His and her relationship quality: Effects on childbearing

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INTRODUCTION

Many fertility studies examine the influence of individual characteristics, mostly women's, on the timing and quantum of childbearing. Most children, however, are born within couple relationships. To understand childbearing, a couple perspective is therefore required. The decision to have a child is a crucial decision that involves commitment to the child and the partner and therefore compels couples to judge their current and future circumstances on several domains, including the partnership (Hobcraft & Kiernan 1995).

Over the past several decades, increasing attention has been paid to the influence of childbearing desires and other characteristics of both partners and to couple characteristics (Coombs and Chang 1981; Morgan 1985; Thomson, McDonald and Bumpass 1990; Corijn, Liefbroer and De Jong Gierveld 1996; Thomson 1997, 2002; Thomson and Hoem 1998; Jansen and Liefbroer 2006). Much less attention has been paid to the influence on fertility of the quality of the partner relationship itself.

Research on the relationship between partnership quality and childbearing usually focuses on one aspect of relationship quality, namely union stability. Most such studies do not directly measure relationship stability but estimate its effects by observing subsequent separations (Thornton 1978; Koo & Janowitz 1983; Lillard & Waite 1993, Thomson & Henz 2005). Because it is the couple's separation that is observed, these studies implicitly take a couple point of view. Two studies observe relationship quality directly, but only from one partner's point of view (Myers 1997, Rijken and Liefbroer forthcoming). The same relationship may, however, be experienced by each partner in a different way (Bernard 1972; Thomson & Colella 1992). In this study we aim to answer the question how each partners' (men's and women's) perceptions of the quality of their relationship influence fertility.

In doing so, we expand previous research in several ways. First, using both partners' reports of relationship quality enables us to test whether disagreeing perceptions of relationship quality inhibit childbearing and whether men's and women's perceptions have an equally strong influence on fertility. We also expand the hypothesis developed by Rijken and Liefbroer (forthcoming) that couples with moderately successful relationships are the most likely to have more children. Using only one partner's perspective, Rijken and Liefbroer (forthcoming) found that positive partner interaction as well as negative partner interaction negatively influenced first and higher order parity births, suggesting that the most positive relationships (low negative interaction, high positive interaction) would be *less* likely to produce births than those with both positive and negative components.

We take advantage of new data from wave 1 (2003) and wave 2 (2007) of the Netherlands Kinship Panel Study. These data provide not only couple reports on relationship quality, but also a broad set of measures of relationship quality.

THEORY AND PREVIOUS RESEARCH

Relationship quality and fertility

The decision to have a child is one of the most complex lifetime judgements that individuals and couples make. Childbearing is irreversible and involves sustained commitment to support the child for a long time (Hobcraft & Kiernan 1995). The choice to have a child thus involves the couple in assessing current and likely future circumstances on several domains, including the partnership. Hobcraft and Kiernan argue that being in a stable partnership is the most important condition for becoming a parent. Three Eurobarometer surveys from the 1990s and 2000s show that young inhabitants of the European Union rate having a stable partnership or a supportive partner as the most or second most important factor influencing decisions about having children (Malpas and Lambert 1993; European Commission 1997; Testa 2006).

Lillard and Waite (1993) argue that children represent the largest investment in marriage and that, therefore, couples who face a high likelihood of separation, may delay or forgo making this commitment. The presence of children (especially young children) raises the costs of dissolution and Lillard and Waite (1993) assume that people take these costs into account in childbearing decision-making. Separation could imply either having to raise the children alone, or to have reduced or no contact with the children. Besides the increased cost of separation for parents, parental separation and growing up with a single parent are known to have negative effects on the child (Amato & Keith 1991; Furstenberg & Cherlin 1991; Morrison & Coiro 1999).

Several studies empirically support the idea that union instability decreases the likelihood of childbearing. Thornton (1978) found that married women had reduced rates of childbearing during the two years just before separation. Koo and Janowitz (1983) tried to disentangle the effects of childbearing on marital discord (indicated by actual separation) and vice versa by applying a simultaneous logit model. They conducted separate analyses for different marriage intervals, and found that marital discord did not have a statistically significant effect on fertility until late in marriage. Conjugal discord only increased the likelihood that couples had a(nother) child if these marriages lasted more than 12 years. Lillard and Waite (1993) modelled the hazard of union disruption and the hazard of marital conception simultaneously, and included the estimated hazard of disruption as a predictor in

the equation to estimate the hazard of marital conception. Their findings indicate that the risk of marital disruption faced by a married woman has a negative effect on her likelihood of marital childbearing: it lengthens the intervals between births and decreases the chances that a child will be born. Myers (1997) used direct measures of divorce proneness and also found that divorce proneness negatively influences childbearing.

While stability is critical in decision-making about having children, the quality of a partnership may also be of concern in decisions about childbearing, even if the partners consider their union to be stable (Rijken and Liefbroer, forthcoming). Not only divorce negatively affects children, several studies have shown that parental conflict is detrimental to children's well being (Grych & Fincham1990; Amato, Lewis and Booth 1995; Morrison & Coiro 1999). Childless people who do not (yet) consider the quality of their partner relationship to be suitable for childbearing might still rather stay in a relationship than be alone. Moreover, parents in mediocre or bad quality relationships might not consider a break up because of the child(ren) they already share, but their poor relationship quality might inhibit additional births.

Another source of associations between relationship quality and childbearing is the potential negative effect of children on partner relationships (Houseknecht 1979; Glenn & McLanahan 1982). Studies of reasons for and against having children or additional children found that some individuals express concerns about negative effects on the partner relationship (Callan 1986, Carmichael & Whittaker 2007) or expect that having a (next) child will result in spending less time with their partner (Bulatoa 1981). Carmichael and Whittaker (2007) suggest on the basis of their qualitative study that people only want to have a child in a relationship that is good enough to withstand the negative consequences of having children.

On the other hand, couples with low or moderate levels of happiness and satisfaction in their relationship may have children in order to provide alternative sources or 'objects' of love and companionship[1] or to increase the quality of the relationship itself. Research on expected consequences of having children shows that people consider giving and receiving love and affection, and emotional satisfaction and fulfillment as important benefits of having children (Hoffman & Manis 1979; Bulatao 1981; Callan 1986; Seccombe 1991), but also that

[1] The argument that people might want to have a child as another source of love in a low quality relationship, might be more relevant though in a context in which one could not leave a unhappy partnership, that is, in a context in which divorce is not common.

people expect that having a first or another child will benefit the partner relationship (Hoffman & Manis 1979; Bulatao 1981; Callan 1986; Liefbroer 2005).

