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How Expected Life and Partner Satisfaction Affect Women's Fertility Outcomes: The Role of Uncertainty in Intentions

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Abstract

Using the Theory of Planned Behavior (TPB Ajzen 2005) as a framework this paper investigates the role of uncertainty in fertility intentions in order to improve prediction of fertility outcomes. Using two waves of Italian data from GGS, it shows the existence of a clear relationship between the stability of intention to have a child and realization of intention: uncertainty in a stated intention results in significantly lower realization of that intention. In addition, the results show that beliefs that having a child will improve life satisfaction and partner relationship have a positive effect on the stability of intentions to have a child.

Keywords

TPB, fertility intention, fertility realization, uncertainty, Italy

JEL (J13)

1. Introduction

This paper aims to improve understanding of the realization of fertility intentions by taking account of uncertainty. Taking advantage of the results of previous quantitative and qualitative research, we use longitudinal data to link women's beliefs about the effect of having a child on life satisfaction and partner relationships to fertility outcomes, paying particular attention to the role of uncertainty in expressed intention to have a child.

Reproductive intentions are often used in human and demographic studies as indicative of purposive human behavior, and thus fertility trends, on the assumption that childbearing (at least, by adults in developed countries with access to contraception) is usually planned during the life course (Bongaarts 2001). Yet, the link between intention and realization has been found to be imperfect (Kapitány and Spéder 2013). In this paper, we contend that one reason for this is that intention – regardless of the measurement scale used – has erroneously treated fertility intention as dichotomous (intend to have a child versus intend not to have a child) in order to map to the true dichotomous fertility realization measure (have a child versus not have a child). Childbearing intentions, however, are subject to different types and degrees of uncertainty.

It has, in fact, long been acknowledged that childbearing intentions are subject to uncertainty: “[U]ncertainty...is a real phenomenon inherently part of fertility decision making...adequate understanding and analysis must incorporate this uncertainty” (Morgan 1981: page. 268). Morgan establishes that uncertain fertility intentions are not simply a form of non-response but are meaningful in themselves. He proposes that an appreciation of uncertainty is essential for a proper understanding both of reproductive decisions at the individual level and of aggregate fertility trends. He also notes that different levels of uncertainty and the direction could be relevant. Only recently, however, have attempts have been made to acknowledge uncertainty, mostly in qualitative studies (e.g., Cavalli 2010; Bernardi, Cavalli and Mynarska 2010; Cavalli and Rosina 2011; Ní Bhrolcháin and Beaujouan 2011.), while quantitative studies still make little distinction between a weak aspiration and an uncompromising determination.

Intentions are not formed in isolation and they are not fixed once and for all (Iacovou and Tavares 2011). To comprehend the nature of intentions requires some understanding of the way they are formed and the context in which they are formed. The nature of intentions, how they are formed, and their relationship to outcomes, is particularly considered in the Theory of Planned Behavior (TPB, Ajzen 2005), which has received detailed attention in the fertility sphere (Ajzen 2011; Bachrach and Morgan 2011). This paper uses the TPB as a framework for study the role of uncertainty in intentions in understanding the relationship between beliefs about having a child and fertility outcomes.

The paper is organized as follows: the following section provides the theoretical and empirical background for the study and summarizes the relevant literature on the topic. Section 3 presents the data used to conduct the analysis and the methodological strategy employed, while section 4 reports and comments on the main results. Finally, section 5 provides some conclusions and reports some anticipation for the in progress-ongoing further research.

2. Empirical and theoretical background

Demographers, sociologists and economists have extensively analyzed the family formation process, trying to understand what influences fertility decisions. An underlying assumption has been that intentions are predictive of fertility outcomes, and that what explains the difference between fertility intentions and their subsequent realization is not much different from the factors affecting fertility intentions alone. Both economic and socioeconomic characteristics have been found to influence the

realization of fertility intentions. In addition to age and geographical area, usually included as control variables, parity, partnership status, education and employment are typically found to be determinants of the realization of previously stated fertility intentions. The direction of the effect is not, however, the same in all studies; for example, in France and Italy, where the income effect prevails over the substitution effect, being highly educated and employed is positively associated with the likelihood of having children (Toulemon and Testa 2005; Rinesi 2009), while in the United States, women holding a degree have fewer children than their less educated counterparts (Quesnel-Vallée and Morgan, 2003).

