Joint physical custody and child well-being: Does personality matter?

An Katrien Sodermans

Sofie Vanassche

Koen Matthijs

Katholieke Universiteit Leuven

Paper presented at the European Population Conference,

Stockholm, 13-16 June 2012.

Work in progress, please do not cite

Direct all correspondence to An Katrien Sodermans, Family and Population Studies Leuven, Parkstraat 45, bus 3601, 3000 Leuven, Belgium. (ankatrien.sodermans@soc.kuleuven.be)

Joint physical custody and child well-being: Does personality matter?

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change." – Charles Darwin

1. Introduction

Several changes in family formation, parenting and partnership have occurred the past decades. People marry later, divorce more often and the beliefs about parenting and custody have changed (van Krieken, 2005). Sociodemographic developments (decreased fertility, higher education, increased female workforce participation, increased cohabitation), reactions from father groupings and psychological insights resulted in a "detraditionalisation of gender roles". Whereas mothers used to be the primary caregivers this has steadily been replaced by the equality of both parents in childrearing. The principle of permanent parental responsibility was also accepted in Belgian custody law. In 1995, joint legal custody was installed in the law and in 2006 joint physical custody became the preferred model. This last custody option refers to a situation in which children live alternately with mother and father after divorce. Particularly this last legislative change makes Belgium a real pioneer with regard to gender neutral court decisions. It is estimated that almost 30% of ex-partners who separated between the installation of the joint physical custody law in September 2006 and December 2010 have a child with a shared residence (Sodermans, Vanassche, & Matthijs, 2011), which is high in comparison with other European countries.

Despite this legal presumption for joint custody, the relation between joint physical custody and child well-being is not clear-cut. Bauserman's (2002) meta-analysis of previous studies pointed in the direction of slightly positive effects on child adjustment, but selection effects could not be ruled out. Parents who opt for joint custody are mostly higher educated and have more financial resources, which partially explains the beneficial effects on well-being. Moreover, the debate around pro and con's of joint custody is out of date. A growing number of scholars emphasizes that it makes no sense simply comparing children in sole and joint custody, but it is crucial to incorporate explaining factors (Kelly, 1993). A first approach is to take into account family process variables (e.g. parental conflict, the parent-child relationship, etc.). According to Lee

(2002) the influence of joint physical custody on children's behavioural adjustment follows a complex trajectory: in itself it is related with positive outcomes for children, but family processes may suppress any positive effects. Another way of looking at the link between joint custody and child adjustment is to consider individual characteristics that make children more or less vulnerable to stressful situations, like a parental divorce or frequent transitions between two parental households. "The great diversity in response to divorce is related to the interaction of risk and protective factors associated with individual characteristics of the child…"(Hetherington & Stanley-Hagan, 1999). The latter approach is also taken in this article. We will study children's personality as a differentiating factor in the association between joint custody and child well-being.

2. Joint physical custody: historical and legal context

Many American custody researchers start with giving a historical overview of custody trends in the past two centuries (Felner, Terre, Farber, Primavera, & Bishop, 1985; Fox & Kelly, 1995; Frankel, 1985; Rothberg, 1983; Warshak, 1986; Wolchik, Braver, & Sandler, 1985). In earlier times, until the end of the 19th century, custody rights were usually reserved for fathers. After a while, courts started to grant custody to mothers, especially when they were still nursing the children. When divorce rates began to rise in the U.S. (around 1960) custody was almost always granted to mothers, which was the start of the so-called "tender-years doctrine". It reflected a very traditional view on caretaking of children (Kelly, 2006) with the mother as primary caregiver. This tender-years-period reflected societal changes like the industrial revolution, early feminist movements and the growing importance of nurturance in healthy development of children. Due to the increasing female workforce participation, father movements arguing for more father involvement in child rearing and the growing attention for children's rights in the seventies, the tender-years-doctrine was gradually replaced by the "best interest of the child" standard (Kaltenborn, 2001; Pearson & Thoennes, 1990). Unless this new standard's main target was to remove gender-bias in custody decisions, in practice custody arrangements remained very traditional (Kelly, 2006) and in only a very few cases custody was granted to fathers. The best-interest principle was often attacked by critics because of its ambiguous character and its lack of precision (Riggs, 2005; Warshak, 1986, 2007). As a result of these critics new custody options

emerged: joint legal and joint physical custody, which can be opposed against sole physical custody. Fox and Kelly (1995) define these custodial settings as follows. In *sole custody* the child mainly lives with one parent, although trough visitation children may spend a considerable amount of time with the non-residential parent. *Joint legal custody* refers to the expectation that there will be substantial shared decision making between ex-spouses concerning the child's health care, education, etc.. *Joint physical custody* differs from the previous one in the fact that the child will spend substantial, but not necessarily equal, proportions of residential time with both parents. Joint legal custody is always assumed in this last case. Frankel (1985) compared the three arrangements as follows. Sole custody assures a stable environment to the child but implies a decrease in involvement of the non-residential parent in the children's lives. Joint legal custody leads to an increased availability of the non-residential parent, but due to the higher need of collaboration between ex-spouses the inter-parental conflict may increase. Joint physical custody, finally, requires the greatest degree of cooperation between parents. Moreover the child will have to cope with two different lifestyles, two sets of expectations and values, etc.

The shift towards joint legal custody in Belgian Divorce Law, which occurred in 1995, is the juridical expression of the contemporary normative climate identifying biological parents as ultimately responsible in bringing up their children. This replaced the former situation in which one parent had custody (mostly the mother) and the other had visitation rights (mostly the father). From 1995 onwards, both parents were supposed to be responsible, in proportion to their own means, for housing, living costs, parenting and the education of their children. The law of 1995 did not stipulate a preferred residential model after divorce, the only guideline was the child's best interest. As a consequence a wide range of possible residential arrangements emerged. In 2006, joint physical custody was introduced as the preferred residential model in Belgium. When a parental agreement exists, the judge will ratify this, unless it is incompatible with the child's best interests. In case of twist or absence of an agreement, joint physical custody has to be investigated by the court and may be imposed by the judge, even against the will of one parent. Criteria for the child's best interest are not stipulated in the law, resulting in a lot of ambiguity regarding custody decisions (Martens, 2007; Vanbockrijk, 2009). Because of this legal presumption, Belgium is a front runner with regard to the carrying out of joint physical custody arrangements in Europe. It also creates an ideal study context to examine outcomes of joint physical custody on child and adolescent well-being.

In this article, we will compare sole mother custody with joint physical custody and father custody. Joint legal custody is assumed in all situations.

