Two Say More than One?
The Couple as a Unit of Analysis in Fertility Decisions

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Paper Presented to the 2004 Annual Meeting of the Population Association of America
Boston, Massachusetts

1. INTRODUCTION.

The question used to entitled this work includes two additional –and evidently related- questions that orient this paper: 1) what role does each member of a couple play in the couple's reproductive decisions? And 2) to what extent is our understanding of issues such as number and timing of children, as well as use of contraception, improved when we approach the analysis using a couple perspective and more specifically a relational perspective?

Looking for some significant explanatory variables on couple's fertility matters, and using data of a recent Mexican survey, this research illustrates the necessity and richness of theoretically and methodologically incorporating both partners in the equation, and describes the best way to incorporate both member's characteristics.

Most empirical studies about fertility have been developed using only data on women, assuming such data as a fair and accurate source of the relevant elements that determine couples' fertility (Figueroa, 1998; Mundigo, 1998; Greene & Biddlecom, 1997). However, in recent years, a growing concern about the implications of studies and knowledge obtained by looking at only one side of the coin has led to the development of surveys and studies that include data from both partners. Two of the main concerns that have emerged from critiques of the prevailing focus are: 1) it neglects men's role in reproduction and therefore does not contribute to the promotion of shared involvement and responsibility regarding reproduction and parenthood, and 2) it assumes that couples are homogeneous and democratic units, neglecting issues like unequal power negotiation, decision-making and power on reproductive behavior. The inclusion of data from both men and women has been suggested for some years now as a more appropriate path to unravel men's and women's role in family planning (Dodoo, 1993; Dodoo, 1998; Bankole & Singh, 1998; Thompson, McDonald & Bumpass, 1990).

A related issue has to do with the selection of the appropriate unit of analysis when studying fertility matters. The inclusion of information from both members of the couple does not necessarily means the change from an individual unit of analysis to that of the couple. The crucial element is that data is used to show the patterns between specific dyads, to show the relationship between the two members of a couple (Thompson & Walker, 1982). There is consensus that using the couple as a unit of analysis leads us to a more in-depth understanding of individuals and relationships (Thompson & Walker, 1982; Hill & Scanzoni, 1982). It provides valuable insights about interactions between men and women, and the role that aspects such as communication and decision-making power play on contraceptive use that an individual approach might not provide.

At the same time, it is undeniable that when assuming the couple as the unit of analysis and using data from both partners, numerous complications are introduced at every step of the

analysis: conceptualization, measurement and interpretation. Such research leads us to a more complex process of analysis, but also to methodological problems and unraveled solutions. It is not always clear if we are gaining more—including information and understanding–than we might be losing—such as validity and clarity.

An important part of the methodological problems that we face when using the couple as a unit of analysis in our research derives from the disparity between spouses on each aspect reported (Thompson & Walker, 1982). Not only subjective information, but also seemingly "objective facts" like marital status, the couple's number of children or a couple's use of contraceptives are reported distinctly by both partners. Other difficulties derive from the simple fact that until very recently much analysis of fertility decisions has been made using only data from women, therefore, the methodological procedures seem more clear and "standard" when using only female data, rather than when using data from both members of a couple.

Consequently, it is not uncommon for the researcher to find more conceptual conviction about the need for using the couple as unit of analysis in the study of fertility, rather than methodological certainty.

2. BACKGROUND

The study of reproductive decisions has been approached traditionally from the theoretical frame provided by Becker's (1981) economical model, which assumes the household -and the couple- as a functional unit that shares resources and strategies, without considering the possibility of conflicts between husband and wife regarding ideals, interests and goals (Mason, 1987; Dodoo, 2001). Assuming such homogeneity of interests for a couple it has been easy to focus the study of factors affecting fertility and the control of reproduction on women. The incorporation of elements such as decision-making processes and negotiation and consideration of the male perspective in the analysis of reproductive decisions point to a wider theoretical frame that incorporates the individual preferences of both partners as well as agreements and disagreements in terms of reproductive ideals and the use of contraception. This new frame must consider the couple as two central actors, understanding the couple as a complex unit which is potentially conflictive.

The couple's decision-making about reproduction is a diverse and complex matter. Many elements influence the couple's decisions about the number of children, their timing and the methods used to prevent unwanted pregnancies. In the first place each member has her/his own ideals that might coincide or differ from those of the partner. Additionally, these individuals' ideals and expectations are not isolated but are continually interacting and redefined, through agreement or by the dominance of one member over the other (Ezeh, 1993; Mason, 1987).

Another important aspect to be considered is that decision- making processes are culturally defined (Djanmba, 1995). The social context defines the attitudes and ideas that individuals assume around reproduction, through ideals and norms socially-imposed such as ideal family size and the appropriate way to solve disagreements about desires and expectations within the couple. And usually, these norms can differentiate the capacity for influence from both men and women, not only regarding reproduction, but also in many other aspects of life.

The prevalence of a patriarchal model in Mexico with male domination over women has been profusely documented (Guttman, 1996; Olavarría et al 2002: De Barbieri, 1984). In the reproductive sphere , it is commonly reported that men have more influence than women in decision-making around number of children, their timing and the use of contraceptives in different contexts (Bankole & Singh, 1998; Ezeh, 1993; Lasse & Becker, 1997; Casique, 2003). However, it has also been noticed that male dominance in the reproductive sphere might have been exaggerated (Bankole & Singh, 1998) and in any case, it is mediated by multiple contextual and individual factors, and it is not an invariable situation. Additionally, numerous studies have found that in diverse contexts men are not necessarily more pronatalist than women (Ezeh, Seroussi & Raggers, 1996; Jejeebhoy & Kulkarni, 1989: Mehryar, Mostafavi & Agha, 2001).