Friedman, Hechter and Kanazawa (1994) postulated that the value of having children in affluent societies, where children's net instrumental value is negative, lies in uncertainty reduction. Their theory assumes that rational actors will always seek to reduce uncertainty, among others by enhancing their marital solidarity. Having children is supposed to enhance marital solidarity, because it increases marital capital (Becker, Landes and Michael 1977). Consequently Friedman et al. derived the hypothesis that the risk of divorce has a positive effect on the propensity to parenthood. They also expected that the multistranded quality of the relationship – financial ties, ties of common interest – between husbands and wives has a negative effect on the propensity to parenthood, because partners who are already very involved with each other have less need to revert to having children as a strategy to cement the relationship.

The combination of these opposing theoretical forces could result in couples with medium levels of relationship quality having the highest birth rates. On the one hand people might avoid childbearing in very poor relationships, on the other hand people in very happy relationships may feel less need to increase the quality of their relationship, to reduce their uncertainty or to have another source of love than people in moderately happy relationships. As noted above, Rijken and Liefbroer (forthcoming) found that individuals with high positive *and* low negative aspects to their relationship were less likely to have (more) children in comparison to those with high positive and high negative aspects, i.e., those with moderate relationship quality. The highest rates of childbearing seemed to occur among couples with relationships that were basically sound but not of the highest quality. Rijken and Liefbroer (forthcoming) suggest that these couples may want to revitalize their relationship by having a(nother) child, but also that very happy couples delay or even avoid childbearing in order to maintain the quality of their relationship. As we mentioned above, several studies have demonstrated that some people might have concerns about the negative effects of children on partner relationships, and people who are very satisfied with their current relationship might be most aware of this threat.

Based on the theoretical ideas and empirical findings outlined above, we formulate two alternative hypotheses about the relationship between partner relationship quality and childbearing:

H1a) Partner relationship quality has a positive effect on the likelihood of childbearing.

H1b) Partner relationship quality has a curvilinear effect on the likelihood of childbearing: medium levels of relationship quality lead to the highest likelihood of childbearing.

We do not include the hypothesis that partner relationship quality has a negative effect on the likelihood of childbearing. The only theory from which such a hypothesis could be derived (Friedman et al. 1994), has been criticised for having tenuous assumptions, and being internally inconsistent (Lehrer, Grossbard-Schechtman & Leasure 1996). Nor has any empirical support been provided for the theory, i.e., empirical results that appear to be 'consistent' with its hypotheses are more easily explained by alternative theories (Lehrer et al. 1996).

His and her relationship quality

As noted earlier, most studies on childbearing and relationship stability do not directly measure relationship quality (Thornton 1978; Koo & Janowitz 1983; Lillard & Waite 1993), though they implicitly take a couple point of view. Studies with direct measures of relationship quality have to date used only one partner's report of quality or stability (Myers 1997; Rijken & Liefbroer forthcoming). How might differences in perceptions of relationship quality be expected to influence a couple's decision to have children? Is a relationship happy or suitable for having a child when one partner thinks so, or when both partners think so? Since it takes two to produce a child, one might expect that both partners must value the relationship in such a way that they would like to have a(nother) child with their partner. The implications of this argument depend on the direction of the quality effect on childbearing. If the effect is generally positive, either partner's low assessment of relationship quality will inhibit childbearing. If the effect is curvilinear, either partner's low or high assessment of relationship quality would reduce the likelihood of childbearing, with highest chances of childbearing among couples with shared middle quality assessments. We therefore hypothesize:

H2) If partners have disagreeing perceptions of the quality of their relationship, the least favorable perception for having a child has a dominant influence on childbearing.[2]

[2] Note that the reasoning behind H2 is analogous to the principle of veto power (Thomson & Hoem 1998*)*. This implies that each of the partners has veto power in decision making about having children, hence if one partner is unwilling to have a child, no birth will take place. This principle might be expected in modern, individualized societies, where partners consider each other as equal and might feel that decisions require mutual agreement. A related argument for the inhibiting effect of disagreeing views is the process of inertia (Davidson & Beach 1981). Inertia inhibits change of behavior (concerted action) when couples disagree. When the ongoing

The influence of the assessment of relationship quality on fertility could also be gendered; there might be gender differences in the strength of the effect of relationship quality on the desire for children. The first question we ask ourselves is whether either men or women would be more likely to avoid childbearing in low quality relationships. On the one hand, women are usually most engaged with childrearing, and may therefore be most concerned about effects of relationship quality and stability on the wellbeing of their children. They are also most likely to end up with sole responsibility for childrearing after separation. On the other hand, unlike women, men need the relationship with their partner to fully engage in fatherhood, precisely because women are most likely to 'keep' the children after separation. Starting from this idea, Goldscheider, Webster and Kaufman (2000) hypothesized that men who are relatively committed to parenthood as a central adult role, are more disapproving of divorce than women who are equally committed to parenthood. Their findings supported this hypothesis. From the same point of view, we could reason that men might be less willing to have children in low quality or instable relationship to avoid the risk of 'losing' their children after a divorce. In short; while women might be more concerned about relationship quality on the well-being of children, and run the risk of ending up with sole responsibility for their children after a divorce, men run the risk of losing contact with their children. Hence, both men and women have reasons to avoid childbearing in low quality relationships – be it different reasons. Seccombe (1991) did not find any gender differences among childless men and women when they were asked to rate the importance of concerns about the stability of the partnership in deciding about having a child, but her data provided no indication of the potentially different motives for such concerns.

The next question is whether men and women have equally strong reasons to avoid or postpone childbearing in very happy relationships. That is, would both men and women have reasons to think that having children could be detrimental for the partner relationship? We think so. On the one hand, the bond between women and young children is usually very strong, and men might be afraid to become an outsider in the mother-child relationship, and fear that their partners will devote most of her love to the new child. On the other hand, women might be more aware of the negative consequences of having children; that is, women

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behavior is using contraception to delay births, agreement about having a child is required to change the behavior and achieve a birth. Hence, these two theoretical arguments produce the same outcome in a context of practically universal contraception.

may be more realistic about the need to share time and energy with children and partners. Hence, we expect:

H3) Men's and women's perceptions of the quality of their relationship are equally likely to influence childbearing, whether the effect of relationship quality is positive or curvilinear.

