Does child gender moderate the relationship between interparental conflict and child outcomes? Findings from the Danish Longitudinal Study of Children

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ABSTRACT

The hypothesis that child gender moderates the relationship between interparental conflict (IPC), conceptualized as a normative phenomenon, and child outcomes was evaluated using Danish mother data from the Danish Longitudinal Survey of Children (DALSC), which follows a nationally representative sample of children born in September-October 1995. IPC was assessed at age seven using a five-item scale measuring frequency of quarrels between parents on topics common to daily family life. Child outcomes were evaluated at age eleven using three indicators of internalizing (emotional problems, somatic symptoms, psychological symptoms) and two indicators of externalizing symptoms (conduct problems and hyperactivity). OLS regression analyses indicated, overall, that the longitudinal association between IPC and the chosen outcomes was weak and child gender weakly moderated the association between IPC and child outcomes. Specifically, gender differences were limited only to conduct problems after controlling for the child's psycho-social adjustment and health characteristics, mother's depressive symptoms and disciplinary behaviour and parents' socio-economic status at age 7. Furthermore, contrary to expectations derived from the male vulnerability and differential reactivity models, the IPC-conduct problems association was stronger among girls than among boys. In general, IPC predicted a number of outcomes among girls but did not predict any among boys. These findings suggest that it is important in both academic and professional work to consider that the impact of IPC on boys and girls may vary depending on the nature of the conflict and the type of families affected by it. Furthermore, while IPC may not have a direct impact over time, its effects may continue to be felt through other elements of the family system, such as the parent-child relationship.

INTRODUCTION

Interparental conflict (IPC) is a ubiquitous feature of family life. Family theorists and therapists have long assumed that it is significantly linked to a child's well-being (Erel and Kissil 2003). Currently, a large body of empirical literature supports this assumption (for reviews, see Davies and Cummings 1994; Grych and Fincham 2001). IPC has been linked to a wide range of adverse child outcomes such as psychological maladjustment, delinquency, and poor cognitive competence. Most of the existing literature focuses on frequency of conflict or its mode of expression (e.g. overt or covert, physical or verbal) and there is evidence that each has a negative effect on children (Fincham and Osborne 1993). Buehler et al. (1997) note in their meta-analysis of interparental conflict and youth problem behaviours that a substantial body of literature has shown a positive association between interparental conflict and youth problem behaviors. Of those studies that have found significant associations, interparental conflict seems to account for somewhere between 4% and 25% of the variance in youth maladjustment, depending on, among other factors, the measure of conflict and adjustment used and the types and number of covariates introduced.

These covariates include a number of factors related to the family and developmental systems framework that are thought to condition the IPC – child outcomes relationship: conflict characteristics, the surrounding family system, child characteristics and developmental processes and child reactivity to IPC. This study examines the extent to which one aspect of child characteristics, child gender, which is itself a marker variable for a complex set of processes related to biological vulnerability, developmental tasks and socialization experiences, moderates the relationship between IPC as a *normative*, day-to-day marital and family phenomenon (measured by arguments or quarrels between parents in contrast to, say, interparental violence) and outcomes among children in the normative population. As Snyder (1998) notes, associations between marital conflict and child adjustment are much stronger in families of clinic-referred children than in 'normative families' drawn from the local community. Although the association between marital conflict and child adjustment is not as strong in these populations as in clinical samples, conflict can also be viewed as a normative part of family life and understanding the impact of normative marital conflict upon child adjustment and development is an important goal (Kerig 1996; Snyder 1998).

Davies and Lindsay (2004) note that the overall pattern of findings in the relatively few studies focu-

sing on child gender as a link between IPC and child adjustment has been inconsistent and complex, with results spanning the entire range: boys are more vulnerable to IPC (consistent with the 'male vulnerability model'); girls are more vulnerable to IPC; boys and girls are equally vulnerable, but react in different ways (the 'differential reactivity model') (Davies and Lindsay 2001), and there are no gender differences.

Drawing on theories positing boys' greater biologically determined vulnerability to psychosocial hazards, especially in early childhood, the male vulnerability model posits that the relationship between IPC and child maladjustment is stronger for boys than girls. More specifically, the weaker neuropsychological and psychobiological systems of boys may increase their propensity toward certain diseases and this condition is exacerbated by stress factors such as IPC (Emery 1982). An example of a study offering more support to the male vulnerability model is Kerig (1996), which found, on the basis of a sample of 116 7-11-year-old children, that mother reports of destructive marital conflict more strongly predicted mother and child reports of internalizing and externalizing symptoms for boys than girls. Another study (Kerig 1998) tested the relationship between IPC, appraisals and children's adjustment in a sample of 174 families with a school-age child separately for boys and for girls. The study found that appraisals of conflict properties, threat, self-blame, and perceived control moderated the effects of interparental conflict on externalizing, total problems, and anxiety in boys. Conflict properties, threat, self-blame, perceived control, and self-calming acted as moderators of internalizing symptoms in girls. Another, prospective, study of 100 3-year old school children and their parents (Block et al. 1981) found that the association between parental child-rearing disagreements at age 3 and concurrent and subsequent teacher reports of externalizing symptoms and behavioural control were significantly stronger for boys than girls.

While some, especially earlier, research (e.g. Block et al. 1981; Emery and O'Leary 1982; Kerig 1996, 1998) appeared to offer greater support to the male vulnerability model, more recent studies have raised the need for a re-examination of the earlier results for a number of reasons. First, the male vulnerability model cannot explain *differences* in boys' and girls' specific reactions to IPC; it merely predicts that boys will be more susceptible to the negative effects of IPC.

Second, some of the empirical support for the male vulnerability model may have been the result of a methodological artefact, especially in earlier studies (Davies and Lindsay 2001). In other words, the stronger effect of conflict on boys may have been related to the fact that the earlier research was biased toward the assessment of externalized behaviour problems (e.g. aggression), which boys are more likely to exhibit than girls. The responses of girls are more likely to be reflected in 'internalized' emotions such as depression, withdrawal and anxiety (Zahn-Waxler 1993). But owing to the greater difficulty of observing the more covert symptoms of emotional wellbeing, measures of this construct may not detect child problems. While boys are also likely to exhibit these types of decreased emotional wellbeing, they are more likely to exhibit externalized behaviours than girls. Therefore, research findings may have been biased toward detecting problems in boys more than in girls.