Finally, diverse factors might favor disagreement levels between husband and wife about reproductive decisions, like scarce communication between wife and husband (Mason, 2000), low socio-economic level, and large differences of age (Kritz et al, 1997; Lasee & Becker, 1997; Cohen y Burger, 2000).

3. DATA AND METHODS

a) Data. The data used comes from the Mexican National Survey on Reproductive Health 1998 (Encuesta de Salud Reproductiva con Población Derechohabiente, ENSARE 98), conducted among men and women affiliated with Mexico's Social Security System. A total of 5,405 women and 2,992 men were interviewed, of which 1,604 men and women were couples. They constitute the sample used in this work.

The 1998 National Survey of Reproductive Health among users of the Social Security System is nationally representative. However, given the territorial distribution of clinics (or units) of the IMSS, the resulting sample of individuals affiliated with it is basically an urban, middle-income population. Therefore, although the sample is nationally representative, it is obvious that here we are talking about a particular sector of the Mexican population—one that is relatively privileged in terms of housing conditions, years of schooling, mean number of children, etc., when compared to those of the general population. Table 1 summarizes the characteristics of these men and women.

Table 1 about here.

b) Definition of Variables.

In order to compare the results when using an individual or a couple approach to examine couples' fertility decisions, women's and men's characteristics were defined in two alternative ways: as individual variables (describing a woman's or a man's characteristics) and as relational variables (describing the attributes of one partner in relation to those of the other partner.

Socioeconomic status is a variable defined at the household level, therefore shared by both members of a couple. Using information on household conditions (materials and services), the mean years of schooling of all household members and the highest paying occupation of the household's members the variable *socioeconomic status* was estimated, considering originally four categories: very low, low, medium and high. The categories very low and low were combined in this analysis, since the first one represented only 2% of couples in this sample.

The individual variables, like ***Age***, ***Years of education***, ***Number of children***, ***Ideal number of children*** and ***Desire for more children*** are based on each individual's self reporting. The first four are used as continuous variables in the individual models, while ***Desire for more children*** is a dummy variable that distinguishes between individuals who want to have more children (1) and those who do not want more children (0).

Cohabiting is a dummy variable that adopts the value of 1 for cohabiting couples and 0 for legally married couples.

Knowledge of Contraception is an index variable. This index goes from 0 to 20, and reflects an individual's knowledge of each of the ten contraceptive methods that were included in the survey. Regarding ten modern contraceptive methods the individuals had to answer whether she/he knew about that particular method. The item was coded as zero (0) if the answer was "no", one (1) if the answer was "yes" but required some help to identify the method, and two (2) if the answer was "yes." The index score results from the additive value of those ten questions. The results show a mean value of 12.03 for wives while husbands obtained a means score of 10.95.This difference in knowledge is statistically significant. In general, both men and women are concentrated in the intermediate values of the scale, with 72% of women and 62% of men between the scores of 10 and 14, suggesting a prevailing middle-level knowledge of contraception for both sexes (see figure 1). The scale reliability coefficients for these indexes (alpha-cronbach) are not high, but still acceptable: 0.67 for the women's index and 0.78 for the men's index.

Figure 1 about here

The variable ***Higher Attainment Life Goal*** is a dummy variable based on the individual's answer to a question "What do you think is the most important goal to be achieved (for a man or a woman) in life?" When the answer was to study, to be a professional, to work, to be successful, to be self-sufficient or high attainment, it was classified as "higher attainment" goal and coded as 1. Answers like having children, having a family, marrying, falling in love, or raising the children were considered as "traditional goals" and coded 0.

Finally, a dummy variable, ***Couple talked about last child before pregnancy*** distinguishes those couples that did it (coded 1) from those who did not (coded 0).

All the previous variables are used in the individual models (which used only characteristics of the woman or the man) as well as in the additive models (that incorporate both the woman's and man's characteristics). Additionally, they served as the basis for the estimation of the **relational variables**, that is, variables that ascertain a couple's characteristics by placing one couple member's attributes in relation to the corresponding attribute of the other member. These variables account for both couple members' characteristics in the several dimensions considered (including age, schooling, ideal number of children, number of children, life goals, talking about the last child before pregnancy and knowledge on contraception).

Table 2 summarizes the relational variables used in the analysis.

Table 2 about here

c) Work Organization

Both individual and relational variables are used (alternatively) as predictive variables of a couple's agreement on number and timing of children and of a couple's use of contraception in order to compare the advantages and disadvantages of each approach.

For the analysis of the determinants of a couple's agreement on number and timing of childbirth, four multinomial models are estimated (two individual models and two for the couple). The dependent variable used is ***the planning status of last child***, with four categories: wanted by both partners, only wanted by the female, only wanted by the male and unwanted by both members.

For the analysis of the use of contraception by the couple I estimated four logit regression models: two using the individuals as units of analysis (one for women and one for men) and two using the couple as the unit of analysis (additive model and relational model). The dependent variable is a dummy one indicating ***couple's current use of contraception***, coded one if both or only one member reported the use of contraception, and coded zero if neither one reported current use of contraception.

4. COUPLE AGREEMENT ON OCURRENCE AND TIMING OF LAST CHILD'S BIRTH

The focus of this part of the analysis is to explore characteristics of the individual and the couple that significantly increase or decrease a couple's agreement on the occurrence and timing of last childbirth.