METHOD

Sample

The data used in this study are from waves 1 (2002 - 2003) and 2 (2007) of the Netherlands Kinship Panel Study, a large-scale survey of Dutch men and women aged 18 - 79 at wave 1 (Dykstra et al. 2005; 2007). Respondents were selected from a random address sample of private households in the Netherlands. The data were collected using a combination of computer-assisted personal interviews and self-administered questionnaires. In the first wave, 8,156 anchor respondents participated, resulting in a response rate of 45%, comparable to that of other large-scale surveys in the Netherlands (Dykstra et al. 2005). Response rates in the Netherlands are generally lower than in other countries (De Leeuw and De Heer 2001). Women, middle aged respondents, and respondents with children in the households were overrepresented in the sample of wave 1. A weight factor was constructed that corrects for these discrepancies between the sample and the population and for the sample design, which is an address sample rather than an individual sample. All analyses were conducted using this weight factor. In wave 2, 74% of the respondents of wave 1 participated.

Questionnaires were also completed by the partners of the anchor respondents. We selected heterosexual couples, who were cohabiting or married at wave 1, with no children from prior partners and of which the female partner was not pregnant and not older than 40 at wave 1. The anchor respondent also had to participate in wave 2, so that we have information on the couples' birth history between wave 1 and wave 2. Couples in which one or both of the partners already had children from a prior partner, were excluded because childbearing decisions in stepfamilies are influenced by childbearing that occurred before the union (e.g., Vikat, Thomson & Hoem 1999; Thomson 2002). Our restrictions result in a sample of 1,408 couples, of which 418 were childless and 990 were parents at wave 1.

Measures

Childbirth. The dependent variable in this study is the likelihood that a couple had a child between wave 1 and 2 or that the woman was pregnant at wave 2 (of the partner from wave

1). Birth and partner histories since wave 1 are reported by the anchor respondent in wave 2. Hence, if the couple separated between wave 1 and wave 2 it is still known whether the couple had a child together.

Partner relationship quality. Our independent variable of interest is the quality of the partner relationship, as perceived by each partner. Relationship quality is measured by thirteen items on the degree of partner support and partner conflict and on general partner relationship quality. Regarding support, the respondents were asked to what extent their partner supports them on the following domains: "In decisions about your work or education", " When you have worries or health problems", "In your leisure time activities and social contacts", "With all kinds of practical things you need to do" and "In personal matters that are on your mind". Response options ranged on a four-point scale from no support to a lot of support. The degree of partner conflict is measured by asking the respondents to indicate how often the following situations had occurred in the past twelve months: "Heated discussions between you and your partner", "One of you putting down and blaming the other", "You didn't want to talk to each other for a while" and "Arguments got out of hand". Response options were not at all, occasionally and several times. Emotional satisfaction was measured by level of agreement with the items "We have a good relationship", "The relationship with my partner makes me happy", "Our relationship is strong" and "The relationship with my partner is very stable". Answers were coded on a five-point scale ranging from strongly agree to strongly disagree.

An exploratory factor analysis of the responses of anchor respondents demonstrated a strong main factor on which all of the responses loaded. We also estimated separated factor models for women and for men – including anchor respondents and partners – with similar results. To be able to combine all these items into one scale of relationship quality, the items were recoded into a scale ranging from 1 to 5, 5 representing the most positive responses. Thus, responses to the questions on support were coded as 1, 2.33, 3.67 and 5; responses to conflict questions were coded as 1, 3 and 5; and responses on overall relationship quality were reversely recoded. Cronbach's alpha for the 13-item scale is .85.

In order to test unique effects of couple disagreement, we identified cut-points on the scale that divided the anchor respondents into thirds, reporting high, medium and low relationship quality. Cut-points were very similar for male and female anchor respondents, so we used common cut-points for both sexes, lying between the original one third cut points for men and women. Low relationship quality includes scores from 1 to 4.14, high relationship quality ranges from 4.58 to 5. These values demonstrate that observed relationship quality is highly skewed.

Control variables. We included several characteristics of the couples as control variables, since they might influence relationship quality as well as fertility. First, woman's age and woman's age squared are included, as well as two dummies on the age difference between the partners – one indicating whether the man is more than 5 years older, the other indicating whether the man is more than two years younger. Educational status is included by woman's highest educational attainment and two dummies indicating whether the man is better or less well educated than the woman. Woman's highest educational attainment is measured on a scale ranging from 1 (primary school not finished) to 10 (post-doctoral degree). When both partners attained the same level on a re-categorization of the scale in three levels (low, medium, high), they have no educational difference. We also included the couple's employment hours. Each partner was asked about number of actual working hours per week. If information provided by the partner is missing, we used information provided by the anchor respondent about his or her partner. We distinguished the four most prevalent combinations and a residual category: 1) man fulltime employed (36 hours or more per week), woman not employed; 2) man fulltime employed, woman employed short parttime (1 - 23 hours per week); 3) man working fulltime, woman employed long parttime (24 - 35 hours per week); 4) both fulltime employed and 5) other.

In addition, two structural aspects of the relationship were included as control variables: union status (cohabiting or married), and the duration in years of the relationship at interview 1. Finally, since the duration of the observation – during which the couple is at risk of having a child – varies, we included this variable, measured as months between interview 1 and interview 2 divided by 12. If the couple did not have a child in between waves, but the woman was pregnant at wave 2, we extended the duration of the observation by 4 months. In the models for the likelihood of a higher order birth, we also included parity and age of the youngest child.

Method of analysis

We estimated logistic regression models of the probability of having a first child or another child between the interviews of wave 1 and wave 2. We conducted logistic regression analyses rather than hazard regression analyses since we have annual birth data, but we control for the key 'clocks' of union duration and age of youngest child. We explicitly included in the analyses couples who separated between interviews in the analyses. Separation can be viewed as one of the pathways from partner relationship quality to childbearing

outcomes. Among childless couples at wave 1, 10.0% separated, among parental couples, 4.6% separated. Only 7 couples had a child and also experienced separation.