3. Joint custody and emotional well-being of children: Continuity versus stability

Many scholars have investigated the effects of custody type on child adjustment (for an overview see Bauserman, 2002), but the cumulative results are not straightforward. Lee (2002) refers to it as the "continuity – stability" debate. Some studies emphasize the beneficial effects of joint custody on child well-being (Buchanan, Maccoby, & Dornbusch, 1992; Crosbie-Burnett, 1991; Glover & Steele, 1989; Luepnitz, 1986; Shiller, 1986; Spruijt & Duindam, 2009; Wolchik et al., 1985), apparently associated with increased parental involvement and fewer economic difficulties (Gunnoe & Braver, 2001). The results of these studies imply that *continuity* is important for children after divorce. Like stated by Lowery and Settle (1985, p.461) "joint custody could help to eliminate some of the stress experienced by families by decreasing the incidence of other changes associated with. Hence, joint custody may minimize changes in both structural and functional characteristics of the family."

On the other hand, the supporters of the *stability* approach claim that children may experience more stress in joint physical custody situations, due to multiple transitions and a more complex family configuration (Bauserman, 2002; Goldstein, Freud, & Solnit, 1973; Kuehl, 1993; Spruijt & Duindam, 2009). Rothberg (1983) describes several difficulties related to joint physical custody, like multiple transitions, logistic problems associated with moving back and forth and elevated stress of children having troubles to adjust to two different homes. Also, King (2002) refers to the possible negative effect of living in two households on the continuity of friendship networks of children.

Also, numerous studies have failed to identify an association between custody type and child adjustment (Buchanan, Maccoby, & Dornbusch, 1991; Buchanan et al., 1992; Donnelly & Finkelhor, 1992; Lee, 2002; Naedvall & Thuen, 2004; Pearson & Thoennes, 1990). The reason for this inconsistency is probably caused by the complexity of the notion 'child adjustment', by the fact that different forces are interacting with each other like within a system (Lee, 2002) and that various intermediating factors are in play.

In line with Amato's (Amato, 2010) critique on divorce research focusing too much on mean differences in child well-being, we also argue that many research does not take into account intermediating factors. It is essential to consider many intra- en interpersonal factors before deciding which custody arrangement is in the child's best interest. This stability-continuity debate is little nuanced and does not take into account individual child factors. We try to contribute to this debate by taking up a risk and resilience perspective and by considering the role of the child's personality in studying the link between custody arrangement and child well-being.

4. Coping with transitions: risk and resilience and the role of personality

When children experience a parental divorce, they have to cope with stressors that may have an impact on their psychosocial functioning over time (Amato & Keith, 1991; Glenn & Kramer, 1985; Kelly & Emery, 2003). The way in which children react and adapt to stressful life events is dependent upon the extent to which they can regulate their emotions and upon the coping mechanisms and strategies they use (Lee, 2002). According to Wachs (2006) temperamental factors will determine the particular coping style that children apply. Temperament can be defined as individual differences in reactivity and self-regulation assumed to have a constitutional basis (Rothbart, Ahadi, & Evans, 2000). In other words, temperament is an innate characteristic of a human being and influences the way children react on stressful events like a parental divorce. Children with an easy temperament (sociable and intelligent) are more adaptable to change than temperamentally difficult children and are more likely to elicit positive responses from their parents and other adolescents, which may buffer the negative impact of stressors (Hetherington, 1989; Troxel & Matthews, 2004). Moreover, it is the co-existence of having a difficult temperament and the presence of stress that makes children vulnerable. Under low stress conditions no differences in coping could be observed between temperamentally easy and difficult children, whereas easy temperament children with the right amount of support could even benefit from stress of marital transition (Hetherington, 1989). As long as the stressors were not too cumulative and within certain limits, it could be a way to enhance coping with difficult situations. As said by Hetherington & Stanley-Hagan (1999), "a goodness-of-fit between stressors and protective factors is crucial".

The different temperamental dispositions are linked to the concept of personality, that is generally seen as a five dimensional model, also known as the "Big Five". The five dimensions are extraversion, neuroticism, openness, conscientiousness and agreeableness and represent personality at the broadest level of abstraction. Each dimension summarizes a large number of more specific personality characteristics (Denissen, Geenen, van Aken, Gosling, & Potter, 2008; John & Srivastata, 1999). It has been shown that children as from middle childhood can be characterized by the Big Five. The Big Five personality variables also have good external validity as described in the literature review by Asendorpf and Van Aken (2003). A brief overview of the personality variables may be appropriate.

Extraversion implies "an energetic approach towards the social and material world" and is linked to characteristics like sociability, activity, assertiveness and positive emotionality (John & Srivastata, 1999, p.30). Low extraversion scores could be linked to aggression (Asendorpf & van Aken, 2003).

Agreeableness is related to a "prosocial and communal orientation towards others" (John & Srivastata, 1999, p.30) and is opposed against antagonism. It is also linked to trust, straightforwardness, altruism, compliance, modesty and tender-mindedness. A low score on agreeableness has been linked to dysfunctional relational behaviour, e.g. social problems, interpersonal conflicts, antisocial behaviour, conduct disorder and socialized aggression (Asendorpf & van Aken, 2003).

Conscientiousness describes "socially prescribed impulse control that facilitates task- and goal-directed behaviour, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing, and prioritizing tasks" (John & Srivastata, 1999, p.30). Low scores on conscientiousness have been linked to hyperactivity (Asendorpf & van Aken, 2003).

Neuroticism is linked with feelings of anxiety, nervous, sadness en tension (John & Srivastata, 1999) and is also called negative emotionality. It is the personality dimension most related to internalizing behaviour; as it was related to anxiety and depression (Asendorpf & van Aken, 2003). Children high in negative emotionality (i.e. high in neuroticism) are more likely to perceive a stressful situation as a threat and create more negative arousal (Lengua, Sandler, West, Wolchik, & Curran, 1999), whereas high scores on emotional stability (i.e. low neuroticism) have been linked to being flexible to changing situational demands (Asendorpf, Borkenau, Ostendorf,

& Van Aken, 2001). Kaiseler, Polman, & Nicholls (2012) found that neuroticism was associated with less adaptive coping strategies while the other four personality dimensions were associated with more effective coping strategies.

There is still some debate about the fifth factor *openness*, in the past also labelled as 'openness to experience' or 'intellect'. Openness has been linked to characteristics like artistic, curious, original, wide interest, intelligent, creativity, and cultural interest (John & Srivastata, 1999). It describes the breadth, depth, originality, and complexity of an individual's mental and experiential life (idem, p.30). High scores on openness could be linked to higher general intelligence and low scores on openness were related to problems in social behaviour (Asendorpf & van Aken, 2003).