Agreement on this matter does not strictly reflect a couple's decision-making process. On the one hand, we know that a child's birth is not always a "decision made," as long as socio-cultural factors might restrain one or both partners from exercising control on their reproduction. On the other hand, there is a conceptual distance between deciding to have a child and assessing that child (after her/his birth) as wanted or not. Nevertheless, comparing partners agreement (or disagreement) on the occurrence of last child, and analyzing the likelihood of it can be useful in identifying some factors that determine one scenario or the other, and therefore, the elements that facilitate or prevent the prevalence of one partner's desires over the other's.

At the individual level, both husband and wife stated whether last child was wanted (he/she wanted a child in that moment) or not (not wanted in that moment or not wanted at all). The combination of these two categories for each member of the couple results in four categories to describe the planning status of child at the couple level: wanted by both members, only wanted by the woman, only wanted by the man and unwanted by both individuals.

Previous research has indicated the possibility of serious inconsistencies in the reporting of planning status (or wantedness) of last birth, since unwanted births tend to be reconceptualized by the parents as wanted, particularly after the birth of the child (Bankole & Westoff, 1998). This means that the percentages of men and women declaring their last child as unwanted could have been, in fact, at the time of that pregnancy, larger. In the sample 22% of women reported the last child's birth as not wanted while only 14.74% of men did so. Additionally, 25.36% of women and 26.99% of men reported that they wanted to wait by the time of last child pregnancy (see Table 3).

Table 3 about here

By adding together the categories of *not wanted at all* and *wanted to wait* we might "compensate" for such a reconceptualization effect. It also reduces the number of categories of the variable of *planning status of last child* at the couple level, obtained from the combination of wife and husband reports, in order to simplify the analysis.

The resulting distribution of the four categories of this variable is very suggestive. In only 38% of couples was the last child's birth wanted by both partners. That means that there was

quite a high percentage of couples in which the last child was wanted (or planned[1]) for only one of the partners: 35%. This group of couples is particularly relevant in the analysis, since it allows a comparison of the determinants or factors that increase and decrease the likelihood last child's birth satisfied one member's desires while ignoring the desires of the other partner. Finally, 27% of couples had a last child who was not wanted by both partners. For these couples, I hypothesize that the main issue is not disagreement between partners about fertility goals, but rather a failure for couples to control their fertility.

I first examine what can be known about the factors affecting the risk of a last child not wanted for one or both members using individual models (one for women and one for men). This allows for a comparison of the significant variables for each scenario depending on which member of the couple is considered and also whose characteristics explain more (by comparing the percentage of variance explained in each case).

Table 4 presents the results of the individual model using only the woman's characteristics. The likelihood of a last child only wanted by the wife is three times larger when the couple is cohabiting than when the couple is legally married. Also, each additional woman's child increases this likelihood by 26%. On the other hand, if the couple talked about the last child before pregnancy, the likelihood of a last child only wanted only by the woman is reduced in 55%.

Table 4 about here

The likelihood that only the husband wanted the last child is also significantly increased by cohabitation and reduced in 93% if the couple talked about the pregnancy. Also, a higher woman's ideal number of children will reduce significantly the likelihood that only the husband wanted the last child.

Finally, the likelihood of a last child unwanted by both partners increases 42% for each additional woman's child, but is significantly reduced by a medium-high socioeconomic status and by the couple talking about last child before the pregnancy. Contrary to what might be expected, the woman's knowledge of contraception does not show a significant effect on the likelihood of this event.

Summarizing, when using an individual model with only the woman's characteristics, the regression results indicate that *cohabitation* is a factor that increases the likelihood of a last child wanted only by one member of the couple. A woman's larger *number of children* increases the likelihood that the last child was wanted only by her or by neither partner, while a larger woman's *ideal number of children* reduces the likelihood that the previous child was wanted only by the man. Finally, *talking about the last child before pregnancy* reduces the likelihood that one or both members did not want the last child.

[1] In this work we use the terms "planned" and "wanted" indistinctly, referring to those cases in which the childbirth was wanted by the time it occurred.

Table 5 represents the results for the individual model using only men's characteristics. As can be noted the variables that significantly affect the likelihood of a last child was wanted only by the woman are the same that affect the likelihood of a last child only wanted only by the husband: *cohabiting*, which increases the likelihood of both events while the *couple talking about last child before pregnancy* reduces the likelihood of both events. The likelihood that a last child was unwanted by both partners is significantly reduced by a *low socioeconomic status* (compared to a very low one), the *man's age* and the *couple talking about last child before pregnancy*.

From the comparison of these first two individual models two main observations result: 1) The spectrum of variables that significantly predicts an unwanted last child by one or both members of the couple is quite similar but not the same. The model using the women's information indicates significant effects of the *woman's number of children* and the *woman's ideal number of children* on the likelihood that the last child was wanted only by the woman or the man that the men's model can not capture. In the case that the likelihood that a last child was unwanted for both partners the significant variables do not change much: *socio-economic status*, *number of children* and *the couple talking about the last child before pregnancy* are indicated by the two models as significant variables that reduce the likelihood of this event. 2) The variance explained is larger when the variables used are those of the man, suggesting a larger explanatory power of his characteristics than the woman's characteristics.

A third model estimated to predict a last child as unwanted, incorporating information from both members of the couple, is the additive model presented in Table 6. The variables *Woman's age,* and *Woman's number of children,* were excluded from this model given the high correlations with the corresponding variables for the man (the model was tested using alternatively these two variables for the man and for the woman, but when the man's were used the model showed a higher explained variance and a lower value of –2LL). The variable, the *couple talking about last child before pregnancy* (based on the man's information), was dropped due to collinearity problems.