To maximize statistical power for estimates between control variables and birth, we included in the analyses couples without valid reports of relationship quality. Most of the missing reports result from partners not participating in the wave 1 interview (20.2% of our sample); only 4.3% of the anchor respondents in our sample did not fill out the self completion questionnaire in which the relationship quality items are asked. This strategy results in a 'no response' category on relationship quality, in addition to the three categories for valid responses: 'low', 'medium' and 'high'.

We estimated models of the effects of relationship quality separately for couples without and with children at wave 1. Couples' relationship quality at wave 1 might be more relevant for the decision to have second or higher order child than for the decision to have a first child in the subsequent years, due to birth spacing. If a parental couple is going to have a next child, this will probably be within a few years after the birth of the youngest child, hence this is likely to happen within the period between wave 1 and 2 or not at all. Childless people however, might consider their relationship to be of high quality and/or see their relationship as very suitable for having children, but still postpone their first child beyond wave 2 for other reasons.

We specify relationship quality in four ways to test the relative effects of women's and men's reports and their possible interaction, besides a control model (1) we estimate models with: woman's relationship quality (2); man's relationship quality (3); woman's and man's relationship quality (additive) (4); and the interaction term of woman's and man's relationship quality (5), which includes unique effects of disagreeing perceptions of the quality of the relationship. The models with woman's quality only (2) and with man's quality only(3) are nested in the additive model(4), and the additive model (4) is nested in the interaction model (5). We tested whether including more extensive specifications of relationship quality improved the fit of the models.

RESULTS

Descriptives

Table 1 shows the distribution of couples in terms of man's and woman's perception of relationship quality. This table is based only on couples of which both partners provided information on relationship quality. The marginal percentages show that childless men and women rate the quality of their relationship higher than men and women with children, which

is consistent with studies that show a negative effect of the presence of children on relationship quality (Houseknecht 1979; Glenn & McLanahan 1982). Furthermore we see that extremely divergent perceptions (combinations of high and low quality) are not frequent, but combinations that deviate one category are more common: about 40% of childless as well as parental couples belong to these categories.

Table 1 here

In table 2 we present descriptive characteristics for childless and parental couples. About 45% of the childless couples had a child between wave 1 and 2 or the woman was pregnant with a first child at wave 2, and about 23% of the parental couples had another child or pregnancy. The distributions of man's and woman's relationship quality indicate that the non-response rate on relationship quality among fathers is higher than among mothers and among childless men and women. This represents the fact that fathers were less likely to participate in the survey as partner respondents. Of the parents, about 27% had one child, about half had two children and the rest had three or more children. Not surprisingly, more parental couples than childless couples were married. On the other control variables, differences between childless and parental couples are also in line with expectations. For example, on average mothers are older than childless women, they are much less likely to work fulltime or in a long parttime job, and much more likely to work in a short parttime job or not to work at all and the relationship duration of parental couples is longer than that of childless couples.

Table 2 here

Table 3 shows the percentages of the couples that had a(nother) child or of which the woman was pregnant by wave 2, by relationship quality as reported by each partner. The marginal percentages indicate for the childless as well as the parents that women who report medium quality relationships and men who report high quality relationships had the highest percentages of births. Accordingly, parental couples with these combined perceptions were most likely to have another child (36.8%). Their childless counterparts also had a relatively high percentage of births (56.8%), but couples in which the woman views the relationship as medium and the man as low, are most likely to have a first birth (61%).

Table 3 here

First births

Table 4 shows the relative risks of first childbirth between wave 1 and wave 2, or being pregnant with a first child at wave 2. Model 1 includes only control variables. Woman's age has a positive effect on the likelihood of having a first birth and woman's age squared has a small negative effect, indicating that the positive effect of woman's age becomes weaker or negative, the older the woman is. If the man is over five years older than the woman, the couple is less likely to have a first birth, but it does not matter whether the man is over two years younger or not. Woman's educational level and the difference in educational level between the partners do not have an effect. With regard to the working hours, couples in which the man works fulltime and the woman has a large parttime job, are most likely to have a child. Married couples are about 2.3 times more likely to have a first child than cohabiting couples. The duration of the relationship at wave 1 and the duration of the observation (time between wave 1 and 2) do not have effects. Effects of the control variables do not change substantially in the other models, in which we test the influence of relationship quality.

In model 2 we added only woman's perception of the couple's relationship quality. The relative risk of childbearing is highest for women with medium relationship quality; they are about 1.8 times more likely to have another child than those with low quality relationships. Women who view their relationship quality as high have a relative risk of 1.3, which is not significantly different from the relative risk of women with the lowest scores on relationship quality. Neither is their risk of childbearing significantly different from women with medium quality relationships. Overall, it appears that the results support H1b; the effect of women's relationship quality on first childbirth is curvilinear. In Model 3, we examined the effect of the man's view of the relationship quality without taking into account the woman's view. No association was found between man's perceptions of quality and the couple's likelihood of having a first child between interviews. In Model 4 we included both partners' perceptions of the relationship. Adding the man's relationship quality to that of the woman (Model 4 versus Model 2) provides no significant improvement in fit ($\Delta\chi^2 = 3.5$, $\Delta df = 3$, $p > .05$). Adding the woman's relationship quality to that of the man (Model 4 versus Model 3) improves the model's fit at the .10 level ($\Delta\chi^2 = 6.9$, $\Delta df = 3$, $p = .08$). Considering the relatively small N we tentatively conclude that women's view of the relationship influences the likelihood of a first birth, while men's views do not. We therefore reject H3, which postulates no gender difference, at least for the first birth. The relationship for women's perceived quality remains curvilinear.

To test H2, which postulates that if partners have disagreeing views on relationship quality, the least favorable view is dominant, we estimated a model including the interaction between man's and woman's relationship quality. The interaction analysis was based on couples for whom both partners' quality was observed (N = 342). Compared to the additive model for these couples (analogue to Model 4), no improvement in fit was obtained by adding interaction terms ($\Delta\chi^2 = 5.93$, $\Delta df = 4$, $p > .05$). (Details of analysis available on request.) Hence, we reject H2, that one partner's assessment of the relationship quality as unfavourable for childbearing is enough to inhibit the first birth.