In contrast to the male vulnerability model, the differential reactivity model postulates that boys and girls may experience similar levels of stress from IPC, but this stress is manifested in different ways conforming to gender differences in the prevalence of internalizing and externalizing symptoms. Thus, girls may express their distress at IPC in subtle, internalized ways characterized by emotional symptoms in an effort to preserve interpersonal harmony. Faced with the same threat, boys in contrast may direct their distress toward external sources (e.g. delinquency and aggression) in an effort to re-establish their autonomy and assertiveness (Davies and Lindsay 2001).

But the findings from previous research have been more variable and do not fall only into the two models outlined above. Some results suggest that IPC may be a stronger predictor of maladjustment for girls than for boys in some samples (e.g. Cummings and Davies 1994, Davies and Windle 1997; Unger et al. 2000). For example, the study by Davies and Windle (1997) examined longitudinal relations among maternal depressive symptoms, family discord, and adolescent psychological adjustment in a sample of 443 middle adolescents and their mothers and found that family discord was a strong mediator in the development of girls' conduct disturbances and a modest mediator of girls' depressive symptoms. A second study (Unger et al. 2000) looked at family functioning as a mediator between interparental conflict and adolescent depressed mood among adolescents living in two-parent and divorced families and found that family functioning mediated the effects of interparental conflict focusing on parents' behaviours was most evident for girls than boys.

The pattern of results is even more complicated because other studies, based on meta-analyses (e.g. Buehler et al. 1997) and large epidemiological studies (e.g. Jouriles, Bourg and Farris 1991), suggest that there are no gender differences in the relationship between IPC and child psychological problems.

More generally, the inconsistent findings of previous studies suggest that findings related to the magnitude of the IPC-child outcomes relationship and the role of child gender as a moderator can vary depending on several different factors, among them a) the type of sample used (e.g. clinical sample, large representative sample, convenience sample, a sample of fractured or intact families), b) the measures used (e.g. measuring IPC in terms of frequency of disagreements, covert style of conflict or marital satisfaction) and c) the types of covariates used to control for a spurious association. For example, the magnitude of this relationship would probably be much greater in a clinical sample or where

IPC is measured in terms of violent conflict.

If, however, the aim is to examine the prevalence of gender differences in the impact of IPC as a normative, day-to-day marital and family phenomenon in the general population, as in the case of this study, there are very few studies to draw on and these have some basic weaknesses. For example, the epidemiological study by Jouriles et al. (1991) examines in a nation-wide sample of 6-12-year-olds the differences in the strength of correlation between marital adjustment, measured mainly by frequency of marital arguments about specific issues, and child conduct problems between, among others, families with girls versus families with boys. The study incorporates both cross-sectional and longitudinal analyses and uses multiple sources but presents only zero-order correlations between measures of IPC and child problems. An earlier study (Peterson and Zill 1986) uses a national sample of 12-16-year-olds and also measures marital conflict mainly in terms of marital arguments. However, though it accounts for socio-demographic factors and the parent-child relationship and uses multiple data sources, it does not formally test the moderator effect of child gender but only examines the relationship separately for each gender.

Drawing on the literature on the role of child gender in the relationship between IPC and child outcomes, this study seeks to extend research on the question of whether child gender moderates the relationship between normative IPC and child outcomes by combining a number of strengths of previous studies: it tests longitudinally the gender differential hypothesized in this association; it uses data from a large national representative sample instead of a small convenience sample (e.g. El-Sheikh 1994) or special sample (children and parents in divorce mediation; Johnston et al. 1987), which has characterized much previous research on the subject, and it measures IPC in terms of frequency of quarrels between parents, which is probably the most typical manifestation of conflict in the general population of intact families. The findings from this study can be generalized to a larger population because of the nature of the sample and possibly also because of the operationalization of IPC. In addition, the use of longitudinal data combined with relevant controls for a spurious association allows for a better test of the causal nature of the association between IPC and child outcomes than does that of cross-sectional data (Acock 1999) and a test of the enduring effects of IPC across the developmental phase of middle childhood. Testing a relationship across the same developmental phase, middle childhood (which means effectively holding background developmental factors such as level of cognitive abilities, emotional development and closeness of the parent-child relationship relatively constant), makes it easier to draw firm conclusions about the moderating role of child gender. As Davies and Lindsay (2004) note, various developmental models have posited that the direction and magnitude of such gender differences may largely depend on the developmental stage of the children. For example, boys may exhibit significantly greater vulnerability than girls to family stressors such as IPC in childhood and pre-adolescence. Consistent with this hypothesis, studies supporting the male vulnerability hypothesis have predominantly been conducted with samples of children and preadolescence. But with the multiple and often dramatic changes in adolescence (e.g., the cognitive changes, increase in peer orientation and a distancing from the parents) the degree of relative vulnerability shifts from boys to girls (Davies and Lindsay 2004: 161).

In addition, this study uses a multi-item scale to increase the reliability of the measure of the latent conflict dimension instead of a global measure of the marital relationship (e.g. satisfaction with the marital relationship), by examining both externalizing and internalizing symptoms to counter the gender bias thought to affect a focus only on externalizing symptoms and by using child self-reports to measure selected outcomes in addition to mother reports to solve problems related to the relative difficulty of observing internalizing symptoms and to counter the bias arising from use of a common informant (the mother).

Furthermore, this study also controls for some important factors that are thought to mediate the relationship between IPC and child outcome: the mother's disciplinary behaviour and depressive symptoms, in addition to parents' socio-economic status and the child's psycho-social adjustment and health status at age 7. IPC is associated positively with coercive parental behaviours (Buehler et al. 1994, 2004; Buehler and Gerard 2002; Gerard et al. 2006). Such behaviours may be a cause of IPC, especially interparental disagreements in regard to childrearing; at the same time, IPC may also lead to the use of harsher parenting as negative emotions from the marital relationship spillover into the parent-child relationship (Gerard et al. 2006). Some studies use discipline, i.e. the degree of harshness of discipline and use of overt control (e.g. punishment, rules, commands, or physical aggression) as an index of parent-child relationship quality. Coercive parenting is in turn associated with behaviour problems such as aggression, conduct disorders, depression and withdrawal, as well as academic and social problems at school. A number of studies have documented that part of the relationship between IPC and child or youth maladjustment is mediated by parenting behaviours (e.g. Buehler et al. 1994, 2004; Buehler and Gerard 2002; Gerard et al. 2006). Unfortunately, the moderating role of child gender in the relationship is not their focal point.

There is a robust relationship between maternal depression and child maladjustment. There is also a moderate association between certain types of IPC and maternal depression (Buehler et al. 1994) and an association between maternal depression and factors that mediate the IPC-child outcomes relationship, such as the parent-child relationship (Wierson and Forehand 1992). Therefore, it is important to examine how ma-

ternal deåression affects the association between IPC and child outcomes. Controlling for this factor can also reduce bias in the cases where the mother rates both IPC and the child's outcomes since depressed mothers may be more likely to report negatively on their children's behaviour.

