal of Family Psychology*, *24*, 587-596. doi:10.1037/a0020928
- Arnett, J. J. (1999). Adolescent storm and stress, reconsidered. *American Psychologist*, *54*, 317-326. doi:10.1037/0003-066x.54.5.317
- Bergman, L. R., & Andersson, H. (2010). The person and the variable in developmental psychology. *Journal of Psychology*, *218*, 155-165. doi:10.1027/0044-3409/a000025
- Bergman, L. R., Magnusson, D., & El Khouri, B. M. (2003). *Studying individual development in an interindividual context: A person-oriented approach*. Mahwah, NJ: Erlbaum.
- Bu, E. H., Watten, R., Foxcroft, D. R., Ingebrigtsen, J., & Relling, G. (2002). Teenage alcohol and intoxication debut: The impact of family socialization factors, living area and participation in organized sports. *Alcohol and Alcoholism*, *37*, 74-80.
doi:10.1093/alcalc/37.1.74
- Buehler, C., Anthony, C., Krishnakumar, A., Stone, G., Gerard, J., & Pemberton, S. (1997). Interparental conflict and youth problem behaviors: A meta-analysis. *Journal of Child and Family Studies*, *6*, 233-247.
- Clark, S. L., & Muthén, B. (2009). Relating latent class analysis results to variables not included in the analysis. Retrieved from www.statmodel.com, October 2, 2014.
- Compas, B. E., Hinden, B. R., & Gerhardt, C. A. (1995). Adolescent development: Pathways and processes of risk and resilience. *Annual Review of Psychology*, *46*, 265-293.
doi:10.1146/annurev.psych.46.1.265

- Cox, M. J., & Paley, B. (1997). Families as systems. *Annual Review of Psychology*, *48*, 243-267. doi:10.1146/annurev.psych.48.1.243
- Crouter, A. C., & Booth, A. (2003). *Children's influence on family dynamics: The neglected side of family relationships*. Mahwah, NJ: Erlbaum.
- Cui, M., & Donnellan, M. B. (2009). Trajectories of conflict over raising adolescent children and marital satisfaction. *Journal of Marriage and Family*, *71*, 478-494. doi:10.1111/j.1741-3737.2009.00614.x
- Cui, M., Donnellan, M. B., & Conger, R. D. (2007). Reciprocal influences between parents' marital problems and adolescent internalizing and externalizing behavior. *Developmental Psychology*, *43*, 1544. doi:10.1037/0012-1649.43.6.1544
- Dadds, M. R., & Powell, M. B. (1991). The relationship of interparental conflict and global marital adjustment to aggression, anxiety, and immaturity in aggressive and nonclinic children. *Journal of Abnormal Child Psychology*, *19*, 553-567. doi:10.1007/bf00925820
- Dush, C. M. K., & Taylor, M. G. (2012). Trajectories of marital conflict across the life course: Predictors and interactions with marital happiness trajectories. *Journal of Family Issues*, *33*, 341-368. doi:10.1177/0192513x11409684
- Emery, R. E. (1982). Interparental conflict and the children of discord and divorce. *Psychological Bulletin*, *92*, 310-330. doi:10.1037/0033-2909.92.2.310
- Emery, R. E. (2014). Families as systems: some thoughts on methods and theory. *Emerging Methods in Family Research* (109-127).. New York: Springer. doi:10.1007/978-3-319-01562-0_7
- Grych, J. H., & Fincham, F. D. (1990). Marital conflict and children's adjustment: a cognitive-contextual framework. *Psychological Bulletin*, *108*, 267. doi:10.1037//0033-2909.108.2.267