Summarized, high scores on openness, extraversion, agreeableness, conscientiousness and a low score on neurotic could be labelled as social desirable behaviour, and can be positively related to general outcomes in social, cognitive and emotional well-being. There is evidence that children with an easy temperament or personality (intelligent, socially mature, emotional stable and responsible) are more resilient with regard to divorce, stress and multiple transitions between parental households (Bray, 1991; Hetherington, Bridges, & Insabella, 1998).

5. Hypothesis and research questions

In this study, we want to investigate how the custody arrangement after divorce is associated with child well-being and whether this association differs by child's personality. We argue that joint custody is a less stable residential arrangement because of the multiple transitions associated with it. In contrast, sole custody offers a high degree of stability because the child has only one primary residence. In this study, we take sole mother custody as primary reference group to make comparisons with joint physical custody. This decision was made because sole mother custody is the largest group, and has been the default custody arrangement for a long time. Sole father custody is rather exceptional, but those children will be grouped in a separate category and also included in the analysis.

We first examine whether joint or father custody is preferable over sole mother custody in terms of subjective well-being and whether this differs between different personality characteristics of children. We expect that the association between joint physical custody and child well-being is

different for children with less socially desirable personality traits (high neuroticism, low extraversion, low agreeableness, low conscientiousness and low openness) than for children with a more socially desirable personality (low neuroticism, high extraversion, high agreeableness, high conscientiousness high low openness). Multiple transitions and living in two households requires continuous adaptation to changing situational demands. Children with a resilient personality type are more flexible and will probably better adjust to this type of residential arrangement. Hence, we hypothesize that children with a less socially desirable personality have a lower emotional well-being in joint versus sole mother custody, whereas for children with an easy personality there is no difference in emotional well-being according to custody arrangement.

6. Methodology

6.1 Data

Data is used from the Leuven Adolescents and Families Study (Vanassche, Sodermans, Dekeyser, & Matthijs, 2012), a project that started in 2008. Every year approximately 1800 pupils (roughly between 12 and 18 years) are questioned within the context of their secondary school regarding their family life, family relationships and various dimensions of their well-being. A two stage sampling design was used. Firstly, schools are selected via a disproportional, stratified sample. Strata characteristics concern the school type (free versus public schools) and regions of at least 50.000 inhabitants, corresponding to municipalities within the different Flemish provinces. Secondly, two random classes of pupils for each educational track[1] and grade[2] are selected within the schools. All pupils are questioned within a collective moment. An important advantage of this sampling design is that it entails a sample of adolescents across all social layers of society, spread across schools that differ in the socio-economic and cultural backgrounds of their pupils. There is a very-limited selective non-response rate compared to other large-scale surveys (<1%).

Currently, four data collection rounds have been completed. A standardized, paper-and-pencil questionnaire is used for the data collection. The schools are not randomly selected, but the

[1] The four educational tracks in the Flemish schooling system are: General education, Vocational education, Technical education and Arts education

[2] The Flemish schooling system has four different grades, each corresponding with two consecutive years of secondary education. The fourth grade incorporates only one year and exists only in the Vocational study track

distributions according to sex, age, education level and family situation in the sample are quite similar to the distribution in the Flemish population.

Our research sample (N=1183) is limited to all children of divorced parents who participated in rounds 2, 3 and 4 and for whom detailed information is available about their custody arrangement. Round 1 is omitted from the analysis because personality was not measured.

In the next two sections we describe the operationalization of all variables that are used in this study. Descriptives of all study variables can be found in Appendix 1.

6.2 Variables

Our dependent variable, we include both a cognitive and emotional component psychological well-being. Testing the same research hypotheses on two different outcome measures increases the reliability of the results. *Life satisfaction* was measured by asking respondents to indicate how satisfied or dissatisfied they were with their life on a scale ranging from 1 (very dissatisfied) to 10 (very satisfied). 50% of the adolescents indicated 8 or more, 30% reported a 6 or 7 and 20% scored 5 or lower. *Feelings of depression* were measured with eight items, known as the CES-D 8 (Radloff, 1977). Respondents had to indicate how often they had felt or behaved in a certain way (e.g. felt lonely, slept bad, felt depressed) during the last week. There were four answer categories with increasing frequency, ranging from (almost) never to (almost) always. Cronbach's alpha is 0.83. The depressions scale was composed by summing all items and ranges from 0 to 24. 43% scores less than 7, 23% scores more than 10.

Our core independent variable is the *custody type* in which children reside following parental divorce. The amount of time that children spend with both parents was measured using a residential calendar This is a visual depiction of a normal month with each box representing a part of every day (Sodermans, Vanassche, Matthijs, & Swicegood, forthcoming). Children had to indicate on a monthly basis which days and nights they spend with their mother, their father, or somewhere else. This information was used to make a classification of custody type. Melli (1999) investigated which threshold for joint physical custody was applied by different states in the U.S. before a reduction in child support could be considered. She found that most states set the threshold between 30 and 35%. In this study, joint physical custody (25% of respondents) means that children live at least one third of time in each parental household. When they live at least two

thirds of time with mother or father they are respectively classified as sole mother (66%) and sole father custody (9%). The predominance of mother custody is reflected in the distribution of this variable.

The next main variables of interest are related to personality and will function as independent variable and as moderators in our study. The *Big Five personality* traits extraversion, neuroticism, agreeableness, openness and conscientiousness were measured by the Ten-Item Personality Inventory (TIPI) developed by (Gosling, Rentfrow, & Swann, 2003). Each personality trait was measured by two expressions about the way children define themselves. A seven response Likert scale was used ranging from 'strongly disagree until 'strongly agree'. For each of the five personality traits, a scale ranging from 1 to 7 was constructed. The mean scores are shown in appendix 1.

Boys and girls differ on all personality variables. For extraversion, boys have an average score of 4.90 and girls have an average score of 4.66 (t-test(1017):-3, $p<0.01$). Girls have an average score on agreeableness of 5.32 and boys 5.17 (t-test(1017):-2.24, $p < 0.10$). Girls are also more conscientiousness; they score on average 5.04 and boys only 4.73 (t-test(1017):-4.13, $p<0.0001$). The biggest difference can be found for neuroticism. Girls have a mean neurotic score of 3.77 and boys score only 3.28 (t-test(1017): -6.39, $p<0.0001$). Finally, girls are on average higher in openness with a mean score of 5.06 versus 4.93 for boys (t-test(1017): -1.72, $p<0.10$).