Controlling for the child's psycho-social and health status provides a base-line condition over which the impact of IPC can be assessed. Parents' socio-economic status is a proxy for parents' ability to resolve their differences amicably and to provide the conditions favourable to their children's adjustment. Given the inverse relationship between socio-economic status and both IPC and child adjustment (Hanson 1999; Jekeliek 1998; Woerner et al. 2004), controls for socio-economic status, measured here by mother's and father's education level, unemployment spell and average annual family income, are included. In their meta-analysis, Buehler and her colleagues (1997) found that the socio-economic composition of a sample and educational attainment were significant predictors of the association between the IPC and youth problem behaviours.

In sum, the aim of this study is to test longitudinally the hypothesis that child gender moderates the relationship between normative, day-to-day parental conflict and a number of child outcomes in a large, Danish national sample of intact families while controlling for a number of theoretically relevant factors measuring the child's condition in 2003, parents' resources and some aspects of the larger family system. This hypothesis is tested 1) by introducing an interaction term between IPC and child gender among the predictors of each outcome and seeing whether it is statistically significant and then 2) by estimating the IPC coefficients and standard errors for boys and girls based on the joint sample. If the male vulnerability model is correct, in particular as it should be in the childhood developmental phase (Davies and Lindsay 2004), then the IPC-child outcomes relationship should be consistently stronger for boys for both externalizing and internalizing outcomes. If the differential reactivity model is correct then the IPC-externalizing problems relationship will be stronger for boys and the IPC-internalizing problems relationship will be stronger for girls. Alternatively the results may support those of an earlier epi-0demiological study (Jouriles et al. 1991), i.e. offer no support for child gender as a moderator. Or, they may suggest that girls are more vulnerable than boys.

MATERIALS AND METHODS

Data and Sample

The data for this study come from the Danish Longitudinal Survey of Children (DALSC) and were collected when the child was 7 and 11 years of age. They are supplemented with data on socio-economic variables from the Danish population registers for the period 1996-2005. The DALSC is implemented by the SFI –

The Danish National Centre for Social Research and follows a simple random sample of children born in Denmark between September and October 1995 to women with Danish citizenship. The data were obtained through standardized face-to-face interviews with the children's mothers (in a few cases, less than 1%, the respondents were fathers) conducted by trained interviewers from SFI. Further details on the survey are available at http://www.sfi.dk/dalsc. The original sample drawn for the DALSC in 1995 consisted of 6,011 children. The present study focuses on the sample of 3,880 nuclear families that remained intact (i.e. experienced no marital disruptions) through the last wave of the survey (2007; when the children were about 11 years old).

Panel attrition and listwise deletion of missing observations on the variables in the analysis reduced the sample further to 2,812 families. An analysis of the 1,068 missing cases using data from administrative registers indicated that families with lower socio-economic status measured by education, income and unemployment were somewhat under-represented in the sample analyzed. Specifically, the parents in the families in the retained sample had significantly higher levels of education in 2005: 39.64% and 32.25% of mothers and fathers in the retained sample, respectively, had a bachelors degree or higher compared to 28.18% and 24.97% of the missing mothers and fathers, respectively. The parents in the families in the retained sample also had a longer total period of employment in the period 1996-2005: 8.70 years and 9.67 years for these mothers and fathers, respectively, compared to 8.08 years and 9.41 years for mothers and fathers in the lost sample. However, there was no significant difference between the two groups with respect to average annual family disposable income in the period 1996-2005. In addition, comparisons between the sample analysed and the subset of the missing cases who had answered the questions from the Strengths and Difficulties Questionnaire (SDQ) when the child was 7 years old (approximately half of those missing) indicated that the children in the lost sample had overall only slightly greater problems of maladjustment as indicated by their (higher) scores on the SDQ emotional symptoms (1.71 vs. 1.91) conduct problems (1.21 vs. 1.38) and inattention/ hyperactivity (2.32 vs. 2.79) scales. In sum, although the retained sample underrepresented the low SES families, it was still quite diverse, and differences between the two samples on selected child outcomes at age 7 were quite small.

Measures

IPC at age 7. In 2003 the mothers of the DALSC were asked to report the frequency with which they quarrelled with their partner on a variety of topics central to family life, such as caring for the child, childrearing, household chores, household finances, time for leisure activities and time to work. Responses to the seven

items were scored 1 (*rarely* or *never*), 2 (*a couple of times a month*), 3 (*a couple of times a week*), and 4 (*almost daily*). The relatively low correlations between these variables (ranging from 0.12-0.24) explain the relatively low internal consistency of the resulting scale (Cronbach's alpha = 0.59). However, a confirmatory factor analysis indicated that the items load on a single latent dimension. The scores on these items were averaged to obtain a scale of IPC ranging from 1-4 (mean = 1.13, s.d. = 0.20). IPC has previously been operationalized in similar ways, as the frequency of various disagreements and the frequency of arguing (Buehler and Gerard 2002).

The strengths of this measure of IPC are first, that by focusing on quarrels between the parents it is a valid measure of IPC as a normative, day-to-day phenomenon. In addition, it is a more reliable measure than single-item indicators because it measures frequency of conflict across different thematic areas (childcare, childrearing, household finances and chores, time for leisure activities, time for work and a general category, other areas), which include both topics relevant to the child's home environment, which is the area of conflict that is likely to affect the child most and the parents' personal issues. Third, the questions are asked about concurrent conflict at the time of the interview. Thus the measure should be less affected by recall bias. IPC is unfortunately assessed only by maternal report (not paternal); ideally, one would prefer reports from both parents. This limitation should be kept in mind while interpreting the results of the study. Despite these weaknesses, the measure is a valid indicator of day-to-day marital conflict in the normative population.

The mother's depressive symptoms in 2007 were also controlled for using a five-item scale constructed by summing responses (0 = *No*, 1 = *Yes, but did not consult a doctor*, 2 = *Yes, did consult a doctor*) to questions about experiencing the following symptoms in the past year: feeling depressed, feeling tired, feeling unable to handle daily problems, sleeping problems, feeling anguish and poor nerves. The depressive symptoms scale is based on questions used by Danish practitioners (communication from Senior Researcher E. Christensen, SFI) and its validity and reliability have not been previously documented. The correlations between the items ranged from 0.30 to 0.52 and a factor analysis of the items revealed the presence of a single underlying factor. The items were therefore averaged to obtain a scale ranging from 1 to 3 (= more depressed; mean = 1.30; s.d. = 0.42). Its internal consistency is satisfactory (Cronbach's alpha = 0.78).