Recent quantitative studies provide evidence that sociological factors and human thoughts or cognitions are also associated with fertility outcomes. Econometric analysis has shown that the level of agreement within a couple, considered synonymous of satisfaction with personal life, is crucial to define fertility outcomes and to explain the whole process of fertility decision making (Cavalli and Rosina 2011; Dommermuth, Klobas and Lappegard 2011; Testa, Cavalli and Rosina 2011, 2012).

2.1 Uncertainty in fertility intentions

Intentions are pivotal to the conversion of economic and socioeconomic factors, and human cognitions, into childbearing. Consistent with Morgan's (1981) observation that uncertainty is an inherent quality of fertility intentions, recent qualitative research has identified six different shades of fertility intention (Bernardi, Cavalli and Mynarska 2011)¹. The six groups are:

1) Project (planned parenthood). People with a fertility project plan to have a child in a defined time-frame. The intention is a concrete plan, the time-frame is short (within the next three years) or active attempts to achieve pregnancy are already taking place.

2) Contingent. One or more conditions are identified by people in this group as obstacles which interfere with their intentions of having one or another child soon. A change in at least some of these constraints in the next three years seems unlikely.

3) Ambivalent. People in this group waver between the desire to have a child and the desire to remain childless or the desire to remain the parent of one child while at the same time thinking that they will probably end up having another child. These contradictory positions are not argued with reference to external or material conditions but rather refer to fears about the responsibility of childrearing and personal maturity on one hand and the pleasure and satisfaction of having children on the other.

4) Uncertainty. This group includes people who might openly declare that they have never thought about becoming parents or having another child, people who do not express a desire to have a child (or another child) but do not completely rule out this possibility, and those who are uncertain about the time-frame and want to leave it open.

5) Distant. People who want to have a child (generally their first) but because of their youth or life course status (living with parents, not having had a partner in the last few years) perceive parenthood as something that belongs to the distant future define the category Distant or Far Childbearing.

6) Excluded. People in the final group clearly state their intentions not to have any or any additional child. They either lack the desire or they have competing priorities or they do not try to change their contingent condition.

The range of fertility intentions demonstrates the complexity of the phenomenon, and the importance of considering intermediate levels between a definite intention to have a child (Project) and a definite intention to not have a child (Excluded).

This set of intentions is used by Mynarska (2009) in her analysis of individual fertility choices in Poland and by Cavalli (2011) in her research on the role of beliefs in shaping fertility intentions as predictors of reproductive behaviors in Italy. In a total of 142 interviews², Cavalli and Mynarska observe how Italian and Polish women link their intentions to their life expectations and use their background and past experiences to make sense of their reasons and reasoning. A comparison of intentions and subsequent behaviors for 14 Italian women who already had one child and eight Polish women, both childless and with children, Bernardi et al. (2010) show that those who had a fertility intention coded as Project, Contingent or Ambivalent and who had a child within three years were:

1) those who had a positive opinion about their relationship with their partner and his help with childcare for the intended new child, based on past experience:

When she was born [the first daughter], he [the husband] helped me a lot in taking care of her, and that was great

2) those who were satisfied with their ability to balance paid and unpaid jobs:

I'll see how much more energy I will need to find, but if the second child arrives near the first one as I hope ... it will not be a problem ... it will be easy to manage

3) those who had some contingent conditions, such as find a stable job, buy a house or get married, that had been resolved in the three year time span, increasing life satisfaction:

2007: Now she is two. I would like to give her a sibling without waiting too much..., you know? But it is hard... we want to buy a house -now we are only losing money paying the rent... and get married.. with a classical wedding, with a big ceremony... If we already had done all these things, probably we'd have already been four.

2009: We have another little child!! Many beautiful things have happened in these last three years! A new house... Moreover, now we collaborate more! We feel much closer! We started this strong collaboration when we had to renovate the flat, then we continue helping each other while we were organizing our wedding... We got married a few months ago!

4) those who did not have any strong wish to have a child and expressed contradictory intentions, but whose attitude towards having a child changed over the period:

2007: You need to have a baby, but I don't know how it's going to be (laughs), I'm not convinced.