Table 4 here

Higher order births

In Table 5 we present the relative risks of having a higher order birth or being pregnant with a higher order birth at wave 2. Model 1, the control model, shows that couples with one child were more likely to have another child than couples with two children and couples with three or more children. The relative risk of the age of the youngest child indicates that the younger the youngest child is, the more likely the parents are to have another child. This probably reflects the fact that parents do not prefer long birth intervals. The older the youngest child is at wave 1, the less likely it is that parents want to have another child at all. The relative risks of woman's age and woman's age squared show that, analogue to the effects on first childbirth, the older the woman is, the more likely the couple is to have a next child and that this positive effect gets weaker or negative with increasing age. Whereas age differences between partners do influence the likelihood of a first birth, once a couple entered into parenthood, the age difference does not have an effect on the likelihood that they have another child. Woman's educational attainment positively affects the likelihood of a higher order birth, once she already has at least one child (see Kravdal 2007 for positive effects of education on second and third birth rates). However, if the woman is higher educated than her partner, the likelihood of having a next child decreases. The working hours of parental couples does not affect their likelihood of having a next child. Whereas marital status has a strong influence of first childbirth, it does not affect the likelihood of having another child for parental couples. Finally, the duration of the relationship and the duration of the observation do not have an effect. Again, the effects of the control variables do not change substantially in the other models, in which we test the influence of relationship quality.

Models 2, 3 and 4 are parallel to those estimated for first births. If we compare the model fit of Model 4 to that of Model 2 and 3, the chi square difference tests shows that the fit of Model 4 is better than the fit of Model 2 ($\Delta\chi^2 = 11.81$, $\Delta df = 3$, $p < .01$), whereas there is no difference between the fits of Model 4 and Model 3 ($\Delta\chi^2 = 5.88$, $\Delta df = 3$, $p > .05$). That is, adding the woman's perception of the quality of the relationship to the man's perception does not produce a better explanation of the likelihood of having a higher order birth, but adding the man's perception to the woman's does so. As for first births, our findings for higher order births do not support H3, which postulates that there are no gender differences in the influence of relationship quality on fertility. Though, whereas first births are only influenced by woman's relationship quality, man's relationship quality is more important for higher order parity births.

Taking a close look at the parameters in each model indicates, again, a curvilinear relationship between woman's perceptions of the relationship and the couple's childbearing; mothers who rate their relationship in the middle are almost twice as likely to have another child as mothers reporting low quality relationships. The relative risks for mothers with low and high relationship quality are not significantly different. Again, however, those with high relationship quality are also not significantly different from those with medium quality.

For men, those who rate their relationship quality as medium or high are more than twice as likely to have another child as men who rate their relationship quality as low. The difference between men who report medium quality relationships and men who report high quality relationships is not statistically significant. Hence, unlike the influence of women's views, the influence of men's views of relationship quality on higher order births is positive but not monotonic. Only men reporting low quality relationships have a lower probability of having more children. We tested H2 in a similar way as for first births, using only parental couples with valid reports of both partners' relationship quality. The difference in fit between the additive and interaction models was not statistically significant ($\Delta\chi^2 = 2.56$, $\Delta df = 4$, $p > .05$). As for first births, we do not find unique effects of partner's diverging views of relationship quality on childbearing and we again reject H2.

Table 5 here

CONCLUSION AND DISCUSSION

Our couple analyses of the likelihood of first and higher order births show that women's as well as men's perceptions of relationship quality influence couples' childbearing. We also found gender differences in the strength and direction of women's and men's perceptions of relationship quality on childbearing. Women's perceptions quality are more important for first births, men's views are more important for higher parity births. In addition, women's perceptions have a curvilinear relationship with childbearing while men's perceptions were positively but non-monotonically associated with future births. We also found that effects of each partners' perceptions were additive – divergence in perceptions of relationship quality had no unique effects on the couple's childbearing.

Our rejection of H2, that either partner's perception of the relationship as unfavorable for childbearing is enough to inhibit childbearing, may reflect the variability of relationship quality over time and the possibility that one or the other partner's unhappiness (or happiness) is perceived by or transmitted to the other, 'averaging out' the two partners' perceptions and leading to an 'average' birth outcome.

In developing H3, which expects no differences in the relationship between men's and women's perceived relationship quality and childbearing, we argued that both men and women have reasons to avoid childbearing in unhappy relationships, and that both men and women have reasons to avoid or postpone childbearing in very happy relationships, albeit for different reasons. To the contrary, we found that only woman's view of the quality of the relationship influences first birth, while men's view is more important for higher parity births. We had not expected differences in effects of relationship quality on first and higher parity births. So, why do men's perceptions of relationship quality not influence first births while they do influence higher order parity births? Our specific argument for the influence of men's relationship quality on childbearing was that men would avoid childbearing in unhappy relationships, because they fear the risk of losing their children after a divorce. However, maybe it is hard to imagine the 'loss' of a cherished child when one does not yet have children and understand fully what it feels like to love a child. Only fathers may be influenced by such worries. For women, the image of struggling to raise children alone – one of the reasons why we suggested for why women might avoid childbearing in low quality relationships – might seem more real even before motherhood becomes a reality.

Neither explanation, however, helps us understand why man's relationship quality is more important than woman's relationship quality for higher order births. We might speculate that the differences are due to the selectivity of couples we observe before and after the first

birth. Because only woman's perceived quality influences first births, and women who perceive their relationship as low quality are least likely to have a child, the couples at risk of a higher order birth consist of relatively more men than women who are not so happy with their relationship. Within this relatively happy group of mothers, the less selectively happy fathers may inhibit higher order births. We did find that the fathers were more heterogeneous on quality than mothers, while childless men and women varied to the same degree on perceived quality. But fathers and mothers both reported about the same lower level of quality (on average) in comparison to their childless counterparts.

A reason why we might find stronger effects of relationship quality on higher order births than on first births in general is that the relationship quality at the time of wave 1 is more relevant for parental couples in deciding about another child than for childless couples deciding about a first child. Parents are more limited in time; if they want to have another child, they probably want to have it before wave 2 to avoid a large birth interval (see Method of analysis section). This might also explain why effects of man's quality are only found for higher order births.