Table 6 about here

The results obtained from this model do not differ much from the results of the individual models. The variables that show significance in predicting the likelihood that the last child was unwanted by one or both members are mostly the same as in the individual models; *cohabiting*, the *man's age*, the *man's number of children, the woman's ideal number of children* and *the couple talked about last child before pregnancy* are significant variables here as well as previously, in one or both individual models. However, socioeconomic status -significant in both individual models- is no longer significant. Additionally, the percentage of variance explained is just slightly higher than the variance explained using the individual model with the man's characteristics. In other words, the additive model, although it incorporates both members'

characteristics, does not seem to really add much information to that gleaned from the individual models.

Finally, a fourth model was estimated (see Table 7), one that uses both members' characteristics but in a relational way). This relational model provides us with a more complex and detailed visualization of the way the different variables affect the likelihood that a last child was unwanted by one or both members.

Table 7 about here

The couple's *socio-economic status* appears again as a significant variable: a medium-high status reduces the likelihood that the last child was unwanted by the woman or by both partners. The *Difference in age* shows a significant effect, increasing the likelihood that the last child was unwanted by the man when the man is older than the wife. Also, when the woman is one to four years older than the man, there is a significant increase in the likelihood that the child was unwanted by the man or by both the man and woman. *Cohabiting* keeps its significance, increasing the likelihood that a last child was wanted by only one member of the couple by about four times. When formulated in the relational way, *Ideal number of children* shows significance, but only when the man wants one or two more children than the woman, doubling the likelihood of a last child was unwanted for both partners. Finally, the variable, the *Couple talking about the last child before pregnancy,* indicates that when only one partner acknowledges this, it will reduce the likelihood of having a last child who was unwanted by the partner who reports such discussion, and the likelihood that a last child was unwanted by both partners. When both partners acknowledge talking, the likelihood of any unwanted last child is significantly reduced.

Additionally, the relational model highlights several variables that were not significant in their individual formulations, but are now significant including *Schooling, Knowledge of contraception* and *Life Goal*. Regarding the effect of *Years of schooling*, the results indicate that when the man has at least five years more schooling than his partner?, the likelihood that he did not want the previous child is significantly reduced. In addition, if the man has one to four years more schooling than his partner, it will reduce the likelihood of a last child unwanted by both partners by 55 %. The opposite situation, when the woman has more years of schooling does not have a significant effect.

Regarding *Knowledge of contraception*, when the woman has more knowledge about contraception than the man it significantly reduces the likelihood that the previous child was unwanted: it is 66% less likely that a last child was unwanted both members when the woman knows substantially more than her partner about contraceptives, and 61% less likely when the woman knows a little more than him about contraception. Greater knowledge about contraception of on the part of the man doesn't appear to be a significant factor on influencing the couple's agreement on last child wantedness.

Finally, for the *Life goal* variable, the results indicate that when there is a difference in the type of goal between the couple's members (one is more traditionally oriented and the other oriented toward higher attainment), regardless of who portrays which goal, the likelihood of a last child wanted but unwanted by the man is reduced by 65%. These results indicate that disagreements about the Life Goal among partners "protect" men from having a child wanted only by their female partners.

In summary, in terms of significant factors affecting the likelihood of a couple's disagreement about the occurrence and timing of the last child's birth, *couple communication, wife's greater knowledge on contraception* and *greater schooling of husband* appear to be factors reducing the likelihood that a last child was unwanted by one or both partners, while *cohabiting, large differences in age between spouses,* and *a husband's larger ideal number of children* increase such likelihood. Lastly, the variance explained in the relational model is substantially higher than that explained by the additive model.

Additionally, for variables like *Years of schooling, Knowledge of contraception* and *Life goal*, the results of the four models compared suggest that what is more meaningful –in terms of possible effects on the likelihood of a last child being unwanted- is the situation of one partner relative to the other. For instance, according to the regression results of the individual models and the additive model, neither a woman's nor a man's years of schooling play a significant role in the likelihood of having a last child who was unwanted by one or both partners. However, the relational model indicates that man's greater years of schooling significantly reduce the likelihood that the last child was unwanted by the man or by both partners.

5. COUPLE USE OF CONTRACEPTION

In this second part of the study I focus on the analysis of a couple's use of contraception. What are the individual and couple characteristics that significantly increase or inhibit the use of contraception? And, to what extent does analysis at the couple level provides a better explanation than the individual approach of a couple's use of contraception?

There is general agreement that use of contraception should refer to those couples who are in need of contraception, in order to make it more meaningful: contraception use is relevant only for fecund couples who do not want another child in the near future (Kishor, 2000). Therefore in this section we first identify the sub-sample of couples potentially in need of contraception, to use later as the base for examining a couple's use of contraception. Traditionally, couples have been characterized as in need of contraception according to women's fertility desires and the timing wanted for the next child's birth (Westoff and Ochoa, 1991). However, adopting the couple as unit of analysis implies that not only a woman's but also a man's fertility intentions will

influence the definition of the couple's need of contraception (Bankole and Ezeh, 1999; Becker, 1999).