As can be seen in the correlation matrix (Table 1) there is a high correlation between the personality variables. Openness is highly positive correlated with all other personality variables, but highly negative with neuroticism. This latter variable is negatively correlated with all other variables. Extraversion is not correlated with agreeableness and conscientiousness, but both variables are positively associated with each other. These intercorrelations show high resemblance to those tested on the more extended Dutch BFI (Big Five Inventory) validated by Denissen et al. (2008), which is an indication that we used a valid scale. The only exception is that the positive correlation between extraversion and agreeableness and between extraversion and conscientiousness could not be confirmed by our data. Because all variables will be included as moderators in our models, they are all mean-centred to reduce multicollinearity between the independent variables and interaction terms among them (Holmbeck, 2002).

Table 1 Correlation matrix of personality variables

	A	C	N	O
E	-0.001	0.047	-0.091**	0.221***
A		0.231***	-0.293***	0.206***
C			-0.170***	0.222***
N				-0.172***

E=extraversion, A=agreeableness, C=conscientiousness, N=Neuroticism, O=Openness

Appendix 2 shows the bivariate associations between custody type and personality variables/types. No significant associations could be found, except that girls in father custody are somewhat more agreeable and neurotic.

Finally, some socio-demographic control variables are included. The average *age* of the adolescents is 15 years. 95% of the respondents is between 12 and 18 years old, with a relatively equal distribution across the different ages. This variable is centred around its mean (15,3) in the multivariate analysis.

The *financial situation* of both the maternal and paternal household are included as a dichotomous variable, distinguishing between experiencing never to rarely financial difficulties versus experiencing sometimes or often financial difficulties. Adolescents report considerably more frequent financial problems in the maternal household (39,5%) than in the paternal household (23,5%). For the 32 respondents with a missing value for the maternal household and 102 respondents with a missing value for the paternal household, an additional dummy variable was included, indicating that information on this variable was not available.

The highest *educational level* of both parents is included as a dichotomous variables, indicating whether or not this parent has a certificate of higher education (university or non-university). For the 91 respondents with a missing value, an additional dummy variable was included, indicating that information on this variable was not available.

We control for *years past since parental divorce* by including a metric variable. For the 56 respondents with a missing value on this variable, we imputed the mean (8) and controlled for this imputation by adding a dummy variable to the analyses.

6.3 Analysing technique

Analyses are done by using the statistical package SAS 9.3. In a first step we look at the association between custody arrangement and personality with both measures of well-being (Table 2 and Table 3). Because the independent variables are metric, we estimated OLS regression models. For each dependent variable, four models are run. The first model contains only the custody type as independent variable, the second model contains only the five personality variables as predictor, the third model includes both custody type as the personality variables and the last model adds control variables to the third model. The coefficients for joint and father custody are estimated; sole mother custody is the reference group. Because the five personality variables are entered together in one model and are intercorrelated (see correlation matrix, Table 1), we tested for multicollinearity by calculating the Variance inflation Factor, which was always within acceptable limits (values below 2). Models are always presented for boys and girls separately.

In a second step we tested interaction terms between custody type and personality. To avoid multicollinearity, we did not include all interactions terms in the same model, but for each moderator seperately. For each personality variable (moderator), we ran a separate model, in which we added two interaction terms to the model. The personality variables are always centred around the mean. For example, to test the interaction between the personality variable extraversion and custody arrangement, we constructed two interaction terms:

ExJoint = Extraversion x Joint custody

ExFather = Extraversion x Father custody

Those two interaction variables are added to the full model with control variables (model 4 in Table 2 and Table 3).

Finally, we use the method of post-hoc probing as discussed by Holmbeck (2002) to test whether differences between the various custody types are significant under specified conditions of the

moderators (personality variables). The tests are always conducted on the multivariate model, including all variables and the interaction term for the moderator of interest, only for those moderators that were found significant. For each personality variable, we respectively subtract and add one standard deviation to the centred moderator to obtain two new variables with respectively a low and high value on the moderator.

For example, we construct:

LowEx = Extraversion - (-1,307)

HighEx = Extraversion - (1,307)

Next, new multiplicative terms are constructed with these new variables and the dummy variables joint custody and father custody. By doing so, we construct different zero points of the moderator, which allows to generate sample-specific equations.

For example, we construct:

LowExJoint = LowEx x Joint custody

LowExFather = LowEx x Father custody

HighExJoint = HighEx x Joint custody

HighExFather = HighEx x Father custody

With these new variables, we run post-hoc regression models, with either the low or high value on the moderator as entry point. The significance tests for the main coefficients of custody type apply under the moderator being zero. For example, for the association between custody arrangement and life satisfaction we obtained two equations. For example:

For low extraversion (1 *SD* below the mean):

$$\text{LIFE SAT}_{EST} = \text{intercept} + B1(\text{Joint}) + B2(\text{father}) + B3(\text{LowEx}) + B4(\text{LowExJoint}) + B5(\text{LowExFather}) + \text{controls}$$

For high extraversion (1 *SD* above the mean):

$$\text{LIFE SAT}_{EST} = \text{intercept} + B1(\text{Joint}) + B2(\text{father}) + B3(\text{HighEx}) + B4(\text{HighExJoint}) + B5(\text{HighExFather}) + \text{controls}$$

When the moderator is considered zero, and all terms are substituted in the above equations, we are left with only the coefficient (slope) for each custody arrangement and the intercept. The conditional predicted values, based on the coefficients of the sample-specific equations, are graphically depicted in Figure 3, Figure 1 and Figure 2.

7. Results

We will first discuss the results of the multivariate regression models for life satisfaction (Table 2) and depressive feelings (Table 3). After controlling for background factors, joint custody is not related with subjective well-being of boys and girls, as measured by depression and life satisfaction. Sole father custody is negatively related with life satisfaction of girls, but there is no association with girls' depressive feelings. Sole father custody seems to be associated with lower well-being for boys, measured by both well-being dimensions, but the parameter loses significance in the model including control variables. This is particularly caused by the addition of the variables education level of parents and financial situation of the mother.

Personality variables seem to be highly important for explaining subjective well-being. This can be derived from the fact that the proportion explained variance increases in the models where personality variables are included. For models with only custody arrangement as predictor variable the R^2 never exceeds 2%, while the addition of the Big Five personality variables increases this figure substantially.