One dimension of parenting behaviour, the harshness of mother's disciplinary behaviour, was included. This is measured with a scale formed by summing responses to five questions asked in 2003 about how frequently the mother used the following disciplinary methods on the child: scolding; giving a rap on the fingers; sending the child to his or her room; shaking the child hard, and giving a spanking. Some of these items are similar to those used in previous studies (Buehler and Gerard 2002; Gerard et al. 2006). Responses to the questions ranged from 1 (*never*) to 3 (*weekly*). A confirmatory factor analysis indicated the presence of a single underlying dimension of maternal disciplinary behaviour so the items were averaged to obtain a scale ranging from 1 to 3 (= harsher discipline; mean = 1.62; s.d. = 0.27; Cronbach's alpha for the scale = 0.55).

We also control for the child's problems with peers and the mother's perception of the child's overall psycho-social condition. Peer problems is measured with a scale formed by summing responses to five questions asked when the child was seven years old about whether the child had had the following problems in the preceding six months: teasing other children; hitting other children; being hit by other children; being teased by other children and crying often due to other children's teasing or bullying. Responses to the questions ranged from 1 (*not true*) to 3 (*very true*). A confirmatory factor analysis indicated the presence of a single underlying dimension of problems with peers so the items were averaged to obtain a scale ranging from 1 to 3 (= worse problems; mean = 1.12; s.d. = 0.25; Cronbach's alpha = 0.77). The child's psycho-social condition is measured by a single item tapping the mother's perception of the level of difficulties her child has in any one of the following areas: emotions, concentration, behaviour or interaction with others. Responses range from 1 (= *No*) to 4 (= *Yes, serious difficulties*; mean = 1.25; s.d. = 0.52).

Additional child and mother characteristics that are thought to influence both conflict or divorce (which may be considered a result of conflict) and the child's psycho-social outcomes were also controlled for. The mother's assessment of the child's health (Houseknecht and Hango, 2006) was controlled for using a scale formed by summing responses ranging from 1 (= *healthy throughout this time*) to 4 (= *sick most of this time*) to two questions regarding overall assessment of the child's health for the period 1999-2003 (mean = 1.75; s.d. = 0.49). In addition, a dummy variable based on a 2003 survey question was used to measure if the child had a chronic illness or a physical or mental handicap.

Mother's and father's education in 2005 was measured along five categories (lower secondary school (10 years of education) or lower, general upper secondary school (13 years of education), vocational or short theoretical education (14 years of education), bachelors degree (17 years of education), and masters degree or higher (18 years of education or more). Employment status refers to the number of years in employment from 1996 to 2005. Family income is measured by the logged average family disposable income from 1996 to 2005.

Dependent Variables: Externalizing and internalizing problems at age 11. Child outcomes were measured on

scales of both externalizing and internalizing dimensions: conduct problems, inattention-hyperactivity, emotional problems and subjective health complaints. The first three of these indicators were constructed using items from the SDQ (Goodman, 1997; 2001), which is a brief behavioural screening questionnaire that provides a measure of the overall adjustment and psychopathology of children and adolescents (4-16 year olds) and is a particularly useful measure among the general population where the majority of children are healthy (Smedje et al. 1999).

The overall reliability and validity of the SDQ have been found to be satisfactory in studies across the world (e.g., Hawes and Dadds, 2004; Goodman 2001; Goodman et al. 2000) including the Nordic countries (Obel et al. 2004). Responses on five items from the SDQ are aggregated to obtain the score for each of the three scales. Items in the conduct problems scale include, for example, 'Often has temper tantrums or hot tempers' and 'Generally obedient, usually does what (s)he is told'; those in the emotional symptoms scale include 'Many worries, often seems worried' and 'Often unhappy, downhearted or tearful', and those for the inattention/hyperactivity scale include 'Restless, overactive, cannot stay still for long' and 'Easily distracted, concentration wanders'. Responses are scored 0 (*not true*), 1 (*somewhat true*) and 2 (*certainly true*). A higher score on the resulting scale indicates poorer adjustment. The means (standard deviations) for these scales were as follows: emotional symptoms: 1.77 (1.86); conduct problems: 0.82 (1.09) and inattention/hyperactivity: 2.09 (2.23). The internal consistency of the scales as measured by Cronbach's alpha coefficient was 0.62 (emotional symptoms), 0.42 (conduct problems) and 0.78 (inattention/ hyperactivity). Research in a number of countries using the parent-administered SDQ suggest that there are gender differences on some of these scales. The descriptive normative data from some countries suggest that girls tend to score higher on emotional symptoms but lower on hyperactivity and conduct problems than boys (YouthinMind, 2010). Further information on this instrument is available at www.sdqinfo.org.

The fourth and fifth indicators measured internalizing symptoms and are constructed from a battery of eight items measuring subjective health complaints, which is a general label used for the somatic and psychological symptoms experienced by the individual with or without a defined diagnosis. The items are headache, stomach ache, back ache, difficulties in getting to sleep, feelings of sadness, irritability or bad temper, feeling nervous and feeling dizzy. Such symptoms constitute both everyday experiences and health problems. Previous studies show that a large number of adolescents report weekly health complaints and that such symptoms frequently are the cause of absence from school. Reporting of symptoms is prevalent already at the age of eleven years. The items have pre-

viously been included in studies of Health Behaviour in School-aged Children (HBSC) and in symptom checklists used in other studies. They were previously found to be sensitive to the presence of psychosomatic disorders and psychological distress and have shown adequate psychometric properties in symptom checklists (Haugland et al. 2001).

Subjective health complaints tend to cluster together and can be viewed as a syndrome in which an individual regularly experiences two or more health complaints at the same time (Torsheim et al. 2004). They range from the occasional headache that most young people sometimes experience to clinical manifestations of somatic or affective symptoms that impair everyday functioning. Most studies find that in adolescence girls report more symptoms than boys do, and that both prevalence of complaints and gender differences increase with age (Haugland and Wold, 2001).

Multiple recurrent health complaints may represent a significantly heavier burden on daily functional ability and well-being than single symptoms. Therefore, two scales measuring psychological and somatic disorders, respectively, were constructed by averaging children's own responses to four questions each about the frequency (1 = *Rarely or never* to 4 = *About every day*) of the following symptoms in the previous six months: difficulties in getting to sleep, feelings of sadness, irritability or bad temper and feeling nervous (for psychological disorders), and headache, stomach ache, back ache and feeling dizzy (for somatic disorders). The resulting psychological and somatic scales each had a maximum range of 1-4 with mean (standard deviation) equal to 1.89 (0.67) and 1.48 (.0.57) and Cronbach's alpha scores of 0.67 and 0.65, respectively. The two scales were strongly correlated with each other ($r = 0.48$), as documented in previous research (Torsheim et al. 2004).