2009: Together with my husband, we both wanted and we made attempts to have this child!

On the other hand, those who categorically excluded the idea of having child were those who saw that their personal and sexual life had changed for the worse:

The first child changed completely our relationship: before we had time for us, we went out every week, our lives were not boring. When he [the son] was born, he never slept, so we were tired and we could never stay calm or relaxed together... then he grew up and he became too energetic... my husband helped me, he was compelled to do so, but from that day we did not have an intimate life anymore and I could not accept it again;

and those who have already reached an optimal equilibrium:

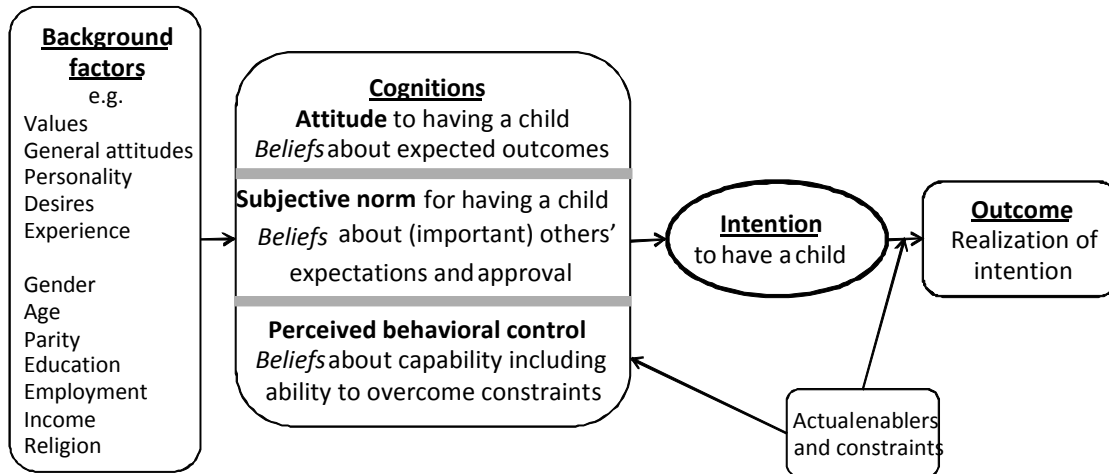
I cannot find any positive aspects of having another child: now, extrapolating from everything, I'm fine as I am.

2.2 The theory of planned behavior

The TPB (see Figure 1), which we adopt in this study, explicitly links individual characteristics such as personality, values and desires as *background factors*, to beliefs about a behavior or goal such as having a child, intentions such as the intention to have a child and the realization of those intentions. Beliefs are grouped into: beliefs about the behavior or outcome, which underlie attitudes to it; normative beliefs,

which reflect the social pressure the individual feels to perform the behavior; and control beliefs, which express the extent to which the individual perceives that it is possible for them to perform the behavior or achieve the outcome. According to the TPB, intentions fully mediate the effect of beliefs on the realization of intentions (Ajzen, 2005). In turn, beliefs fully mediate the effects of background factors on intentions. Intentions can be considered to be latent behaviors that will be acted upon when conditions are sufficiently favorable. The relationship between intention and outcome is thus imperfect, and intentions can be interrupted by constraints or events that prevent a person converting intention into behavior. Background factors can act, in the first instance, to influence beliefs about having a child. They might also act as actual constraints on realization of intention to have a child; for example, a woman might intend to have a child but find that her age prevents her from realizing her intention (Ajzen, 1991).

Figure 1. Theory of planned behavior (TPB) model for fertility



The stability of the intention needs to be considered when predicting realization. Intentions are stable to the extent that they do not change over time. In general terms, the longer the interval between expressing a behavioral intention and observing the behavior, the less stable the intention is likely to be, i.e., the more likely it is to change over time (Fishbein and Ajzen, 2010). Clearly, when the outcome of interest is the birth of a child, and intentions are expressed nine months or more (typically, at least two to three years in contemporary population surveys such as the Gender and Generations Survey (<http://www.ggp-i.org/data/data-access.html>) prior to the expected birth, the stability of the intention is an important consideration.