- Gustavson, K., von Soest, T., Karevold, E., & Røysamb, E. (2012). Attrition and generalizability in longitudinal studies: findings from a 15-year population-based study and a Monte Carlo simulation study. *BMC Public Health, 12*(918), 1-11. doi:10.1186/1471-2458-12-918
- Heinrichs, N., Cronrath, A.-L., Degen, M., & Snyder, D. K. (2010). The link between child emotional and behavioral problems and couple functioning. *Family Science, 1*, 152-172. doi:10.1080/19424620.2010.569366
- Huston, A. C., & Ripke, M. N. (2006). Experiences in middle childhood and children's development. In A. C. Huston & M. N. Ripke (Eds.), *Developmental contexts in middle childhood. Bridges to adolescence and adulthood* (pp. 409-434). New York: Cambridge University Press. doi:10.1017/cbo9780511499760.021
- Jenkins, J., Simpson, A., Dunn, J., Rasbash, J., & O'Connor, T. G. (2005). Mutual influence of marital conflict and children's behavior problems: Shared and nonshared family risks. *Child Development, 76*, 24-39. doi:10.1111/j.1467-8624.2005.00827.x
- Jouriles, E. N., Murphy, C. M., Farris, A. M., Smith, D. A., Richters, J. E., & Waters, E. (1991). Marital adjustment, parental disagreements about child rearing, and behavior problems in boys: Increasing the specificity of the marital assessment. *Child Development, 62*, 1424-1433. doi:10.1111/j.1467-8624.1991.tb01615.x
- Kelly, J. B. (2000). Children's adjustment in conflicted marriage and divorce: A decade review of research. *Journal of the American Academy of Child & Adolescent Psychiatry, 39*, 963-973. doi:10.1097/00004583-200008000-00007
- Kerr, M., & Stattin, H. (2003). Parenting of adolescents: Action or reaction. In A. C. Crouter & A. Booth (Eds.), *Children's influence on family dynamics: The neglected side of family relationships* (pp. 121-152). New York: Psychology Press. doi:10.4324/9781410607430

Kjeldsen, A., Janson, H., Stoolmiller, M., Torgersen, L., & Mathiesen, K. S. (2014).

Externalising behaviour from infancy to mid-adolescence: Latent profiles and early predictors. *Journal of Applied Developmental Psychology, 35*, 25-34.

doi:10.1016/j.appdev.2013.11.003

Laursen, B., Coy, K. C., & Collins, W. A. (1998). Reconsidering changes in parent-child conflict across adolescence: A meta-analysis. *Child Development, 69*, 817-832.

doi:10.2307/1132206

Lavner, J. A., & Bradbury, T. N. (2010). Patterns of change in marital satisfaction over the newlywed years. *Journal of Marriage and Family, 72*, 1171-1187. doi:10.1111/j.1741-3737.2010.00757.x

Lucas-Thompson, R. G., & Goldberg, W. A. (2010). Family relationships and children's stress responses. *Advances in Child Development and Behavior, 40*, 243-299. doi:10.1016/b978-0-12-386491-8.00007-4

Mathiesen, K., Tambs, K., & Dalgard, O. (1999). The influence of social class, strain and social support on symptoms of anxiety and depression in mothers of toddlers. *Social Psychiatry and Psychiatric Epidemiology, 34*, 61-72. doi:10.1007/s001270050113

Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review, 100*, 674-701. doi:10.1037/0033-295x.100.4.674

Moffitt, T. E., & Caspi, A. (2001). Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. *Development and Psychopathology, 13*, 355-375. doi:10.1017/s0954579401002097

Moylan, S., Gustavson, K., Karevold, E., Øverland, S., Jacka, F. N., Pasco, J. A., & Berk, M. (2013). The impact of smoking in adolescence on early adult anxiety symptoms and the

- relationship between infant vulnerability factors for anxiety and early adult anxiety symptoms: the TOPP Study. *PloS one*, 8, e63252. doi:10.1371/journal.pone.0063252
- Nilsen, W., Gustavson, K., Røysamb, E., Kjeldsen, A., & Karevold, E. (2013). Pathways from maternal distress and child problem behavior to adolescent depressive symptoms: A prospective examination from early childhood to adolescence. *Journal of Developmental & Behavioral Pediatrics*, 34, 303-313. doi:10.1097/DBP.0b013e318293ab05
- Nylund, K. L., Asparouhov, T., & Muthén, B. O. (2007). Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling*, 14, 535-569. doi:10.1080/10705510701575396
- Odgers, C. L., Moffitt, T. E., Broadbent, J. M., Dickson, N., Hancox, R. J., Harrington, H., . . . Caspi, A. (2008). Female and male antisocial trajectories: From childhood origins to adult outcomes. *Development and Psychopathology*, 20, 673-716. doi:10.1017/s0954579408000333
- Patterson, R. (2002). The early development of coercive family process. In J. B. Reid, G. R. Patterson, & J. Snyder (Eds.), *Antisocial behavior in children and adolescents: A developmental analysis and model for intervention* (pp. 25-44). Washington, DC: American Psychological Association. doi:10.1037/10468-002
- Rhoades, K. A. (2008). Children's responses to interparental conflict: A meta-analysis of their associations with child adjustment. *Child Development*, 79, 1942-1956. doi:10.1111/j.1467-8624.2008.01235.x
- Schermerhorn, A. C., Cummings, E. M., DeCarlo, C. A., & Davies, P. T. (2007). Children's influence in the marital relationship. *Journal of Family Psychology*, 21, 259-269. doi:10.1037/0893-3200.21.2.259