RESULTS

Statistical analyses were conducted with Stata 11.0 software and all standard errors are estimated using the robust cluster estimator to correct for heteroskedasticity.

The descriptive statistics for the three SDQ-based scales matched the normative data from a comparable previous study of 11-year old children in Aarhus, Denmark (Obel et al. 2004). The mean score for hyperactivity/inattention in the sample (2.1 points) was identical to that in the Aarhus sample, and the mean scores of the emotional symptoms, and conduct problems scales were within 0.2 points of those in the Aarhus sample.

Next, t-tests were conducted to examine if there were gender differences in the main variables (see Table 1). These tests indicated, overall, small differences, some of which were statistically significant. In agreement with some studies (YouthinMind 2010), there was a

Table 1. Mean (M) and standard deviation (SD) of variables used in the analysis for boys and girls, DALSC sample of intact families (N = 2,812)[a].

Variables	Boys (N = 1,460)		Girls (N = 1,353)		Difference
	M	SD	M	SD	in means
Emotional symptoms scale (range: 0-10), 2007	1.68	1.84	1.86	1.87	-0.17*
Conduct problems scale (range: 0-10), 2007	0.84	1.11	0.80	1.07	0.04
Hyperactivity scale (range: 0-10), 2007	2.49	2.39	1.67	1.95	0.83***
Scale of child-reported psychological symptoms (range: 1-4), 2007	1.84	0.66	1.95	0.68	-0.11***
Scale of child-reported somatic symptoms (range: 1-4), 2007	1.44	0.55	1.52	0.59	-0.08***
Interparental conflict (IPC) (range: 1-4)	1.13	0.21	1.12	0.20	0.01
Mother's depressive symptoms (range: 1-3), 2007	1.30	0.43	1.29	0.42	0.01
Mother's disciplinary style, (range: 1-3)	1.64	0.27	1.60	0.26	0.04***
Child's peer problems (range: 1-3)	1.15	0.28	1.09	0.20	0.06***
Child's overall psycho-social condition (range: 1-4)	1.28	0.58	1.18	0.45	0.10***
Child's health (range: 1-4)	1.77	0.48	1.73	0.49	0.04*
Child impaired [c]	0.13	0.34	0.10	0.30	0.03
Mother's education, 2005					
Lower secondary or less	0.11	0.31	0.13	0.34	-0.02
General upper secondary	0.07	0.26	0.07	0.26	0.00
Vocational/ short theoretic	0.42	0.49	0.41	0.49	0.01
Bachelors degree	0.31	0.46	0.30	0.46	0.01
Masters degree or higher	0.10	0.29	0.09	0.29	0.01
Father's education					
Lower secondary or less	0.16	0.36	0.16	0.37	0.00
General upper secondary	0.04	0.20	0.05	0.22	-0.01
Vocational/ short theoretic	0.48	0.50	0.46	0.50	0.02
Bachelors degree	0.19	0.39	0.21	0.41	-0.02
Masters degree or higher	0.12	0.33	0.12	0.32	0.00
Mother's employment status[d] (range: 0-10)	8.77	1.97	8.64	2.08	0.13
Father's employment status[d] (range: 0-10)	9.65	1.22	9.70	1.05	-0.05
Avg. family income (log), 1996-2005	12.69	0.26	12.69	0.28	0.00

[a] All variables measured in 2003 unless otherwise stated. [b] Child gender: 0 = *male*, 1 = *female*. [c] Child impaired: 0 = *no chronic illness or handicap*, 1 = *has chronic illness or handicap*. [d] Employment status: No. of years employed in the period 1996-2005. * P < 0.05; ** P < 0.01; *** P < .001.

significantly higher level of the SDQ emotional symptoms among girls (difference in means = 0.17 units,) and of hyperactivity problems among boys (difference in means = 0.83 units). However, no significant gender differences were found with respect to conduct problems. Also in line with previous research (Torsheim et al. 2004), girls reported worse psychosomatic health than boys (somatic symptoms: difference in means = 0.08 units; psychological symptoms: difference in means = 0.11). No gender differences were found in the level of IPC or with respect to mother's depressive symptoms. With regard to mother's disciplinary behaviour, boys were subject to slightly harsher discipline than girls (difference in means = 0.04,). With respect to the children's condition in 2003, boys had a slightly higher level of problematic relationships with their peers (difference in means = 0.06), a worse overall psycho-social condition (difference in means = 0.10) and worse health (difference in means = 0.04). There were no gender differences in the percentage suffering from a chronic illness or handicap.

Next, IPC, child gender and the covariates described above were used to predict each of the outcome variables using OLS regression in a three-step hierarchical procedure: in the first step (model 1) only IPC was the predictor; in the second step (model 2) all the covariates were added to model 1, and in the third step (model 3) the IPC x child gender interaction term was added to model 2. Tables 2-4 present the results from models 1-3 for each outcome.

The test of the bivariate relationship between IPC and each of the outcome variables in model 1 indicated a relatively strong and statistically significant relationship (with unstandardized coefficients ranging from 0.25 for psychological symptoms to 0.73 for emotional symptoms) in all cases except two, inattention/ hyperactivity (b = .69, P < 0.01) and somatic symptoms (b = .13, P < 0.05). However, the low R-squared for all the outcomes in model 1 indicated that IPC when the child was aged 7 by itself accounted for a tiny fraction of the variance in the outcomes when the child was 11 years old.

As expected, adding the covariates in model 2 increased the R-squared value substantially and reduced the magnitude of the IPC coefficient (see the results for model 2 for each outcome). The IPC coefficient

Table 2. Summary of OLS regression analyses for interparental conflict (IPC), child gender and other variables in 2003 predicting children's emotional symptoms and conduct problems in 2007 in a DALSC sample (N = 2,812).