3. Development of hypotheses about the stability of fertility intentions

Drawing on Morgan's (1981, 1982) observations about uncertainty in fertility intentions and insights from the recent qualitative studies of uncertainty in fertility intentions and its flow through to realization, we propose that an uncertain intention is associated with greater instability. Thus, we hypothesize that:

H1: People who express a definite intention to have a child are more likely to realize their intentions than people who express an uncertain intention to have a child.

We expect to see this effect once actual enablers and barriers to realization, such as age, are taken into account. Thus, we further hypothesize:

H1.1: The relationship between intention and realization is affected by the presence of actual enablers and barriers to realization.

The empirical literature reviewed here also permits us to identify some beliefs and background factors that should give rise, directly and indirectly respectively, to different levels of certainty in intention. We use this information to further hypothesize:

H2: Certainty of intention to have a child arises from (*inter alia*) expected satisfaction with life and partnership.

Finally, following the TPB, we hypothesize that:

H3: The effect of background factors (economic and socioeconomic factors) on intention to have a child is fully mediated by beliefs about having a child.

Demonstration that beliefs mediate the effect of background factors on intentions should show not just that beliefs have a direct effect on intentions while the background factors have an indirect effect, but also that the variation in intentions explained by beliefs is greater than the variation explained by the background factors.

4. Data

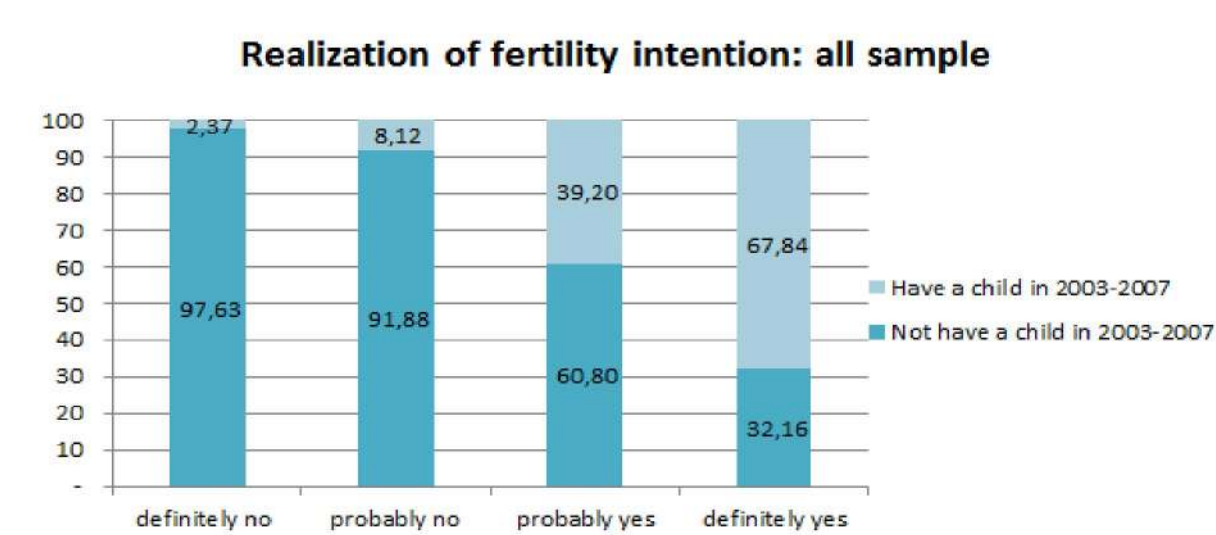
The data employed to conduct the analysis are from the Multipurpose Household Survey on "Family and Social Subjects" (FSS) – part of the international Gender and Generations Program (GGP) study carried out in Italy by the Italian National Statistical Office (ISTAT) between November 2003 and 2007. The survey focuses on family structures and informal networks, help received with childcare, marriage and life as a couple, and elements of the life cycle including intentions to leave the parental home, to get married and to have children. Attitudes and opinions on some aspects of daily life aspects, jobs and careers are also covered. The survey unit is the household, but some building blocks of the questionnaire –in particular, those referring to fertility intentions– is in a self-administered section, in order to gain higher degree of independence between the answers of the partners. Information about fertility intentions is asked of respondents aged 18-49 in late 2003. The follow-up wave (2007) includes 10,000 individuals who are randomly drawn from the initial sample of 50,000. A comparative analysis between those interviewed in 2003 and those followed up in 2007 does not show any significant difference in the distribution of demographic variables such as: female's age, parity, marital status, education or employment status of the woman and her partner.