For boys, all personality traits are important for explaining emotional well-being, with the only exception that openness is not related to depressive feelings. Parameter estimates remain the same and are still significant after controlling for other variables. Somewhat surprising is that the association for agreeableness and openness with well-being runs in the unexpected direction. Higher scores on agreeableness and openness seem to get along with lower life satisfaction and more depressive feelings. The reason for that is that all variables are added together in one model. The correlation matrix (Table 1) shows high intercorrelations among the personality variables, thus when they are entered in one model, suppression effects may take place. We performed some additional analyses where we regressed life satisfaction and depression on each personality variable separately. Associations for all five personality variables were in the expected direction,

but agreeableness was not related to both measures of emotional well-being and openness had no significant effect on life satisfaction.

For girls, a somewhat different pattern emerges. When all five variables are entered simultaneously, only extraversion and neuroticism can predict depressive feelings. For life satisfaction this pair of variables is completed with agreeableness, but the parameter estimate loses significance when adding other variables to the model. For girls, all coefficients are in the expected direction. This means that extraversion and agreeableness are positively associated with life satisfaction and negatively with depressive feelings. For neuroticism, the association runs contrariwise. Here as well, suppression effects seem to be at work. When entering the variables solely to the model we find significant effects on life satisfaction and depressive feelings for all personality variables and in the expected direction.

The age of the child, years past since divorce and educational level of the parents are not related to subjective well-being. However, there is evidence for an interesting gender effect. Girls with a financially insecure mother report significantly more depressive feelings and lower life satisfaction, while for boys a father with financial difficulties is associated with lower life satisfaction.

Table 2 Linear regression analysis modelling life satisfaction

	Boys				Girls			
Intercept	7.33***	7.34***	7.37***	7.66***	7.08***	6.99***	7.10***	7.46***
Custody arrangement (ref=sole mother)								
Joint custody	0.30		0.13	-0.01	-0.20		-0.22	-0.24
Sole father custody	-0.70*		-0.68*	-0.45	-0.83**		-0.78**	-0.69*
Personality variables								
Extraversion		0.29***	0.28***	0.26***		0.28***	0.27***	0.24°
Agreeableness		-0.18*	-0.19*	-0.20*		0.17*	0.14°	0.12
Conscientiousness		0.34***	0.33***	0.32***		0.03	0.03	-0.01
Neuroticism		-0.28***	-0.29***	-0.30***		-0.32***	-0.31***	-0.31***
Openness		-0.13°	-0.12°	-0.12		-0.02	-0.03	-0.01
Control variables								
Age				-0.08°				0.02
Educational level parents (ref=high)				-0.26				0.08
High financial problems mother (ref=low)				-0.13				-0.84***
High financial problems father (ref=low)				-0.33				-0.25
Years since divorce				-0.01				0.01
R^2	0.02	0.13	0.14	0.18	0.01	0.10	0.11	0.16
N	493	431	431	430	670	573	573	573

Table 3 Linear regression analysis modelling depressive feelings

	Boys				Girls			
	1	**2**	**3**	**4**	**1**	**2**	**3**	**4**
Intercept	7.39***	7.30***	7.28***	6.88***	8.38***	8.37***	8.24***	7.27***
Custody arrangement (ref=sole mother)								
Joint custody	-0.98*		-0.44	-0.24	0.46		0.49	0.60
Sole father custody	-0.96		1.39*	1.08	-0.92		0.39	0.32
Personality variables								
Extraversion		-0.71***	-0.70***	-0.68***		-0.61***	-0.60***	-0.52***
Agreeableness		0.50**	0.52**	0.53**		-0.18	-0.17	-0.07
Conscientiousness		-0.75***	-0.73***	-0.73***		-0.04	-0.04	-0.04
Neuroticism		1.10***	1.11***	1.10***		1.03***	1.02***	1.04***
Openness		0.16	0.14	0.12		0.03	0.04	-0.01
Control variables								
Age				0.13				-0.09
Educational level parents (ref=high)				0.10				0.19
High financial problems mother (ref=low)				0.72°				2.15***
High financial problems father (ref=low)				0.09				0.59
Years since divorce				0.04				0.02
R^2	0.02	0.20	0.21	0.23	0.01	0.13	0.13	0.19
N	499	434	434	433	678	582	582	582

Our real matter of interest is whether there are interactions between custody arrangement and personality variables in explaining well-being of boys and girls. In other words, is the association between custody type and well-being different for children with an 'risk full' versus a 'vulnerable' personality? To test this, we created multiplicative terms between each centred personality variable and both dummy variables for custody arrangement (father and joint custody), resulting in two interaction terms for each personality variable. Subsequently, we ran five separate models for each dependent variable, where we tested the interaction between each personality variable and custody arrangement, by adding both interaction terms to the full models including control variables.

For depressive feelings, no significant interaction terms were found. For life satisfaction, there were three personality variables for which the addition of interaction terms significantly increased the likelihood of the model: neuroticism and agreeableness for girls; extraversion for boys.

For girls in joint custody, there is a more pronounced negative association between neuroticism and life satisfaction when compared to mother custody as the negative slope increases with 0.27 (S.E.=0.150, $p<0.10$). The interaction between neuroticism and custody arrangement for the life satisfaction of girls is shown in Figure 1. The two equations are:

For low neuroticism (1 *SD* below the mean):

$$\text{LIFE SAT}_{EST} = 7.81 + 0.17(\text{Joint}) - 1.13(\text{father}) + \text{controls}$$

For high neuroticism (1 *SD* below the mean):

$$\text{LIFE SAT}_{EST} = 7.12 - 0.50(\text{Joint}) - 0.55(\text{father}) + \text{controls}$$

The slope of joint custody was only significant in the model for high neuroticism, the slope for father custody was significant and negative in both models.

The higher the score on the neuroticism scale, the lower life satisfaction of girls. For girls in joint custody, however, this association is much more pronounced than in the two other custody options. The post-hoc tests confirm that girls characterised with a high neuroticism score have a

significant lower life satisfaction in joint custody when compared to mother custody, while this is not the case for low neurotic girls. On top of their higher likelihood to report low life satisfaction, having to share residences between both parents seems to be extra harmful for neurotic girls. For low neurotic girls, thus those who have a resilient personality, there is no difference between joint and mother custody regarding life satisfaction. These girls are probably better able to cope with continuing transitions between the household of the mother and the father.