	Emotional symptoms			Conduct problems		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
IPC	0.73 (0.18)***	0.32 (0.17)	0.09 (0.20)	0.49 (0.11)***	0.24 (0.11)*	-0.01 (0.13)
Child gender		0.32 (0.07)***	-0.28 (0.40)		0.06 (0.04)	-0.56 (0.23)*
Interaction: IPC x Child gender			0.53 (0.35)			0.55 (0.21)**
Mother's depress. symptoms, 2007		0.73 (0.09)***	0.73 (0.09)***		0.17 (0.05)**	0.17 (0.05)**
Mother's disciplinary style		0.47 (0.13)***	0.47 (0.13)***		0.88 (0.08)***	0.87 (0.08)***
Child's peer problems		0.71 (0.18)***	0.71 (0.18)***		0.44 (0.11)***	0.43 (0.11)***
Child's overall psycho-social condition		0.65 (0.09)***	0.65 (0.09)***		0.35 (0.05)***	0.35 (0.05)***
Child's health, 1999-2003		0.25 (0.07)***	0.25 (0.07)***		-0.02 (0.04)	-0.02 (0.04)
Child impaired		0.15 (0.12)	0.15 (0.12)		0.10 (0.07)	0.10 (0.07)
Dummy variables for father's education, 2005 (ref. category: lower secondary school or less)						
Gen. upper secondary		-0.29 (0.16)	-0.30 (0.16)		-0.16 (0.09)	-0.17 (0.09)
Vocational/ short theoretic		-0.28 (0.10)**	-0.28 (0.10)**		-0.08 (0.06)	-0.08 (0.06)
Bachelors		-0.17 (0.12)	-0.17 (0.12)		-0.14 (0.07)*	-0.14 (0.07)*
Masters or higher		-0.46 (0.14)**	-0.47 (0.14)**		-0.23 (0.08)**	-0.23 (0.08)**
Dummy variables for mother's education, 2005 (ref. category: lower secondary school or less)						
Gen. upper secondary		0.09 (0.16)	0.09 (0.16)		-0.14 (0.10)	-0.13 (0.09)
Vocational/ short theoretic		0.12 (0.12)	0.12 (0.12)		-0.09 (0.07)	-0.09 (0.07)
Bachelors		-0.11 (0.12)	-0.10 (0.12)		-0.16 (0.07)*	-0.16 (0.07)*
Masters or higher		0.09 (0.16)	0.09 (0.16)		-0.08 (0.09)	-0.08 (0.09)
Father's employment status, 1996-2005		-0.03 (0.03)	-0.03 (0.03)		0.00 (0.02)	0.00 (0.02)
Mother's employment status, 1996-2005		-0.04 (0.02)	-0.04 (0.02)		0.00 (0.01)	0.00 (0.01)
Avg. ann. family income (log), 1996-2005		0.04 (0.14)	0.04 (0.14)		0.01 (0.08)	0.02 (0.08)
Constant	0.95 (0.20)**	-2.16 (1.75)	-1.91 (1.75)	0.27 (0.12)*	-1.98 (0.96)*	-1.73 (0.95)
Observations	2812	2812	2812	2812	2812	2812
R-squared	0.01	0.14	0.14	0.01	0.15	0.15

* $P < 0.05$; ** $P < 0.01$; $P < .001$ for a two-tailed test; cell figures are unstandardized coefficients with robust standard errors in parentheses. All variables measured in 2003 unless otherwise stated.

dropped from 0.73 to 0.32 for emotional symptoms (with R-squared rising from 0.01 to 0.14), from 0.49 to 0.24 for conduct problems (with R-squared rising from 0.01 to 0.15), from 0.69 to 0.12 for inattention/ hyperactivity (with R-squared rising from 0.003 to 0.22), from 0.25 to 0.18 for psychological symptoms (with R-squared rising from 0.01 to 0.04) and from 0.14 to 0.10 for somatic symptoms (with R-squared rising from 0.002 to 0.03). These changes reflect the addition of some theoretically important covariates in the models, in particular the child's psycho-social and peer-related problems, the mother's depressive symptoms and the mother's disciplinary behaviour. The indicator of the child's overall psycho-social condition was the strongest predictor in the model for all the outcomes except two, the child's self-reported psychological and somatic symptoms. For these two outcomes, mother's depressive symptoms was the strongest predictor. With the addition of the covariates IPC remained a statistically significant (but weak) predictor of only two outcomes, conduct problems and psychological symptoms underscoring the importance of these covariates.

In the third step, the hypothesis that gender moderates the IPC-child outcome relationship was tested by adding the IPC x child gender interaction term. Model 3, which presents the results of the analyses, indicates that the interaction term was significant only in the case of conduct problems (b = 0.55, P <. 01), but weak, with almost no change in the R-squared statistic (0.15). The coefficient on the interaction term indicated that IPC had a stronger association with conduct problems among girls (b = 0.54, P = .001) than among boys (b = -0.01, P < 0.10) and this difference was statistically significant at the .01 level. In other words, a one-unit increase in the level of IPC is associated with a 0.54 point increase in girls' conduct problems while among boys it predicts virtually no change in conduct problems. It is also worth noting that, although the magnitude of association with the other four outcomes did not differ significantly by gender, IPC was a predictor of all these outcomes among girls, in particular with respect to psychological symptoms. The coefficient estimates for the IPC-psychological symptoms relationship for boys and girls based on the results from model 3 (shown in table 4) were 0.09 (P < 0.10) and 0.26

Table 3. Summary of OLS regression analyses for interparental conflict (IPC), child gender and other variables in 2003 predicting children's inattention/ hyperactivity and self-reported psychological symptoms in 2007 in a DALSC sample (N = 2,812).