The hypotheses are not restricted by age, gender or parity, so we select a sample of all women for whom we can compare fertility intentions as reported in the first wave with subsequent reproductive behavior measured in the second wave. This sample consists of 1,769 women (250 childless women, 516 mothers of one child and 859 mothers with two children).

Referring to the fertility sphere, respondents are asked about fertility intentions in the following way: “Do you intend to have a child in the next three years?” This question is suitable for the present investigation given our interest in the individual’s intention and subsequent realization and, moreover, given other researchers’ demonstration that explicit reference to a precise temporal framework produces more reliable answers that are more predictive of future reproductive behavior (Quesnel-Vallée and Morgan 2003). The four response options presented in the survey are: “Definitely not”, “Probably not”, “Probably yes” and “Definitely yes”. We define the first two of these responses as intentions to *not have* a child and the last two as decisions to *have* a child, or a “positive” fertility intention. Keeping in mind the possibility that the beliefs behind intending to undertake a behavior can differ from those behind intending *not* to undertake the behavior, we are particularly interested in the two responses that define a positive fertility intention: “Definitely yes” is a definite intention to have a child, while “Probably yes” is an uncertain (and, according to our proposition, unstable) intention to have a child.

Fertility behavior relative to intention for the 1,769 women in the sample is shown in Figure 2. While only 16.67% of the women have had a child between the two surveys, there is a clear distinction between realization of intentions to not have a child and realization of positive intentions to have a child. Most of the women who three years before intended not to have a child realize that intention: almost all of women who definitely did not want to have a child, and 92% of women who were less certain about their intention to not have a child, realize their (negative) intention. There is greater variation in realization of positive intentions to have a child: two-thirds of those who expressed a definite intention to have a child realize their intention, while realization among women who expressed an uncertain intention to have a child, at 39%, is a little over half that rate.

Figure 2. Fertility behavior by intention



In Figure 3 we report the percentages of women having a child between 2003 and 2007 by fertility intention in 2003, separately for childless women, mothers of one child, and mothers with two children. Overall the proportion of women who have had a child between the two waves gradually decreases by

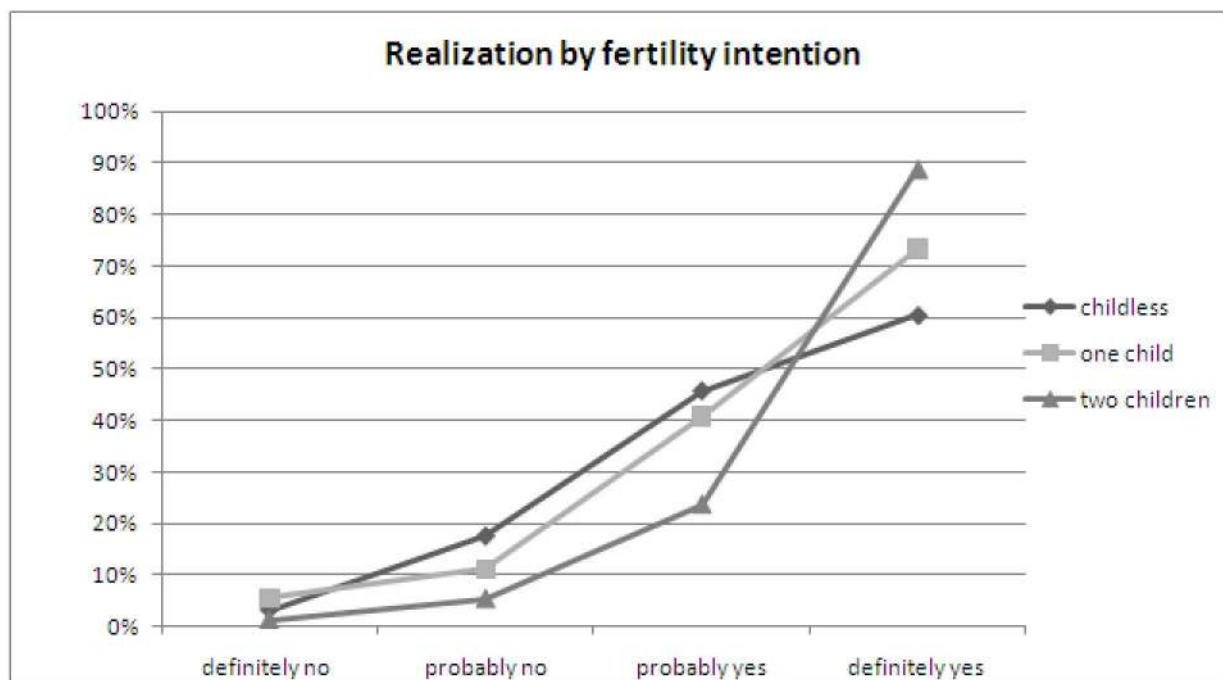
parity, from 43.2% of those who were childless in 2003 to 25.3% for those who already had one child and, finally, to 5% of those who already had two children.