Couples' relationship quality at wave 1 might be more relevant for the decision to have second or higher order child than for the decision to have a first child in the subsequent years, due to birth spacing. If a parental couple is going to have a next child, this will probably be within a few years after the birth of the youngest child, hence this is likely to happen within the period between wave 1 and 2 or not at all. Childless people however, might consider their relationship to be of high quality and/or see their relationship as very suitable for having children, but still postpone their first child beyond wave 2 for other reasons.

We also posed two hypotheses on the direction of the influence of relationship quality (for both men and women). It could be positive (H1a), because a good relationship offers the best environment for raising children, and children represent a large investment in the relationship that raises the costs of separation. On the basis of Rijken and Liefbroer (forthcoming), however, we also argued that people with medium level relationship quality could have higher childbearing rates, because those who are very happy with their partner relationship might be afraid that having a(nother) child will have negative consequences for the relationship. Also, people who consider their relationship good enough, but not outstanding, might want to revitalize their relationship with having a child.

Our findings indicate that the direction of the influence is more curvilinear for women than for men. Women are most likely to have first as well as subseqent children when they perceive their relationship quality as medium. Those who find their relationship of high

quality are about in the middle of and not significantly different from women with low or medium quality relationships, in the likelihood of having a child. Men who perceive their relationship as medium or high quality are more likely to have higher order children than men in the low category, with no significant differences between the medium and high category. This suggests that both men and women prefer to have children in a relationship that is at least good enough or basically sound, but women who are really happy with their relationship might be more afraid for the possibly negative consequences of a child for their relationship than men who are equally happy with their relationship. The fact that our sample was interviewed at different ages, different periods and with different measures than respondents in Rijken and Liefbroer (forthcoming) adds additional weight to the hypothesis that especially happy relationships may inhibit childbearing.The question remains why we find that women who are really happy with their relationship are less likely to have children than women who rate their relationship as medium while we do not find this pattern for men. One suggestion is that women have more realistic expectations about the negative consequences of having children than men – ´Women expect real children, men expect ideal children' – and this could seem more of a threat to women who rate their relationship quality the highest. However, this argument would seem more valid for couples who expect a first child than for parental couples. Once a couple has had children, both partners have experienced the consequences, but the positive effect was found for men who already have at least one child.

Our study has extended research on couple relationships and fertility in several ways. We used direct observations of quality rather than statistical estimates of stability, and we observed differences in the partners' perceptions of the 'same' relationship. We were thus able to identify gender differences in the strength and direction of the association between relationship quality and childbearing and test hypotheses about the interaction between partners' perceptions of quality.

A limitation of this study is that we could not take into account partners' childbearing desires or intentions. We assumed that the influence of relationship quality on childbearing operates through effects on desires and intentions for children. Our hypotheses about the sources of gender differences in effects of relationship quality on childbearing and their potential interactions, presume that partners' childbearing desires or intentions are equally likely to result in a birth. Indeed, much previous research suggests that in conjugal family systems, this is the case (Thomson et al. 1990; Thomson 1997; Thomson & Hoem 1998; *add others*) Nevertheless, it would be fruitful to investigate the implications of divergence in quality perceptions for divergence in childbearing desires or intentions; and to determine

whether the associations we observe between partners' perceptions of relationship quality and subsequent childbearing are mediated or moderated by partners' childbearing desires or intentions. We are convinced by our own and others' results – as well as by a considerable body of theory – that partner relationships are central to childbearing decisions and outcomes.

LITERATURE

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

Amato, P. R., Loomis, L. S., & A. Boots (1995). Parental divorce, marital conflict, and offspring well-being during early adulthood. *Social Forces*, 73, 895 - 915.

Beach, L. R., Hope A., Townes, B. D., & Campbell, F. L. (1982). The Expectation-threshold model of reproductive decision making. *Population and Environment*, 5, 95 - 108.

Becker, G. S., Landes, E.M., & Michael, R. T. (1977). An economic analysis of marital instability. *Journal of Political Economy*, 85, 1141 - 1187.

Bernard, J. (1972). *The future of marriage*. New York: World.

Bulatao, R. A. (1981). Values and disvalues of children in successive childbearing decisions. *Demography*, 18, 1 - 25.

Callan, V. J. (1986). The impact of the first birth: Married and single women preferring childlessness, one child, or two children. *Journal of Marriage and the Family*, 48, 261 - 269.

Carmichael, G. A. & Whittaker, A. (2007). Choice and circumstance: Qualitative insights into contemporary childlessness in Australia. *European Journal of Population,* 23, 111 - 143.

Coombs, L. C. & Chang, M. (1981). Do husbands and wives agree? Fertility attitudes and later behavior. *Population and Environment*, 4, 109 - 27.

Corijn, M., Liefbroer, A. C., & De Jong Gierveld, J. (1996). It takes two to tango, doesn't it? The influence of couple characteristics on the timing of the birth of the first child. *Journal of Marriage and the Family*, 58, 117 - 26.

Davidson, A. R. & Beach, L. R. (1981). Error patterns in the prediction of fertility behaviours. *Journal of Applied Social Psychology,* 11, 475 - 488.

De Leeuw, E. D. & De Heer, W. (2001). Trends in household survey nonresponse: A longitudinal and international comparison. In R. M. Groves, D. A. Dillman, J. L. Eltinge, & R. J. A. Little (Eds.), *Survey nonresponse* (pp.41 - 54). New York: Wiley.

European Commission (1997). *The young Europeans.* Special Eurobarometer 114/Wave 47.2. Retrieved April 7, 2008, from http://ec.europa.eu/public_opinion/archives/ebs/ebs_114_en.pdf.

Dykstra, P. A., Kalmijn, M., Knijn, T. C. M., Komter, A. E., Liefbroer, A. C., & Mulder, C. H. (2005). *Codebook of the Netherlands Kinship Panel Study: A Multi-actor, Multi-method Panel Study on Solidarity in Family Relationships. Wave 1*. NKPS Working Paper No. 4. The Hague: Netherlands Interdisciplinary Demographic Institute.

Dykstra, P. A., Kalmijn, M., Knijn, T. C. M., Komter, A. E., Liefbroer, A. C., & Mulder, C. H. (2007). *Codebook of the Netherlands Kinship Panel Study, a multi-actor, multi-method panel study on solidarity in family relationships, Wave 2*. NKPS Working Paper No. 6. The Hague: Netherlands Interdisciplinary Demographic Institute.