Working with the Mexican National Survey on Reproductive Health 1998 (ENSARE 98) poses a significant limitation in the task of defining couples potentially in need of contraception, given that the question about fertility desires is not accompanied by a question on the desired timing of the next birth. The absence of information on contraceptive intentions and no question addressing time-framed fertility intentions in the present survey limits the definition of potential need of contraception, which most likely implies an underestimation of couples in need of contraception.[2]

Hence, to define couple's need of contraception I used the following criteria. First, based on each individual's responses regarding their own fertility desires, all fecund couples were classified in four groups: 1) neither partner wants more children (1,019 couples), 2) only the wife wants more children (76 couples), 3) only the husband wants more children (125 couples), and 4) both partners want more children (376 couples). The first three groups are considered as couples in need of contraception, given that at least one partner does not desire more children. The fourth group of couples, in which both members want more children, is divided in two sub-groups: if one or both partners reported the last birth as unwanted, the couple is considered in need of contraception (180 couples); if the last child was reported as wanted for both partners, the couple is considered to not be in need of contraception (196 couples). In other words, a partner who does not desire more children and/or a partner who wants more children but identifies the last birth as unwanted define the couple as in need of contraception. Therefore, in this sample, I define a total of 1,400 couples potentially in need of contraception. Couples with pregnant or amenorrheic women were considered as not in need of contraception.

For exploring the individual and couple characteristics that significantly affect the couple's use of contraception I included the following explanatory variables in the regression analysis: *Socioeconomic status, Age, Years of schooling, Number of children. Cohabiting, Knowledge of contraception, Ideal number of children, Desire for more children* and *Life Goal*. Each of these variables is defined at the individual level (for women and men), and also at the couple level in a relational way, as done previously for the analysis of a couple's agreement on number and timing of children. As a dependent variable I used a dummy variable for *Couple's current use of contraception*. The variable adopts the value of 1 if both or at least one member declares using contraception, and 0 if both affirm that the couple is not using contraception. Again, four models

[2] As mentioned before, we are aware of inconsistencies that might go with the report of wantedness of last birth (Bankole and Westoff, 1998)

were estimated (two at the individual level and two for the couple) in order to compare the results using each approach.

The first individual model, using only information from the woman, is presented in Table 8. The results point out two factors as significantly increasing the couple's likelihood of using contraception: *woman's years of schooling* and *woman's number of children*. On the other hand, *woman's ideal number of children* appears as a variable significantly reducing the couple's likelihood of using contraception. In general, the predictive power of this model is quite limited, explaining only nine percent of the variance of current use of contraception by the couple.

Table 8 about here

The second individual model, based only on the man's characteristics, is shown in Table 9. In this case three variables show a significant positive effect on the likelihood of use of contraception: *man's years of schooling, man's number of children* and *knowledge of contraception*, while the man's age significantly reduces this likelihood. The model, still quite limited despite its predictive power, offers a slightly better account of the couple's use of contraception than the woman's model, suggesting a higher explanatory power of the man's characteristics rather than the woman's characteristics.

Table 9 about here

In Table 10, the additive model incorporates both members' characteristics. Once again, *Man's age* and *Man's number of children* were dropped because of a high correlation with the corresponding variables for the woman. In this model only three variables show a significant effect on the couple's likelihood of using contraception. As found in the individual model for women, the *Woman's ideal number of children* significantly reduces the likelihood of current use of contraception. Similarly, as shown in the individual model for men, *Man's years of education* increases the likelihood of using contraception. But the strongest effect corresponds to a variable than was not significant in the individual models: *Woman wants more children* is a factor that increases three times the likelihood of the couple's use of contraception. We would have expected that a woman's desire for more children would reduce the likelihood of contraceptive use, but the results show the opposite effect. Given the way that this variable was constructed (using only information from women) I cannot, at this point, provide an explanation for this result, given that I don't know here the partner's position, but only note that the corresponding variable for the man does not show a significant effect on use of contraception.

Table 10 about here

As a final point it is also important to note that, although this additive model incorporates variables for both partners, the Pseudo R^2 value is lower than the corresponding one for the individual model using only the men's characteristics. While these two models are not comparable (given that the variables included in the individual modelwere dropped from the additive model),

it still suggests that the additive model does not add significant information to the male-individual model.

The final model predicting couple's use of contraception is the relational model, shown in Table 11. Here, four variables show significant effects. *Difference in age* between the partners shows that when one of the partners is five or more years older than the other –regardless of who is the oldest- the likelihood of using contraception is significantly reduced. Concerning *years of schooling*, only more schooling for the man (five or more years) compared to the woman significantly increases the couple's use of contraceptives, by 2.5 times. There is, however, no a significant effect when it is the woman who has more schooling. For the indicator of couple's *difference in ideal number of children*, the results show that when the man wants one or two more children than the wife, the likelihood of using contraceptives is about three times larger than when both partners want the same number of children. This seems to indicate that regarding disagreement on the ideal number of children, it is the woman's position that prevails in influencing the adoption of contraceptives. Finally, this model shows, more clearly than the additive one, that when the woman wants more children-–but the husband does not--the likelihood of using contraceptives by the couple is substantially increased, more than 14 times, compared to the use of those couples in which neither one wants more children. This result is particularly interesting. It would seem that the highest contraceptive use would occur among couples in which both members agree about not wanting more children, but it is larger when only the wife wants more children, suggesting again the relevance of disagreement between partners and the relevance of the husband's desires in defining the couple's use of contraception.

In summary, when predicting a couple's use of contraception we observe than some variables-–including *man's and woman's number of children* and *man's knowledge of contraception*--show significant effects on the individual models that are not significant in the couple models. On the other hand, some variables only regain significance in the couple models rather than the individual ones, such as *woman wants more children*. These results illustrate the relevance of controlling the individual's variables by the partner's variables, and how the picture of what matters or not changes by doing so. Such findings also point out the relevance of looking at the effects of each individual's characteristics ***in relation*** to the partner's characteristics. Only when the individual's characteristics are defined in a relational way can we capture some aspects of how each partner influences the decision-process. For instance, from the individual regression models results we know that more years of schooling have a positive effect for both the man and the woman, increasing their likelihood of using contraception. The relational indicator for this variable additionally shows that a greater difference in schooling (of five or more years) favoring the man also has a positive effect on couple's use of contraception, but that is not the case when the woman has more schooling.