Figure 3. The realization of fertility intentions by parity



Changing perspective and plotting realization by the different fertility intentions for each parity (Figure 4), we see that: intention to definitely not have a child is associated for all parities with almost 100% realization of that definite negative intention; an uncertain intention to not have a child, while still associated with high realization of the negative intention is realized by higher proportions of women as parity increases; realization of an uncertain positive intention follows a similar pattern by parity to that of uncertain negative intention, but with a higher number of births (although this represents a lower realization of the intention to have a child); finally, realization of definite intentions to have a child are realized in proportion to increasing parity, i.e., the higher the parity, the higher the proportion of women who realize their definite intention to have a child (from around 60% for childless women in 2003 to around 90% for women with two children in 2003).

Figure 4. Realization by fertility intention and parity

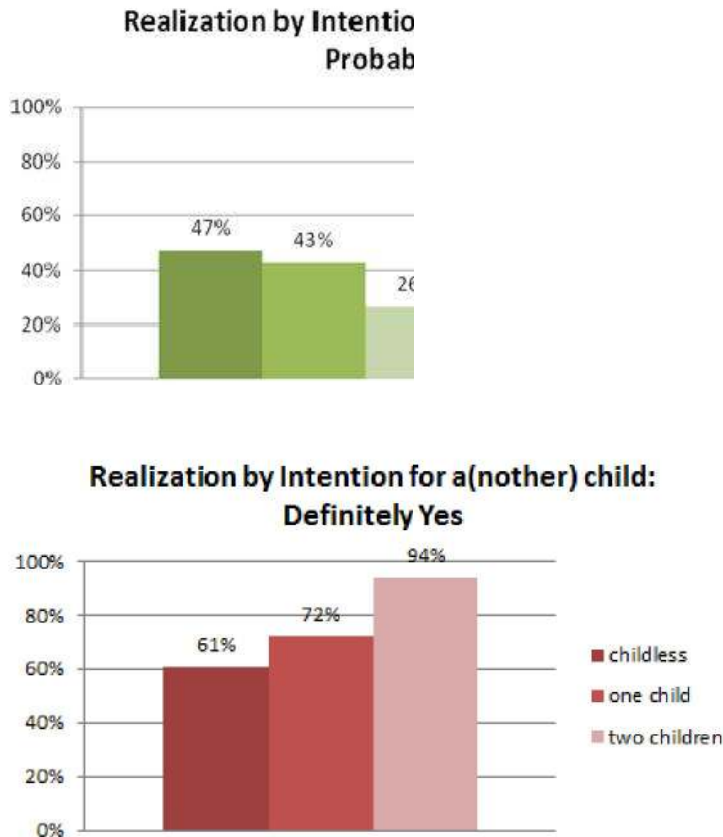


To test our hypotheses, we work with the subsample of respondents with a positive fertility intention. We remove those who were more than 42 years old at the first wave, for reasons concerned with biological constraints, along with those who did not respond to questions about beliefs. The sample is therefore made up of 204 childless women, 242 mothers of one child and 69 mothers with two or more children, a total of 526 women. Figure 5 illustrates realization of this group of women's fertility intentions by parity as recorded in 2003, while the characteristics of this sample of women are summarized in Appendix 1.