- Shanahan, L., McHale, S. M., Osgood, D. W., & Crouter, A. C. (2007). Conflict frequency with mothers and fathers from middle childhood to late adolescence: Within-and between-families comparisons. *Developmental Psychology, 43*, 539-550. doi:10.1037/0012-1649.43.3.539
- Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Journal of Cognitive Education and Psychology, 2*, 55-87. doi:10.1891/194589501787383444
- Sullivan, L. J., & Baucom, D. H. (2005). Observational coding of relationship schematic processing. *Journal of Marital and Family Therapy, 31*, 31-43. doi:10.1111/j.1752-0606.2005.tb01541.x
- Tabachnick, B. G., & Fidell, L. S. (2007). *Using Multivariate Statistics*: Pearson/Allyn & Bacon.
- Whiteman, S. D., McHale, S. M., & Crouter, A. C. (2003). What parents learn from experience: The first child as a first draft? *Journal of Marriage and Family, 65*, 608-621. doi:10.1111/j.1741-3737.2003.00608.x
- Whiteman, S. D., McHale, S. M., & Crouter, A. C. (2007). Longitudinal changes in marital relationships: The role of offspring's pubertal development. *Journal of Marriage and Family, 69*, 1005-1020. doi:10.1111/j.1741-3737.2007.00427.x

Table 1

Descriptive Statistics of Child-Rearing Conflict Scale.

Time point	Range of		Mean	SD	α
	scale*	<i>n</i>			
T4 – Child age 8.7	0-4	331	.71	.53	.73
T5 – Child age 12.6	0-4	374	.73	.62	.85
T6 – Child age 14.6	0-4	288	.75	.67	.86
T7 – Child age 16.6	0-4	273	.68	.61	.83

*The scale is the mean score of six items.

Figure 1. Trajectories of child-rearing conflicts, average level, latent class trajectories and pseudo-classes.