6. CONCLUSION

This work is an attempt to illustrate the differences in the results and understanding of some fertility issues when addressing them at the level of the individual and that of the couple, while at the same time examining the role of attributes of both the wife and the husband on the couple's agreement about the occurrence and timing of the last birth as well as the couple's use of contraception.

The results, although limited due to characteristics of the sample and some restrictions of the data, show some interesting results.

First, in terms of the factors that significantly affect the likelihood of a last child wanted only by one partner, the results show that the likelihood that the last child was wanted only by the wife is significantly increased by large differences in age between partners and cohabiting, while significantly reduced by the husband's additional schooling, differences in life goal between partners and talking about child before pregnancy. The opposite outcome, a last child only wanted by the husband, is significantly increased by cohabitation, but substantially reduced by a medium-high socioeconomic level, a wife's greater knowledge of contraception, and talking about the child before pregnancy.

Regarding the couple's use of contraception, the results show that large differences in age between the partners--regardless of which partner is older--reduce the likelihood of using contraception. At the same time, when the husband wants one or two more children than the woman, or when only the woman wants more children than the man, these are important factors increasing the couple's likelihood of using contraception. Therefore, it seems clear that disagreement between partners regarding fertility desires triggers the adoption of contraceptive methods.

From the comparison of different models and approaches, this work points out that when using data from only one partner to analyze some fertility issues, the models using data from men are more powerful than the models using only women's data. That emphasizes the strong effect of a man's characteristics and the relevance of incorporating men in fertility analysis. Additionally, the results confirm that by using both partners' data we gain not only conceptually, but also methodologically, and that the benefits of such an approach are more clear when the member's attributes are defined in a relational way, rather than just individually.

Using relational variables allows researchers to look at the meaning and relevance that closeness or distance of both members in a particular attribute has on the studied fertility aspects. It also corroborates the presumption that particular combinations of attributes between wife and husband have distinctive meanings in fertility decision-making processes. However, this approach could overlooks individual thresholds in which each particular characteristic gains or

loses significance (i.e. at what point an individual's age or schooling or knowledge about contraception makes a difference regarding a particular fertility decision). In addition, it might undervalue the possibility that in some contexts or circumstances some fertility events might be more dictated by one's individual characteristics rather than by the relative distance of such characteristics from the couple's characteristics. In that sense, it is worth exploring both types of indicators-–individual and relational--and finally, rather than choosing between them, finding the best combination for each specific case.

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Table 1. Men and Women characteristics.

Variable	ENSARE 98	
Socio-economic status		
Very low- Low	40.10	
Medium	43.61	
High	16.28	
	Women	**Men**
Age		
15 - 19	1.06	1.27
20 - 24	12.73	6.31
25 - 34	36.65	36.13
35 - 44	30.39	31.8
45 +	19.17	24.49
Mean Age	34.57	36.67
Level of Schooling		
No schooling	1.05	1.71
Some Primary	13.85	12.43
Completed Primary	20.56	20.02
Some High School	32.78	33.45
Completed High School	15.72	16.09
Some or completed University	16.04	16.30
Mean Years of Schooling	7.85	8.97
Marital status		
Married	90.36	89.61
Cohabiting	9.64	10.39
Mean number of children	2.94	2.90
Ideal number of children	3.00	3.04

Table 2. Relational variables used in the analysis.

Variable	Categories
Difference in Age	1. Husband 5 or more years older 2. Husband 1 to 4 years older 3. Both same age **(ref)** 4. Wife 1 to 4 years older 5. Wife 5 or more years older
Difference in years of schooling	1. Husband 5 or more years of schooling 2. Husband 1 to 4 years more of schooling 3. Both same years of schooling **(ref)** 4. Wife 1 to 4 more years of schooling 5. Wife 5 or more years of schooling
Difference in number of children	1. Wife has more children 2. Both same number of children **(ref)** 3. Husband has more children
Difference in Ideal number of children	1. Husband wants 3 o more children than her 2. Husband wants 1 or 2 more children than her 3. Both want same number of children **(ref)** 4.Wife wants 1 or 2 more children than him 5 .Wife wants 3 or more children than him
Difference in desire for more children	1. Both want more children 2. Neither want more children **(ref)** 3. Only wife wants more children 4. Only husband wants more children
Difference in Knowledge of Contraception (index)	1. Wife knows substantially more (more than 3 points) 2. Wife knows a little more (1 to 3 points more) 3. Both same knowledge **(ref)** 4. Husband knows a little more 5. Husband knows substantially more
Difference in Life Goal	1. Both have high-attainment life goal 2. Both have traditional life goal **(ref)** 3. Wife traditional goal/Husband high attainment goal 4. Husband traditional goal/Wife high attainment goal
Difference in acknowlodging a talk about last child before pregnancy	1. None of them acknowledge talking about it **(ref)** 2. Only wife acknowledge talking about it 3. Only husband acknowledge talking about it 4. Both acknowledge talking about it

Table 3. Planning status of last child

What the Man wanted	What the Woman wanted			Total
	Wanted	Wanted to wait	Not wanted	
Wanted	38.13	11.05	9.08	58.27
Wanted to wait	9.43	10.45	7.11	26.99
Not wanted	5.06	3.86	5.83	14.74
Total	52.61	25.36	22.02	100.00