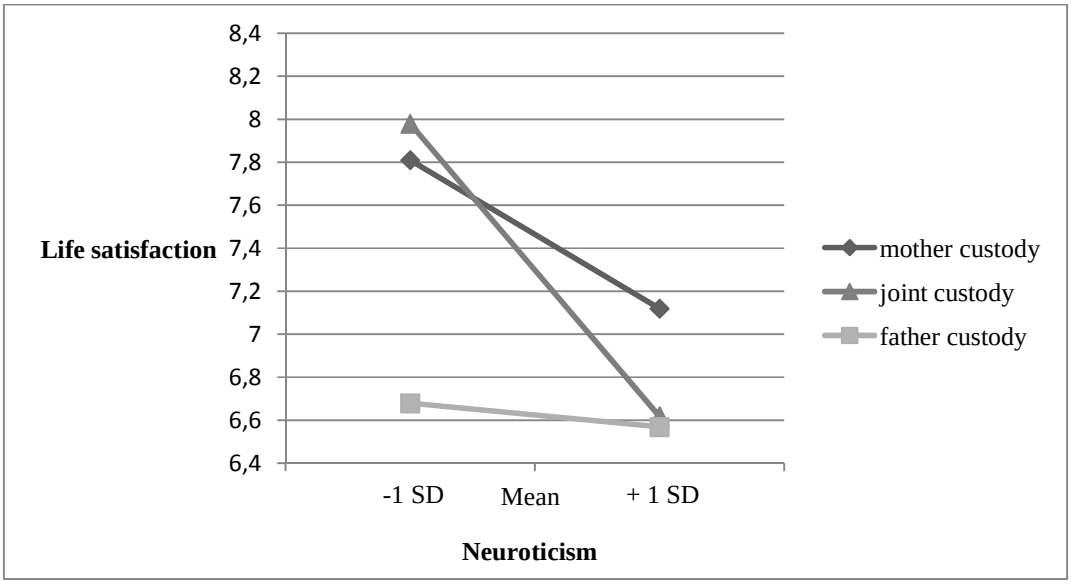

Figure 1 Conditional predicted values on life satisfaction for girls with different levels of neuroticism in three different custody arrangements

Next, we look at the interaction between agreeableness and custody type for explaining life satisfaction for girls. For girls in sole mother custody the association between agreeableness and life satisfaction is positive (slope is 0.18), while for girls in father custody it is negative: the slope decreases with 0.42 (S.E.=0.236, $p<0.10$). The interaction is shown in Figure 2. The obtained equations are:

For low agreeableness (1 *SD* below the mean):

$$\text{LIFE SAT}_{EST} = 7.26 - 0.19(\text{Joint}) - 0.36(\text{father}) + \text{controls}$$

For high agreeableness (1 *SD* below the mean):

$$\text{LIFE SAT}_{EST} = 7.64 - 0.27(\text{Joint}) - 1.26(\text{father}) + \text{controls}$$

In neither equation, the slope for joint custody is significant, and only in the high agreeableness model the slope for father custody is significant. This nuances the results obtained from the multivariate models shown in Table 2 where we found that father custody is less beneficial for girls' life satisfaction. This seems to be only true for girls high in agreeableness. For low agreeable girls, there are no differences in life satisfaction between the mother and father custody.

The fact that high agreeable girls seem not to benefit from a residential arrangement in which they live exclusively with their father could be explained as follows. Agreeable individuals may attribute greater importance to the quality of their relationships (with parent, friends,…) when making a global evaluation about their life satisfaction. Additional analyses learn that the negative effect of father custody in the equation for high agreeableness disappears completely after controlling for the relationship with the mother[3]. Hence, agreeable girls in father custody could be suffering from the worse mother-child bond which has implications for their satisfaction with life. For low agreeable girls, the mother-child relationship may be less important for the evaluation of life satisfaction.

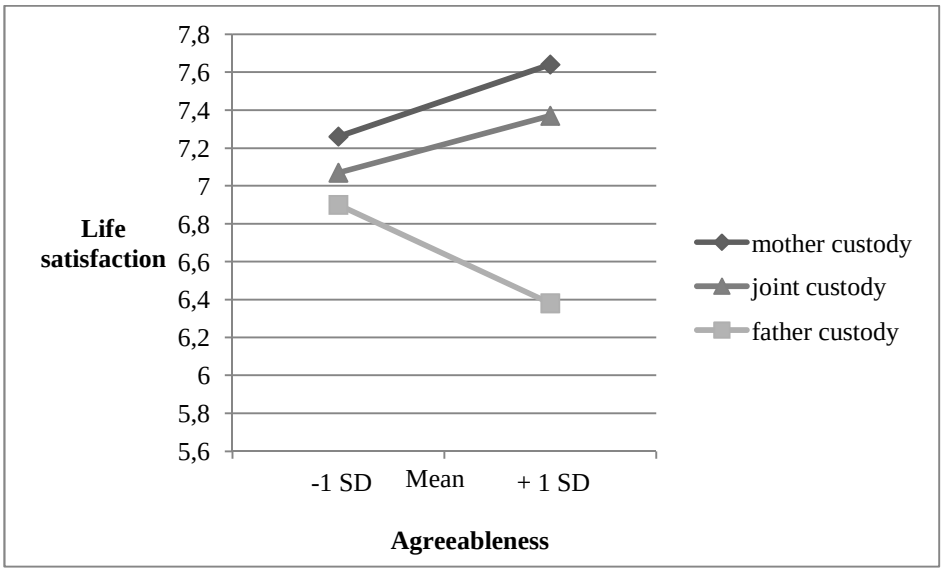

Figure 2 Conditional predicted values on life satisfaction for girls with different levels of agreeableness in three different custody arrangements

[3] Measured by the Network of Relationship Inventory scale (Furman & Burhmester, 1985).

For life satisfaction of boys there is a significant interaction between extraversion and joint custody. For boys in sole mother custody the slope of the effect of extraversion is 0.36, and this decreases with 0.23 (S.E.=0.130, $p<0.10$) for boys in joint custody and with 0.28 (S.E.=0.219, not significant) for boys in father custody. We used the method of post-hoc probing as discussed by Holmbeck (2002) to test whether differences between the custody types are significant under specified conditions of the personality variables. The two obtained equations are:

For low extraversion (1 *SD* below the mean):

$$\text{LIFE SAT}_{EST} = 7.21 + 0.27(\text{Joint}) - 0.11(\text{father}) + \text{controls}$$

For high extraversion (1 *SD* below the mean):

$$\text{LIFE SAT}_{EST} = 8.16 - 0.34(\text{Joint}) - 0.84(\text{father}) + \text{controls}$$

The slopes of joint custody were not significant in both models while those for father custody were significant in the model for high extraversion only. The predicted values for mother, joint and father custody under both the low and high extraversion condition are graphically depicted in Figure 3. Like confirmed by the interaction terms in the multivariate model, the slope of extraversion is different in joint custody than in sole mother custody. These results tend to imply that the differences in life satisfaction between mother and joint custody are higher for high extraverted boys (with mother custody being related with higher well-being), thus boys with a more social desirable score on this personality variable, than for low extraverted boys. For this last group, life satisfaction is even higher in joint custody, but the slope was not significant. This result is not in line with our hypothesis, as we expected that differences in life satisfaction would be larger for low extraverted boys.