Friedman, D., Hechter, M., & Kanazawa, S. (1994). A theory of the value of children. *Demography*, 31, 375 - 401.

Furstenberg, F. F. Jr. & Cherlin, A. J. (1991). Devided Families: What happens to children when parents part? Cambrigde, MA: Harvard Univeresity Press.

Glenn, N. D. & McLanahan, S. (1982). Children and marital happiness: A further specification of the relationship. *Journal of Marriage and the Family*, 62, 927 - 947.

Goldscheider, F. K., Webster, P.& , Kaufman, G. (2000). Men, parenthood and divorce in the era of the Second Demographic Transition. In C. Bledsoe, S. Lerner, & J. I. Guyer (Eds.), *Fertility and the male life cycle in the era of fertility decline* (pp. 331 - 342). New York: Oxfor Univeresity Press.

Grych, J. H. & Fincham, F. D. (1990). Marital conflict and children's adjustment: A cognitive-contextual framework. *Psychological Bulletin*, 108, 267 - 290.
Hobcraft, J., & Kiernan, K. (1995). *Becoming a parent in Europe*. In EAPS/IUSSP European Population Conference Proceedings, Milan, 1995

Hoffman, L. W. & Manis, J. D. (1979). The value of children in the United States: A new approach to the study of fertility. *Journal of Marriage and the Family*, 41, 583–596.

Houseknecht, S. K. (1979). Childlessness and marital adjustment. *Journal of Marriage and the Family,* 41, 259 - 265.

Jansen, M. D. & Liefbroer, A. C. (2006). Couples' attitudes, childbirth and the division of labor. *Journal of Family Issues*, 27, 1487 - 1511.

Koo, H. P. & Janowitz, B. K. (1983). Interrelationships between fertility and marital dissolution: Results of a simultaneous logit model. *Demography*, 20, 129 - 145.

Kravdal, Ø. (2007). Effects of current education on second- and third-birth rtes among Norwegian men and women born in 1964: Substantive interpretations and methodoligical issues. *Demographic Research*, 17, 211-246. Retrieved from http://www.demographic-research.org/volumes/vol17/9/.

Lehrer, E., Grossbard-Schechtman, S., & Leasure, J. W. (1996). Comments on 'A Theory on the value of children'. *Demography*, 33, 133 - 136.

Liefbroer, A. C. (2005). The impact of perceived costs and rewards of childbearing on entry into parenthood: Evidence from a panel study. *European Journal of Population*, 21, 367 - 391.

Lillard, L. A. & Waite, J. L. (1993). A joint model of marital childbearing and marital disruption. *Demography*, 30, 653 - 681.

Malpas N. & Lambert, P. V. (1993). *Les Européens et la famille* [Europeans and the Family]. Special Eurobarometer 77/Wave 39. European Commission. Retrieved April 7, 2008, from http://ec.europa.eu/public_opinion/archives/ebs/ebs_077_fr.pdf.

Miller, W. B. & Pasta, D. J. (1994). The psychology of child timing: A measurement instrument and a model. *Journal of Applied Asocial Psychology*, 24, 218 - 250.

Morgan, S. P. (1985). Individual and couple intentions for more children: A research note. *Demography*, 22, 125 - 132.

Morrison, D. R. & Coiro, M. J. (1999). Parental conflict and marital disruption: Do children benefit when high-conflict marriages are dissolved? *Journal of Marriage and the Family*, 61, 626-637.

Myers, S. M. (1997). Marital uncertainty and childbearing. *Social Forces*, 75, 1271 - 1289.

Rijken, A. J. & Liefbroer, A.C. The effects of relationship quality on fertility. *European Journal of Population*, forthcoming.

Peters, H. E. (1986). Marriage and divorce: Informational constraints and private contracting. *American Economic Review*, 76, 437 - 54.

Seccombe, K. (1991). Assessing the costs and benefits of children: Gender comparisons among childfree husbands and wives. *Journal of Marriage and the Family*, 53, 191 - 202.

Testa, M. R. (2006). *Childbearing preferences and family issues in Europe*. Special Eurobarometer 253/Wave 65.1. European Commission. Retrieved April 7, 2008, from http://ec.europa.eu/public_opinion/archives/ebs/ebs_253_en.pdf.

Thomson, E. (1997). Couple childbearing desires, intentions, and births. *Demography*, 34, 343 - 54.

Thomson, E. (2002). Motherhood, fatherhood and family values. In R. Lesthaeghe (Ed.), *Meaning and choice: Value orientations and life course decisions* (pp. 251 - 272). The Hague/ Brussels: Nidi/ CBGS publications.

Thomson, E. & Collela, U. (1992). Cohabitation and marital stability: Quality or commitment? *Journal of Marriage and the Family*, 54, 259 - 267.

Thomsons, E. & Henz, U. (2005). Union Stability and Stepfamily Fertility in Austria, Finland, France & West Germany. *European Journal of Population,* 21, 3 - 29.

Thomson, E. & Hoem, J. M. (1998). Couple childbearing plans and births in Sweden. *Demography*, 35, 315 - 322.

Thomson, E., McDonald, E., & Bumpass, L. L. (1990). Fertility desires and fertility: Hers, his, and theirs. *Demography*, 27, 579 - 588.

Thornton, A. (1978). Marital dissolution, remarriage, and childbearing. *Demography*, 15, 361-380.

Vikat, A., Thomson, E., & Hoem, J. M. (1999). Stepfamily fertility in contemporary Sweden: The impact of childbearing before the current union. *Population Studies*, 53, 211 - 225.

Morrison, D. R., & Cherlin, A. J. (1995). The divorce process and young children's well-being: A prospective analysis. *Journal of Marriage and the Family*, *57*, 800-812.

Table 1. Distribution of man's and woman's relationship quality at wave 1 (%)

		Childless couples (N = 342)				Parental couples (N = 756)			
		Woman's relationship quality				Woman's relationship quality			
		Low	Medium	High	Total	Low	Medium	High	Total
Man's relationship quality	Low	12.7	7.7	4.3	24.7	21.5	10.4	4.4	36.3
	Medium	9.8	10.6	11.8	38.8	9.5	23.9	10.2	33.7
	High	4.6	10.6	21.8	37.0	4.7	9.3	16.0	30.0
	Total	27.2	35.0	37.8	100.0	35.7	33.7	30.6	100.0

Note: N's are unweighted, parameters are weighted.