Table 4. Multinomial logistic Regression: Unplanned last child by women's characteristics. ENSARE 98

Explanatory variables	Planned by the woman Unplanned by the man	Planned by the man Unplanned by the woman	Unplanned by both partners
Socio-economic status			
Very low (ref)			
Low	0.8695	0.7717	0.7006
Medium-High	1.2007	0.6208	0.3527 *
Woman's Age	0.9736	0.9940	0.9467
Woman's Years of Education	1.0432	1.0365	1.0511
Woman's Number of Children	1.2629 *	1.2007	1.4176 **
Cohabiting (dummy)	2.9908 *	3.1788 *	1.3584
Knowledge of Contraception (index)	0.9181	0.9550	0.8986
Woman's Life Goal (dummy)	0.7841	1.0869	0.8397
Woman's Ideal Number of Children	1.0366	0.8085 *	0.8080 *
Couple talked about last child before pregnancy (dummy)	0.4519 **	0.0699 ***	0.0463 ***
N	1147		
Degrees of freedom	30		
Log Likelihood	-1283.7163		
Pseudo R2	0.1608		

* p<0.05 **p<0.010 ***p<0.001

Table 5. Multinomial logistic Regression: Unplanned last child by men's characteristics. ENSARE 98

Explanatory variables	Planned by the woman Unplanned by the man	Planned by the man Unplanned by the woman	Unplanned by both partners
Socio-economic status			
Very low (ref)			
Low	0.6935	0.6632	0.5365 *
Medium-High	1.5518	0.6841	0.4040
Man's Age	0.9758	0.9699	0.9276 ***
Man's Years of Education	0.9068	0.9713	0.9843
Man's Number of Children	1.0008	1.1933	1.3817 **
Cohabiting (dummy)	3.9227 **	3.0471 *	1.9701
Man's Knowledge of Contraception (index)	0.9386	0.9805	1.0387
Man's Life Goal (dummy)	0.6546	1.3424	1.0445
Man's Ideal Number of Children	0.9751	0.9772	0.9206
Couple talked about last child before pregnancy (dummy)	0.2667 ***	0.0701 ***	0.0200 ***
N	961		
Grados de Libertad	30		
Log Likelihood	-986.0526		
Pseudo R2	0.2050		

* p<0.05 **p<0.010 ***p<0.001

Table 6. Multinomial Logistic Regression: unplanned last child by both members characteristics. ENSARE 98
ADDITIVE MODEL

Explanatory variables	Planned by the woman Unplanned by the man	Planned by the man unplanned by the woman	Unplanned by both partners
Socio-economic status			
Very low (ref)			
Low	0.6983	0.6954	0.5513
Medium-High	1.4164	0.6989	0.4291
Man's Age	0.9692	0.9762	0.9281 ***
Woman's Years of Education	1.0051	1.0274	0.9966
Man's Years of Education	0.9215	0.9735	0.9884
Man's Number of Children	0.9129	1.1895	1.3735 **
Cohabiting (dummy)	4.2499 **	4.5260 **	2.1031
Woman's Knowledge of Contraception (index)	0.9035	0.9568	0.9579
Man's Knowledge of Contraception (index)	0.9626	0.9879	1.0482
Woman's Life Goal (dummy)	0.9649	1.0291	1.1055
Man's Life Goal (dummy)	0.6463	1.3271	1.0261
Woman's Ideal Number of Children	1.3565 *	0.8505	0.9455
Man's Ideal Number of Children	0.9914	1.0149	0.9372
Couple talked about last child before pregnancy (according to woman)	0.2799 ***	0.0672 ***	0.0205 ***
N	947		
Grados de Libertad	42		
Log Likelihood	-952.9268		
Pseudo R2	0.2191		

* p<0.05 **p<0.010 ***p<0.001

Table 7. Multinomial logistic Regression: Unplanned last child by both couple's members characteristics. RELATIONAL MODEL. ENSARE 98

Explanatory variables	Planned by the woman Unplanned by the man	Planned by the man Unplanned by the woman	Unplanned by both partners
Socio-economic status			
Very low (ref)			
Low	0.7239	0.7127	0.7122
Medium-High	1.2422	0.4478 *	0.2775 **
Difference in age			
He older 5 or more years than she	2.3933 *	1.7629	1.0673
He older 1 to 4 years than she	2.4132 *	1.3203	1.5659
Both same age (ref)			
She older 1 to 4 years than he	3.3298 **	1.9719	2.4549 *
She older 5 or more years than he	1.9503	1.0147	0.7749
Difference in years of schooling			
He studied 5 or more years than she	0.4618 *	1.1931	0.5752
He studied 1 to 4 years more than she	0.6714	0.9066	0.4467 *
Both same years of schooling (ref)			
She studied 1 to 4 years more than he	0.9613	1.8079	1.1101
She studied 5 or more years than he	0.9644	1.8674	0.4171
Difference in number of children			
She has more children than he	2.1598	1.0796	1.9842
Both same number of children (ref)			
He has more children than she	0.4643	1.0854	1.1823
Cohabiting (dummy)	3.6957 *	4.0666 *	2.1286
Difference in Knowledge of Contraception (index)			
She knows substantially more than he	0.6059	0.5026	0.3327 *
She knows a little more than he	1.1044	0.3847 *	0.6489
Both know the same (ref)			
He knows a little more than she	1.5370	0.4526	0.8469
He knows substantially more than she	1.0421	0.3979	1.4479
Difference in Life Goal			
Both have higher-attainment life goal	0.4177	1.6196	1.2234
Both have traditional life goal (ref)			
She traditional life goal/ He higher-attainment life goal	0.3511 *	0.9690	0.9681
She higher-attainment life goal/ He traditional life goal	0.3263 *	0.7911	0.8153
Diference in ideal number of children			
He wants 3 or more children than she	0.8434	1.0031	0.6206
He wants 1 to 2 more chldren than she	0.7747	1.6652	2.3041 *
Both want same numbre of children (ref)			
She wants 1 to 2 more children than he	1.1505	0.7789	0.8435
She wants 3 or more children than he	2.1409	0.9119	0.8526
Couple talked about last child before pregnancy			
None of then acknowledge talking about it (ref)			
Only she akcnowledges talking about it	1.7776	0.1218 **	0.1375 ***
Only he akcnowledges talking about it	0.1964 **	1.3055	0.1161 ***
Both acknowledge talking about it	0.1074 ***	0.0718 ***	0.0067 ***
N	1080		
Grados de Libertad	84		
Log Likelihood	-1032.0486		
Pseudo R2	0.2815		