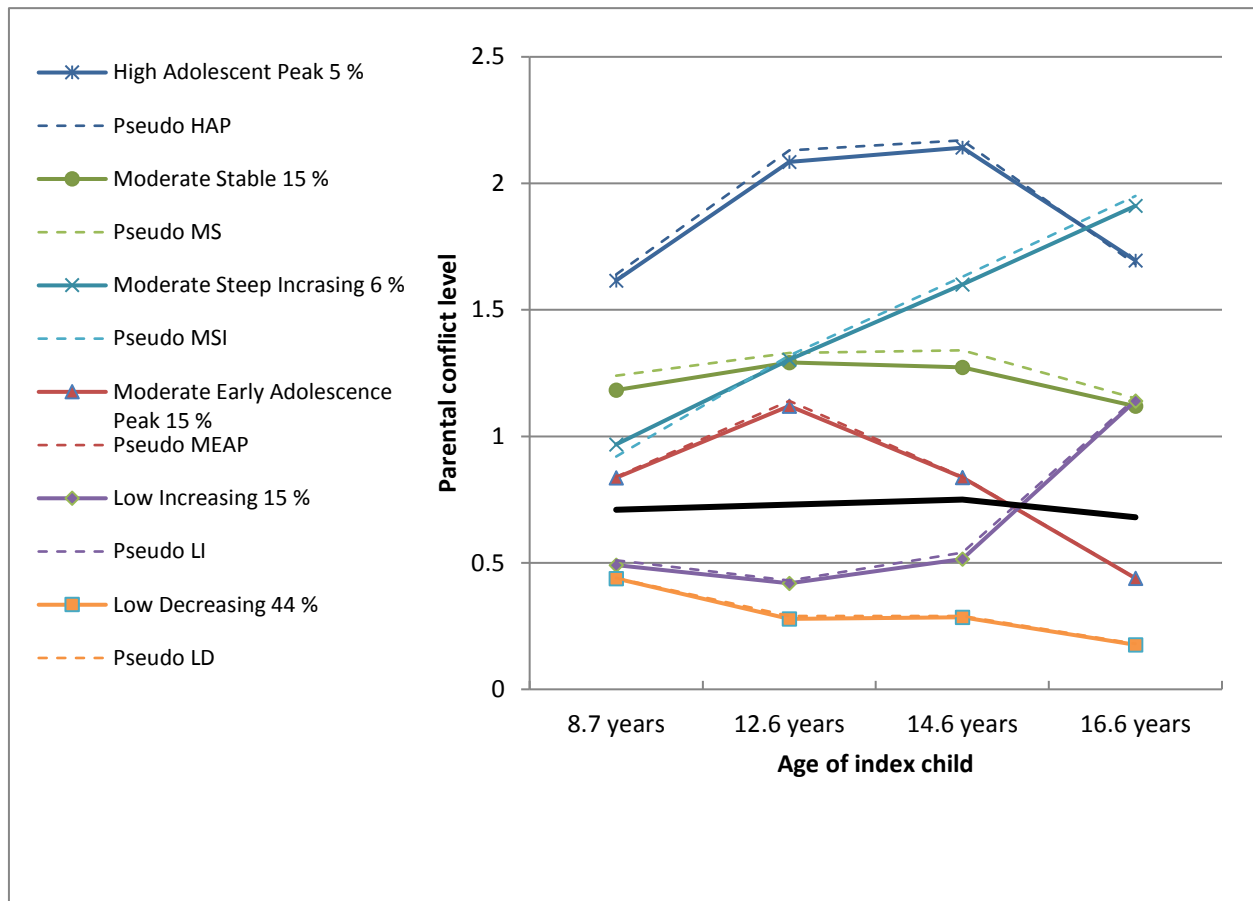


Figure 2. Distributions of child characteristics (percentages within group) across conflict trajectories.

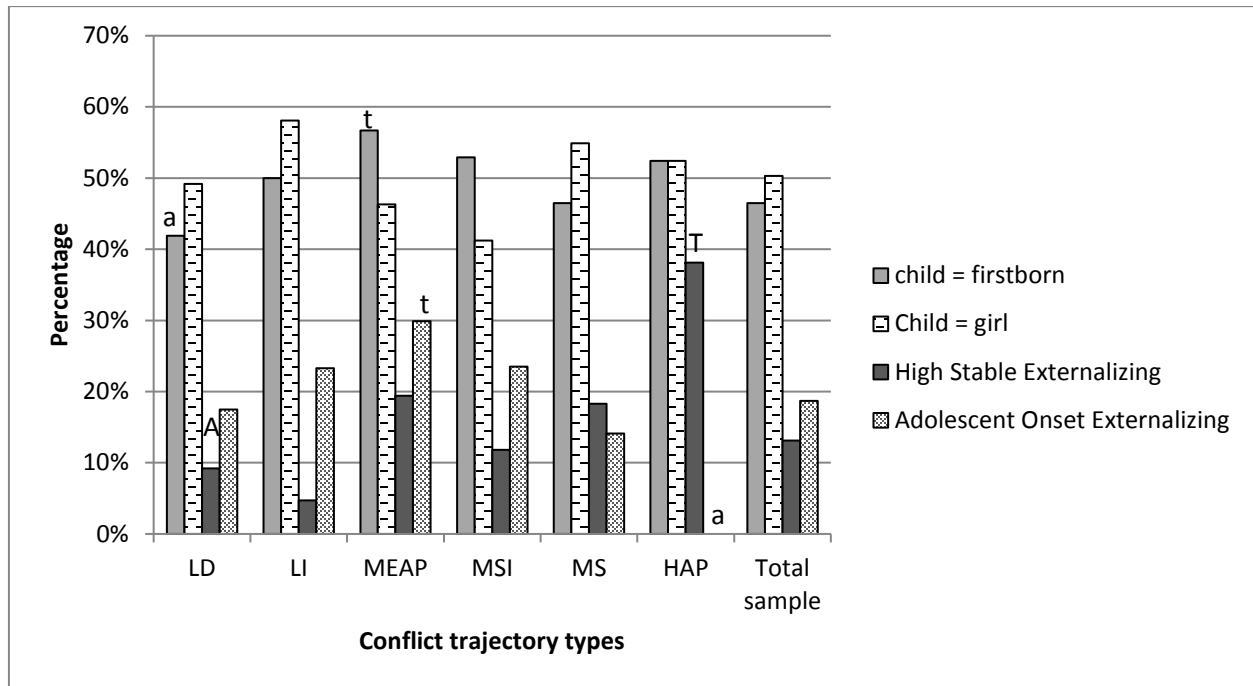


Figure 2. Distributions of child characteristics (percentages within group) across conflict trajectories.

Note: LD = Low-Decreasing; LI=Low-Increasing; MEAP=Moderate-Early-Adolescence-Peak; MSI=Moderate-Steep-Increasing; MS=Moderate-Stable; HAP=High-Adolescent-Peak.

Note 2: Exact analyses of single cells based on the Fisher four-field hyper-geometric distribution test with Exacon procedure: Types (observed > expected): T = higher than expected ($p < .01$); t = higher than expected ($p < .05$). Antitypes (observed < expected): A = lower than expected ($p < .01$); a = lower than expected ($p < .05$).