Table 2. Descriptive characteristics of sample of childless couples and sample of parental couples

	Childless couples (N = 418)		Parental couples (N = 990)	
	%		%	
Had birth between wave 1 and wave 2 (or woman pregnant at wave 2)	45.45		23.20	
Relationship quality woman				
Low	24.76		33.06	
Middle	31.38		29.59	
High	34.11		28.16	
No response	9.94		9.08	
Relationship quality man				
Low	23.20		29.79	
Middle	33.14		27.55	
High	32.55		24.49	
No response	10.92		18.06	
Parity				
1			27.21	
2			49.43	
3+			23.36	
Union Status				
Cohabiting	64.60		12.45	
Married	35.40		87.55	
Age difference				
Man ≤ 2 years younger or ≤ 5 years older	76.60			
Man > 5 years older	19.34		17.35	
Man > 2 years younger	4.06		4.08	
Education difference				
Equal level	51.94		53.06	
Woman higher	27.21		23.06	
Man higher	20.85		23.88	
Employment				
Man fulltime, woman not employed	8.18		22.96	
Man fulltime, woman short parttime	6.24		38.45	
Man fulltime, woman long parttime	24.37		20.61	
Both fulltime	45.22		4.39	
Other	9.94		13.47	
	M	SD	M	SD
Age woman (years)	28.71	4.61	34.33	4.09
Age youngest child (years)			3.81	3.34
Eucation woman (1-10)	7.07	1.77	6.35	.35
Relationship duration at wave 1 (years)	7.39	4.44	14.03	5.48
Observation duration (moths/12)	3.52	.34	3.48	.34

Note: N's are unweighted, parameters are weighted.

Table 3. Percentage of couples that had a child (or woman pregnant at wave 2), by couple relationship quality

		Childless couples (N= 342)				Parental couples (N=756)			
		Woman's relationship quality				Woman's relationship quality			
		Low	Medium	High	Total	Low	Medium	High	Total
Man's relationship quality	Low	35.5	61.0	24.4	40.0	11.7	20.3	18.6	15.1
	Medium	40.1	40.9	36.7	40.8	20.6	32.1	21.0	24.8
	High	52.5	56.8	48.8	53.4	18.1	36.8	26.9	27.9
	Total	38.9	50.0	44.9	100.0	16.4	29.5	25.5	100.0

Note: N's are unweighted, parameters are weighted.

Note: In table 4 an 5, p-values <.10 are marked for now, but not described as effects in the text.

Table 4: Relative risk of first childbirth (N= 418)

	Model 1	Model 2	Model 3	Model 4
Age woman (years)	6.30***	6.50***	6.51***	6.62***
Age woman squared (years)	.97***	.97***	.97***	.97***
Age difference				
Man ≤ 2 years younger or ≤ 5 years older	1.00	1.00	1.00	1.00
Man > 5 years older	.41**	.38***	.42**	.38***
Man > 2 years younger	1.97	2.07	1.99	2.25
Eucation woman (1-10)	.96	.95	.97	.96
Education difference				
Equal level	1.00	1.00	1.00	1.00
Woman higher educated	1.53	1.48	1.52	1.47
Man higher educated	1.11	1.15	1.14	1.18
Employment				
Man fulltime, woman not	1.00	1.00	1.00	1.00
Man fulltime, woman short parttime	1.38	1.41	1.35	1.43
Man fulltime, woman long parttime	2.44*	2.69*	2.38*	2.58*
Both fulltime	1.44	1.49	1.39	1.43
Other	.62	.60	.63	.61
Union status				
Cohabiting	1.00	1.00	1.00	1.00
Married	2.32***	2.35***	2.19**	2.24**
Relationship duration at w1 (years)	.95	.95	.94	.95
Observation duration (months/12)	1.42	1.44	1.43	1.45
Quality woman				
Low		1.00		1.00
Middle		1.81*		1.77*
High		1.30		1.14
No response		2.19*		2.01†
Quality man				
Low			1.00	1.00
Middle			.95	.87
High			1.45	1.38
No response			1.34	1.23
Constant	.00***	.00***	.00***	.00***
Chi square	104.6	111.5	108.2	115.0
Df	14	17	17	20

*p < .05. **p < .01. ***p < .001.

Note: N's are unweighted, parameters are weighted.

Table 5: Relative risk of higher order childbirth (N = 990)

	Model 1	Model 2	Model 3	Model 4
Parity				
1	1.00	1.00	1.00	1.00
2	.15***	.16***	.15***	.15***
3+	.11***	.12***	.11***	.11***
Age youngest child (years)	.80***	.81***	.81***	.81***
Age woman (years)	2.22*	2.10*	2.26**	2.21*
Age woman squared	.99**	.99**	.98**	.96**
Age difference				
Man ≤ 2 years younger or ≤ 5 years older	1.00	1.00	1.00	1.00
Man > 5 years older	.89	.91	.96	.96
Man > 2 years younger	1.29	1.30	1.25	1.23
Eucation woman (1-10)	1.15*	1.15*	1.15*	1.16*
Education difference				
Equal level	1.00	1.00	1.00	1.00
Woman higher	.43**	.40***	.41**	.39***
Man higher	1.25	1.25	1.26	1.26
Employment				
Man fulltime, woman not	1.00	1.00	1.00	1.00
Man fulltime, woman short parttime	1.58	1.55	1.60	1.59
Man fulltime, woman long parttime	1.58	1.50	1.60	1.56
Both fulltime	1.28	1.26	1.32	1.34
Other	1.68	1.71	1.71	1.76
Union Status				
Cohabiting	1.00	1.00		
Married	1.52	1.42	1.51	1.48
Relationship duration at w1	.97	.97	.97	.98
Observation duration	1.63	1.64	1.71	1.71
Quality woman				
Low		1.00		1.00
Middle		1.92**		1.66*
High		1.41		1.08
No response		1.01		.85
Quality man				
Low			1.00	1.00
Middle			2.22**	2.05*
High			2.40**	2.34**
No response			2.23**	2.32**
Constant	.00*	.00*	.00*	.00*
Chi square	366.71	374.53	380.46	386.34
Df	17	20	20	23

*p < .05. **p < .01. ***p < .001.

Note: N's are unweighted, parameters are weighted.