	Inattention/ hyperactivity			Psychological symptoms		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
IPC	0.69 (0.21)**	0.12 (0.20)	-0.19 (0.28)	0.25 (0.06)***	0.17 (0.06)**	0.09 (0.08)
Child gender		-0.60 (0.08)***	-1.37 (0.43)**		0.13 (0.03)***	-0.07 (0.14)
Interaction: IPC x Child gender			0.69 (0.38)			0.17 (0.12)
Mother's depress. symptoms, 2007		0.23 (0.10)*	0.23 (0.10)*		0.15 (0.03)***	0.15 (0.03)***
Mother's disciplinary style		1.66 (0.15)***	1.66 (0.15)***		0.04 (0.05)	0.04 (0.05)
Child's peer problems		0.83 (0.19)***	0.83 (0.19)***		0.06 (0.06)	0.06 (0.06)
Child's overall psycho-social condition		1.07 (0.10)***	1.08 (0.10)***		0.08 (0.03)**	0.08 (0.03)**
Child's health, 1999-2003		0.03 (0.08)	0.03 (0.08)		0.06 (0.03)*	0.06 (0.03)*
Child impaired		0.25 (0.13)*	0.26 (0.13)*		0.03 (0.04)	0.03 (0.04)
Dummy variables for father's education, 2005 (ref. category: lower secondary school or less)						
Gen. upper secondary		-0.34 (0.20)	-0.35 (0.20)		-0.06 (0.07)	-0.06 (0.07)
Vocational/ short theoretic		-0.22 (0.11)	-0.22 (0.11)*		-0.06 (0.04)	-0.06 (0.04)
Bachelors		-0.15 (0.13)	-0.15 (0.13)		-0.04 (0.04)	-0.04 (0.04)
Masters or higher		-0.56 (0.16)***	-0.57 (0.16)***		0.01 (0.05)	0.01 (0.05)
Dummy variables for mother's education, 2005 (ref. category: lower secondary school or less)						
Gen. upper secondary		-0.41 (0.17)*	-0.40 (0.17)*		0.16 (0.06)**	0.16 (0.06)**
Vocational/ short theoretic		-0.07 (0.13)	-0.07 (0.13)		0.06 (0.04)	0.06 (0.04)
Bachelors		-0.33 (0.14)*	-0.32 (0.14)*		0.08 (0.04)	0.08 (0.04)
Masters or higher		-0.32 (0.19)	-0.33 (0.19)		0.11 (0.06)	0.10 (0.06)
Father's employment status, 1996-2005		-0.05 (0.04)	-0.05 (0.04)		0.01 (0.01)	0.01 (0.01)
Mother's employment status, 1996-2005		0.01 (0.02)	0.01 (0.02)		-0.01 (0.01)	-0.01 (0.01)
Avg. ann. family income (log), 1996-2005		0.00 (0.15)	0.00 (0.15)		0.03 (0.05)	0.03 (0.05)
Constant	1.31 (0.24)**	-2.22 (1.94)	-1.90 (1.95)	1.60 (0.07)**	0.66 (0.63)	0.73 (0.63)
Observations	2813	2812	2812	2813	2812	2812
R-squared	0.00	0.22	0.22	0.01	0.04	0.04

 * P < 0.05; ** P < 0.01; P < .001 for a two-tailed test; cell figures are unstandardized coefficients with robust standard errors in parentheses. All variables measured in 2003 unless otherwise stated.

(P < 0.01), respectively.

The results for the other covariates in model 3 indicated no change from model 2 in the relative magnitude of the coefficients for child's psycho-social condition and mother's depressive symptoms. In addition, in both models, mother's disciplinary behaviour is a strong predictor of all outcomes except the two self-reported ones (psychological and somatic symptoms). In both models 2 and 3, family income and mother's and father's employment status in the period 1996-2005 is a non-significant predictor of all outcomes. Overall, mother's educational attainment is not associated with the outcomes considered here, with weak and statistically non-significant coefficients in almost all cases. In contrast, father's educational attainment is a predictor of the three SDQ-based scales, with the higher levels of education associated with lower levels of maladjustment.

DISCUSSION

The aim of this study was to test longitudinally the hypothesis that child gender moderates the relationship between IPC conceptualized as a normative phenomenon and a number of child outcomes in a large, Danish national sample of intact families. IPC was operationalized as the frequency of quarrels between the parents of the selected child on matters of daily family life when the child was 7 years old and the outcomes were externalizing and internalizing symptoms measured using mother reports and child self-reports when the child was aged 11. The hypothesis was tested while controlling for a number of theoretically relevant factors in 2003 such as psycho-social adjustment, parents' resources such as parents' educational attainment, and aspects of the larger family system such as mother's disciplinary behaviour and depressive symptoms.

The main findings overall are, first, that child gender is a weak moderator of the IPC-child problems relationship; it is a moderator in the case of only one out of five outcomes and a weak one, making little difference to the statistical results when introduced in the models. (It should be kept in mind, however, that the weakness of the interaction term coefficients could be explained in part by the fact that even the most robust gender differences are generally modest in mag-

Table 4. Summary of OLS regression analyses for interparental conflict (IPC), child gender and other variables in 2003 predicting children's self-reported somatic symptoms in 2007 in a DALSC sample (N = 2,812).

	Somatic symptoms		
	Model 1	Model 2	Model 3
IPC	0.14 (0.05)*	0.10 (0.05)	0.04 (0.07)
Child gender		0.10 (0.02)***	-0.04 (0.12)
Interaction: IPC x Child gender			0.12 (0.11)
Mother's depress. symptoms, 2007		0.10 (0.03)***	0.10 (0.03)***
Mother's disciplinary style		-0.03 (0.04)	-0.03 (0.04)
Child's peer problems		0.08 (0.05)	0.08 (0.05)
Child's overall psycho-social condition		0.03 (0.02)	0.03 (0.02)
Child's health, 1999-2003		0.08 (0.02)**	0.08 (0.02)**
Child impaired		0.00 (0.04)	0.01 (0.04)
Dummy variables for father's education, 2005 (ref. category: lower secondary school or less)			
Gen. upper secondary		0.07 (0.06)	0.07 (0.06)
Vocational/ short theoretic		-0.01 (0.03)	-0.02 (0.03)
Bachelors		-0.02 (0.04)	-0.02 (0.04)
Masters or higher		-0.08 (0.04)	-0.08 (0.04)
Dummy variables for mother's education, 2005 (ref. category: lower secondary school or less)			
Gen. upper secondary		0.06 (0.05)	0.06 (0.05)
Vocational/ short theoretic		0.06 (0.03)	0.06 (0.03)
Bachelors		0.08 (0.04)*	0.08 (0.04)*
Masters or higher		0.10 (0.05)*	0.10 (0.05)*
Father's employment status, 1996-2005		-0.01 (0.01)	-0.01 (0.01)
Mother's employment status, 1996-2005		-0.01 (0.01)	-0.01 (0.01)
Avg. ann. family income (log), 1996-2005		0.02 (0.04)	0.02 (0.04)
Constant	1.33 (0.06)**	0.89 (0.54)	0.94 (0.54)
Observations	2813	2812	2812
R-squared	0.00	0.03	0.03

* P < 0.05; ** P < 0.01; P < .001 for a two-tailed test; cell figures are unstandardized coefficients with robust standard errors in parentheses. All variables measured in 2003 unless otherwise stated.

Table 5. Estimates of the IPC-child outcome relationship for boys and girls based on results of model 3 in tables 2-4.