However, the slopes of joint custody in the post-hoc tests were not significant under neither condition of extraversion. Hence, we should be careful with interpreting the presented results. For boys in father custody, who clearly have the lowest life satisfaction score, the interaction term was not significant in the multivariate model.

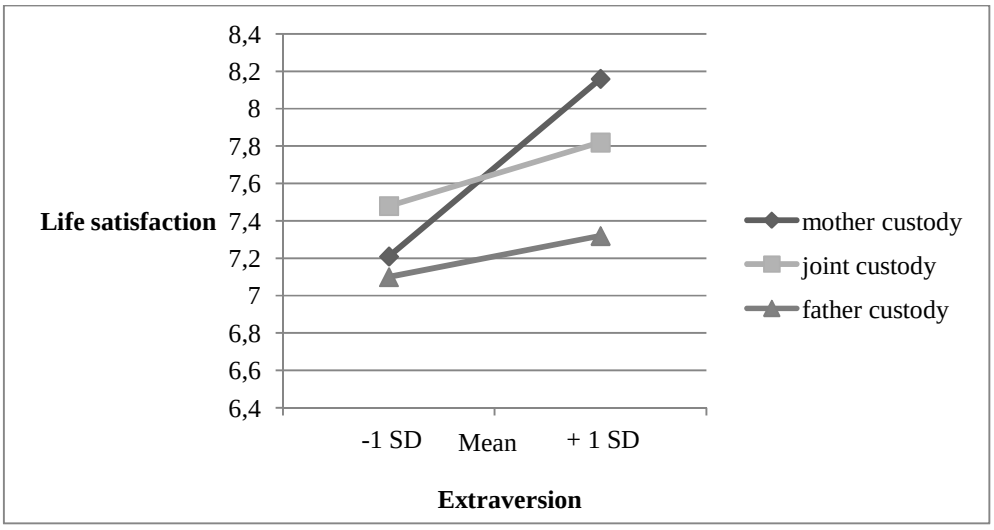

Figure 3 Conditional predicted values on life satisfaction for boys with different levels of extraversion in three different custody arrangements

8. Conclusion

The results presented in this article shed a new light on the association between custody arrangement and adolescent's well-being. In general, no association was found between joint custody and subjective well-being, which is line with other research literature. However, when personality is considered, some interesting results show up. An interaction was found between extraversion and joint custody for predicting life satisfaction of girls. For high neurotic girls, joint custody seems associated with lower levels of life satisfaction than sole mother custody, while this association is absent for low neurotic girls. Hence, high neurotic girls seem to have more difficulties with adjusting to joint physical custody. This result could be linked to the fact that positive and negative aspects of joint custody are counterbalancing each other. On the one hand it may have some beneficial consequences for child well-being (e.g. better relationship with both parent), but it could on the other hand also increase stress levels because of the multiple transitions associated with it, leading to a less stable family situation. Exactly on the association between the stressors and emotional well-being (what is sometimes called 'coping'), personality can play a role, by making children vulnerable or resilient for these stressors. Neuroticism is seen as a rather stable personality trait, associated with a higher likelihood to respond negatively to stressful situations (Liu, Wang, & Li, 2012). Moreover, it is linked to less adaptive coping

strategies (Kaiseler et al., 2012). Our results confirm that for girls with a more ‘difficult’ personality, e.g. higher neuroticism, the impact of stressors arising from a more turbulent residential arrangement, on subjective well-being increases. Those kind of girls may be less able to cope with living in two different households, adjusting to two different lifestyles, two sets of expectations and values, etc. For children with an easy personality, who are well able to cope with changing situational demands, the effect of the stressors from joint custody will be weakened. For these individuals, the custody arrangement does not matter that much.
As said by Hetherington and Stanley-Hagan (1999, p.133) “The psychologically rich may get richer and the poor get poorer in dealing with the challenges of divorce.”(Hetherington & Stanley-Hagan, 1999, p.133). This “Matteus-effect” can be partially confirmed by our results. For children with a risk-full personality, i.e. high neurotic girls, the custody arrangement does matter. High neurotic girls seem to benefit most from a sole mother residence. Putting those girls in another residential situation may have implications for their well-being.

The results learn that, for some children, joint or father custody seem good options. Nevertheless they are never better options in terms of subjective well-being than sole mother custody. Hetherington's (1989) finding that easy temperament children with the right amount of support could even benefit from stressful situations, cannot be confirmed by our results.

Our results may have implications for policy makers, judges and professional workers involved in setting custody arrangements as they show that it is important to consider child characteristics when deciding on custody arrangement. Our results can only be generalised to adolescents between 12 and 21 years old. According to Troxel and Matthews (2004), adolescence is a crucial period, in which children are more likely to experiment with health-promoting as well as health compromising behaviour. Furthermore, during adolescence, there is an increasing risk for risk factors related to cardiovascular diseases and other chronic illnesses. Hence, it is important to keep stressors low during these period of children’s life.

Appendix 1

Categorical variables	N	%
Custody arrangement	**1183**	
- Sole mother	776	65.6
- Sole father	110	9.3
- Joint custody	297	25.1
Highest education of parents	**1183**	
- Low	446	37.7
- High	737	62.3
Financial problems of mother	**1183**	
- Never to seldom (low)	684	57.8
- Sometimes to always (high)	467	39.5
- Missing	32	2.7
Financial problems of father	**1183**	
- Never to seldom (low)	803	67.9
- Sometimes to always (high)	278	23.5
- Missing	102	8.6

Metric variables	mean	sd	min	max
Personality variables				
Extraversion	4.80	1.31	1	7
Agreeableness	5.26	1.06	1	7
Conscientiousness	4.91	1.17	1	7
Neuroticism	3.56	1.25	1	7
Openness	5.00	1.16	1	7
Control variables				
Age	15.3	1.93	11	20
Years since divorce	7.9	4.20	0	20

Appendix 2

	Boys			Girls			
	Mother 257	Joint 130	Father 50	Mother 407	Joint 125	Father 50	
Personality traits (mean)							
Extraversion	4.59	4.75	4.74	4.94	4.89	4.66	
Agreeableness	5.18	5.23	5.00	5.37	5.33	4.89	**
Conscientiousness	4.72	4.81	4.62	5.26	4.99	4.97	
Neuroticism	3.35	3.16	3.21	3.71	3.84	4.17	*
Openness	4.88	4.98	5.05	5.10	5.01	4.76	

°p<.10; *p < .05; ** p < .01; ***p < .001 (Chi-square test for categorical variables, F-test for metric variables)

Bibliography

Amato, P.R. (2010). Research on Divorce: Continuing Trends and New Developments. . *Journal of Marriage and the Family,72,* 650-666.