* p<0.05 **p<0.010 ***p<0.001

Table 8. Logit Regression: Couple use of contraception by woman's characteristics. ENSARE 98

Explanatory variables	Odds Ratios
Socio-economic status	
Very low (ref)	
Low	1.0777
Medium-High	0.8696
Woman's Age	0.9642
Woman's Years of Education	1.1401 *
Woman's Number of Children	1.3966 *
Cohabiting (dummy)	1.1875
Knowledge of Contraception (index)	0.9999
Woman's Ideal Number of Children	0.7781 *
Woman wants more children	1.9830
Woman has a traditional life goal (dummy)	1.0213
N	550
Grados de Libertad	10
Log Likelihood	-267.6899
Pseudo R2	0.0856

* p<0.05 **p<0.010 ***p<0.001

Table 9. Logit Regression: Couple use of contraception by man's characteristics. ENSARE 98

Explanatory variables	Odds Ratios
Socio-economic status	
Very low (ref)	
Low	1.2712
Medium-High	1.3565
Man's Age	0.9407 **
Man's Years of Education	1.0972 *
Man's Number of Children	1.3457 *
Cohabiting (dummy)	0.8426
Knowledge of Contraception (index)	1.1302 *
Man's Ideal Number of Children	0.9534
Man wants more children	1.8625
Man has a traditional life goal (dummy)	0.6953
N	567
Grados de Libertad	10
Log Likelihood	-243.5341
Pseudo R2	0.1329

* p<0.05 **p<0.010 ***p<0.001

Table 10. Logit Regression: Couple use of contraception by both members characteristics. Additive Model. ENSARE 98

Explanatory variables	Odds Ratios
Socio-economic status	
Very low (ref)	
Low	0.9592
Medium-High	0.5767
Woman's Age	0.9605
Woman's Years of Education	1.0582
Man's Years of Education	1.1280 **
Woman's Number of Children	1.3451
Cohabiting (dummy)	1.0416
Woman's Knowledge of Contraception (index)	0.9934
Man's Knowledge of Contraception (index)	1.0654
Woman's Ideal number of Children	0.7797 *
Man's Ideal Number of Children	1.0762
Woman wants more children	3.0122 *
Man wants more children	0.4344
Woman's Life Goal (dummy)	1.0229
Man's Life Goal (dummy)	0.8207
N	517
Grados de Libertad	15
Log Likelihood	-240.2586
Pseudo R2	0.1213

* p<0.05 **p<0.010 ***p<0.001

Table 11. Logit Regression: Use of Contraception by couples, relational model. ENSARE 98.

Explanatory variables	Odds Ratios
Socio-economic status	
Very low (ref)	
Low	0.8119
Medium-High	0.6685
Differences in age	
He older 5 or more years than she	0.3168 *
He older 1 to 4 years than she	0.8263
Both same age (ref)	
She older 1 to 4 years than he	0.5533
She older 5 or more years than he	0.1639 *
Difference in years of schooling	
He studied 5 or more years than she	2.4943 *
He studied 1 to 4 years more than she	0.7621
Both same years of schooling (ref)	
She studied 1 to 4 years more than he	0.6375
She studied 5 or more years than he	0.3871
Difference in number of children	
She has more children than he	0.6388
Both same number of children (ref)	
He has more children than she	0.4967
Cohabiting (dummy)	1.9233
Difference in Knowledge of Contraception (index)	
She knows substantially more than he	0.4674
She knows a little more than he	0.5641
Both know the same (ref)	
He knows a little more than she	0.4396
He knows substantially more than she	1.0024
Difference in ideal number of children	
He wants 3 or more children than she	2.6572
He wants 1 or 2 more chldren than she	2.9589 **
Both want same number of children (ref)	
She wants 1 or 2 more children than he	1.0696
She wants 3 or more children than he	0.3541
Difference in desire for more children	
Both want more children	1.1364
None of them want more children (ref)	
Only she wants more children	14.4096 *
Only he wants more children	0.4975
Difference in Life Goal	
Both have higher-attainment life goal	1.2445
Both have traditional life goal (ref)	
She traditional life goal/ He higher attainment life goal	0.8951
She higher-attainment life goal/ He traditional life goal	1.5839
N	568
Grados de Libertad	27
Log Likelihood	-267.9426
Pseudo R2	0.1472

* p<0.05 **p<0.010 ***p<0.001

Figure 1. Women and men distribution in Index of Knowledge of Contraception