Outcome	Boys	Girls
Emotional symptoms	0.09 (0.20)	0.61 (0.29)*
Conduct problems	-0.01 (0.13)	0.54 (0.17)**
Inattention/ hyperactivity	-0.19 (0.51)	0.50 (0.26)
Psychological symptoms	0.09 (0.08)	0.26 (0.09)**
Somatic symptoms	0.04 (0.07)	0.16 (0.08)*

* P < 0.05; ** P < 0.01 for a two-tailed test. cell figures are unstandardized coefficients with robust standard errors.

nitude (Davies and Lindsay 2001)). Furthermore, in the outcome where the IPC-child gender interaction term was statistically significant, conduct problems, the results indicate that, contrary to expectations and in contrast to the findings of Jouriles et al. (1991), the IPC-conduct problems relationship was stronger among girls than among boys. Second, and related to the above point, while the results for the interaction term indicate that the magnitude of the IPC-child outcomes relationship is not significantly different for boys and girls in four of the cases, separate estimates

of the IPC coefficients for boys and girls, respectively, indicate that IPC was a significant predictor of four out of five outcomes for girls, in particular of psychological symptoms (with the exception of inattention/ hyperactivity) while it did not predict a single outcome among boys. These results suggest greater support to a 'female vulnerability' hypothesis and should be the subject of future research.

Third, the altogether weak association between IPC and child outcomes provides the main background for these results. Part of the explanation probably lies in the combination of IPC operationalization in terms of frequency of quarrels, the use of a non-clinic and higher SES sample of intact families (Jouriles et al. 1991; Buehler et al. 1997). Despite this, in the presence of theoretically relevant controls, in particular measures of the child's overall psycho-social condition in 2003 and the mother's depressive symptoms, IPC remains a significant predictor of two outcomes, conduct problems and psychological symptoms. Indeed, the results of model 2 indicate that IPC is the second strongest predictor (after mother's disciplinary behaviour and discounting the association with the measures of the child's psycho-social condition in 2003) of conduct

problems. It is the strongest predictor of psychological symptoms, even taking into account the measures of the child's psycho-social condition.

It is also worth noting here that the fit of the regression models as reflected in the R-squared statistic was considerably lower in the two cases where child self-reports were used to counter single-informant bias, somatic and psychological symptoms. This suggests that common method variance arising from the use of a single informant may be inflating the IPC-child outcome relationship being tested.

Overall, these results qualify the findings of much previous research as they are not consistent with the expectations derived from the male vulnerability model or the differential reactivity model. Specifically, regarding the male vulnerability model, this study does not find that the relationship between IPC and child outcomes was stronger for boys than girls. On the contrary, it was stronger for girls in the only case where there was a significant gender difference, conduct problems. Furthermore, it does not satisfy the prediction of the differential reactivity model that boys' distress in the presence of interparental conflict may be expressed through externalizing symptoms and girls through internalizing symptoms. On the contrary, the results show that the IPC is a stronger predictor of an externalizing outcome, conduct problems, among girls. In addition, the coefficient estimates presented in table 5 (and confirmed by the estimates obtained from models 1-3 on the boys and girls samples separately; results not shown here) indicate that IPC is a significant longitudinal predictor of a number of outcomes among girls, especially psychological symptoms, but not among boys.

The overall findings of weak gender differences and the stronger IPC-child outcomes relationship among girls are similar to those found in some earlier studies (Jouriles et al. 1991; Davies and Lindsay 2004). Nevertheless, they advance the debate because they are a better test of causal effects and they can be generalized to a wider population owing to the normative nature of the sample and, to a lesser extent, the indicator of IPC. This sample, though limited to relatively affluent intact families and thereby excluding the effects of the most serious marital conflicts (those that result in separation) is still more broadly representative of the community than the samples used in many other studies.

The findings of this study also underscore the need for multiple informants to reduce common method variance (Podsakoff et al. 2003) and the use of children wherever appropriate for measuring their internalizing symptoms. As Grych et al. (1992) have noted, parents may be good observers of externalizing symptoms, whereas children are more accurate reporters of their own internalizing problems.

The findings of this study also have to be qualified in the light of some limitations. None of these weaknesses, however, should necessarily affect boys' and girls' families differently, and are therefore unlikely to bias the results. Very little of the variance in the self-reported outcomes is explained by the models even after adding important covariates. This suggests not only that IPC, gender and their interaction explain a small fraction of the variance in these outcomes but also that there are important variables not considered in the analysis. Such variables include, for example, children's interactions with their fathers, peers and teachers (Forehand and Wierson 1993; Snyder 1998). At the same time, it should be noted that few, if any, studies incorporate all theoretically relevant variables in the analysis. In addition, some of the child maladjustment measures, in particular the conduct problems scale, have low internal consistency reliability as reflected in their Cronbach's alpha scores, indicating that they contain random error that might serve to depress the covariances. However, while low reliability on the dependent variable reduces the amount of variance explained, it does not create instability in the predictor estimations (Buehler and Gerard 2002).

There are a number of implications of these findings. They underscore the importance of testing the robustness of the relationship between IPC and child outcomes over time, using a number of different time lags if possible, while incorporating theoretically relevant moderators and mediators. Such an analysis will help to check whether IPC in the normative population has an enduring impact on child well-being, directly or indirectly through factors such as parent-child interaction or parental mental health and can clarify the direction of causality in a way cross-sectional studies are unable to.

Another implication is to avoid making general assumptions about how boys and girls react to IPC. This study qualifies child gender-related notions about the association between IPC and a number of internalizing and externalizing outcomes. In this regard, it is relevant to consider whether there are international variations that could explain why the findings of 'male vulnerability' or 'differential reactivity', which originate primarily from studies of American families, cannot be replicated in the Danish context. For example, one reason for the finding of a stronger association between IPC and conduct problems among girls could lie in similar gender socialization patterns among girls and boys in Denmark. This would imply, for example, that girls externalize their greater distress at IPC similarly to boys. For example, parents may not differentially reward boys for assertiveness and independence and girls for acquiescent behaviour. This would in turn reduce the broader range of traditional socialization pressures that are thought to lead to different sex roles, with boys manifesting greater independence, self-direction, self-protection and autonomy and girls manifesting greater interpersonal connectedness and concern for the welfare of others and a desire to subordinate themselves to the needs of the group (Lindsay and Davies, 2001). The plausibility of an explanation based on similarity in socialization patterns is likely to

be greater in a sample such as the one analyzed in this paper, which is characterized by intact families with parents who are more educated and perhaps therefore more likely to value similar socialization for their children of opposite sexes. Testing this hypothesis empirically is a task for future research.

Finally these findings also suggest that family therapists and other practitioners, need to consider, first, that the that impact of IPC on boys and girls may vary depending on the nature of the conflict and the type of families affected by it. Furthermore, while IPC may not have a direct impact over time, its effects may continue to be felt through other elements of the family system, such as the parent-child relationship.

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