Amato, P.R. & Keith, B. (1991). Parental divorce and adult well-being: A meta-analysis. *Journal of Marriage and the Family,53,* 43-58.

Aspendorf, J.B.; Borkenau, P.; Ostendorf, F. & Van Aken, M.A.G. (2001). Carving personality description at its joints: Conformation of three replicavle personality prototypes for both children and adults. *European Journal of Personality, 15,* 169-198.

Bauserman, R. (2002). Child adjustment in joint-custody versus sole-custody arrangements: A meta-analytic review. *Journal of Family Psychology, 16*(1), 91-102.

Bray, J.H. (1991). Psychosocial factors affecting custodial and visitation arrangements. *Behavioural sciences and the law,* 9, 419-436.

Buchanan, C.M., Maccoby, E.E. & Dornbusch, S.M. (1991). Caught between Parents: Adolescents' Experience in Divorced Homes. *Child Development,* 62(5), 1008-1029

Buchanan, C.M., Maccoby, E.E. & Dornbusch, S.M. (1992). Adolescents and their families after divorce: three residential arrangements compared. *Journal of research on adolescence, 2*(3), 261-291.

Coysh, W. S., Johnston, J. R., Tschann, J. M., Wallerstein, J. S., & Kline, M. (1989). Parental postdivorce adjustment in joint and sole physical custody families. *Journal of family issues, 10,* 52-71.

Crosbie-Burnett, M. (1991). Impact of joint versus sole mother custody and quality of co-parental relationship on adjustment of adolescents in remarried families. *Behavioral sciences and the law, 9,* 439-449.

Denissen, J. J. A., Geenen, R., van Aken, M. A. G., Gosling, S.D. & Potter, J. (2008). Development and validation of a dutch translation of the Big Five Inventory (BFI). *Journal of Personality Assessment, 90*(2), 152 – 157.

Donnelly, D.D. & Finkelhor, D. (1993). Who has joint custody? Class differences in the determination of custody arrangements. *Family relations, 42*, 57-60.

Glenn, N.D. & Kramer, K.B. (1985). The psychological well-being of adult children of divorce. *Journal of Marriage and the Family, 47,* 905-912.

Glover, R.J. & Steele, C. (1989). Comparing the effects on the child of post-divorce parenting arrangements. *Journal of divorce, 12*, 185-201.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A Very Brief Measure of the Big Five Personality Domains. *Journal of Research in Personality, 37*, 504-528.

Gunnoe, M.L. & Braver, S.L. (2001). The effects of joint legal custody on mothers, fathers, and children controlling for factors that predispose a sole maternal versus joint legal award. *Law and Human Behavior, 25*, 25-43.

Hetherington, E.M., Bidges, M. & Insabella, G.M. (1998). What matters? What does not? Five perspectives between marital transitions and children's adjustment. *American psychologist, 53*(2), 167-184.

John, O.P. & Srivastava, S. (1991). The big-five trait taxonomy: history, measurement, and theoretical perspectives. In Pervin, L. & John, O.P. (Eds.). *Handbook op personality: theory and research* (2nd ed.) New York: Guilford (in press).

Kelly, J.B. & Emery, R.E. (2003). Children's adjustment following divorce: risk and resilience perspectives. *Family Relations, 52*, 352-362.

Lee, M.Y. (2002). A model of children's postdivorce behavioural adjustment in maternal and dual-residence arrangements. *Journal of family issues, 23*(5), 672-697.

Luepnitz, D. (1986). A comparison of maternal, paternal, and joint custody: Understanding the varieties of post-divorce family life. *Journal of divorce, 9*(3), 1-12.

Naevdal, F. & Thuen, F. (2004). Residence arrangements and well-being: A study of Norwegian adolescents. *Scandinavian journal of psychology, 45*, 363-371.

Pearson, J. & Thoennes, N. (1990). Custody after divorce: Demographic and attitudinal patterns. *American Journal of Orthopsychiatry, 60* (2), 233-249.

Rothbart, M.K., Evans, D.E. & Ahadi, S.A. (2000). Temperament and personality: Origins. and outcomes. *Journal of Personality and Social Psychology, 78*(1), 122-135.

Sodermans, A.K.; Vanassche, S. & Matthijs, K. (2011). Gedeelde kinderen en plusouders: De verblijfsregeling en de gezinssituatie na scheiding. In D. Mortelmans, I. Pasteels, P. Bracke, K. Matthijs, J. Van Bavel & C. Van Peer (Eds.), *Scheiding in Vlaanderen*. Leuven: Acco.

Spruijt, A.P. & Duindam, V.P.J. (2008). *Joint physical custody in The Netherlands and the well-being of children.* Paper presented at the Sixth European Divorce Network Meeting: Oslo, Norway (2008, september 18 - 19).

Stroschein, L. (2007). Challenging the presumption of diminished capacity to parent: Does divorce really change parenting practices? *Family relations, 56*, 358-368.

Vanassche, S.; Sodermans, A.K. & Matthijs, K. (2011). *Methodologische documenten. Leuvens Adolescenten en Gezinnenonderzoek.* Leuven: CeSO.

Vanassche, S.; Sodermans, A.K.; Botterman, S.; Corijn, M.; Dekeyser, G.; Havermans, N. & Matthijs, K. (2011). *Congresboek Leuvens Adolescenten en GezinnenOnderzoek. 22 september 2011*. Leuven: CeSO.

Van Krieken, R. (2005). The 'best interests of the child' and parental separation: On the 'civilizing of parents'. *Modern Law Review, 68*, 25-48.

Wachs, T. (2006). *Contributions of temperament to buffering and sensitization processes in children's development.* Annals of the New York Academy of Sciences, 1094 (1), 28-39.

Wolchik, S. A., Braver, S. L., & Sandler, I. N. (1985). Maternal versus joint custody: Children's post-separation experiences and adjustment. *Journal of clinical child psychology, 14*, 5-10.