Figure 5 highlights the observations in Figure 4: the percentage of women who realizes their fertility project differs by certainty of intention: realization is lower than 50% for all parities when (positive) intention to have a child is recorded as uncertain, while when the intention to have a child is definite, the realization is above 60% for all parities. Furthermore, uncertainty is associated with lower realization as parity increases (from 43% for women who had no child in wave 1 to a low 26% for women who had two

or more children) while a definite intention to have a child is associated with greater realization as parity increases (from 61% for childless women in wave 1 to 94% when the starting parity is two children).

Figure 5. Realization of fertility intention by differing certainty of intention and parity



5. Methods

The hypotheses are tested through a series of logistic regressions:

H1. The relationship between certainty of intention to have a child and realization of intention

The dependent variable, realized intention, is measured by recording whether the respondent had a child between the two waves or not. In Model 1.1, the only independent variable is intention at wave 1 (2003), as hypothesized in H1. Economic and socioeconomic variables typically included in studies in demography, economics and sociology – like age, highest level of educational attainment, job characteristics, geographical area of residence, partnership status, number of siblings, religious attitude—are added in Model 1.2 to test the effect of enablers and barriers on realization (H1.1). While these factors act as background factors in the formation and explanation of beliefs at the time of forming intentions, they can also act as barriers or enablers to realization of intentions (Ajzen, 1988).

H2 and H3. The mediating effect of beliefs on the certainty of intention to have a child

Two beliefs about the outcomes of having a child, measured in Wave 1, are used to represent the effect of beliefs on certainty of intention: the belief about the effect of having another child on *joy and satisfaction in life* and *relationship with partner*. The decision of focusing on these two beliefs is to find again in the

results obtained in the qualitative works previously mentioned (Cavalli 2011). Respondents are asked what the effect of having a child would be on these (among other) aspects of their life. Their responses are recorded on a five-point scale of 1 *much worse* 2 *worse* 3 *neither better nor worse* 4 *better* 5 *much better*, but these scales are collapsed for analysis because some values were used by very few respondents. Table 1 reports the recorded frequencies for the two considered beliefs in 2003.

Table 1. Distribution of beliefs by positive fertility intentions³

<i>If you were to have a/another child during the next three years, would it be better or worse for</i>	Intention to have another child within the next three years		Total
	Definitely YES	Probably YES	
<i>the closeness between you and your partner/spouse?</i>			
worse	40	129	169
better	181	176	357
<i>the joy and satisfaction you get from life</i>			
worse	10	36	46
better	211	269	480

Three models are used to test that beliefs affect the certainty of intention to have a child, and simultaneously that they mediate the effects of background factors: Models 2.1 and 2.2 examine the effect of each belief separately, while Model 2.3 examines the effect of the interaction between the two variables, given the likelihood that life satisfaction is correlated with quality of relationship with partner (see for example Easterlin 2006, Martikainen 2009, Spéder and Kapitány 2009).

6. Results

6.1 From intention to realization

Table 2 presents the results of the tests of the relationship between intention and realization. The significant effect of intention on realization in Model 1.1 confirms the relationship seen graphically in

Table 2. Effect of intention on realization

	Model 1.1		Model 1.2	
	Odds	p	Odds	p
Constant	-0.38	0.001	0.09	0.01
Intention in 2003: definitely YES ^a	1.13	0.001	2.98	<0.001
Woman's age			0.09	<0.001
Couple live in the north ^b			1.3	0.18
Couple live in the south or islands ^b			0.73	0.30
She has siblings			1.05	0.88
She has tertiary education ^c			1.74	0.04
She has no secondary education ^c			0.62	0.04
She worked part-time at t1 ^d			2.24	0.28
She worked full-time at t1 ^d			1.56	0.55
She was a student at t1			2.01	0.35
She is married ^e			2.26	0.05
She is satisfied with housework division ^f			0.98	0.91
She is religious			1.06	0.77
Pseudo R ²	0.05		0.11	
χ^2	38.67	<0.001	82.15	<0.001
Df	1		12	
χ^2/df	38.67		6.85	

Notes: Logistic regression, $n = 526$. Dependent variable: Realized intention (0=no. 1=yes). t1 = time of GGS Wave1.

a Reference = Probably yes. b Reference = lives in the center. c Reference = She has secondary education. d Reference = She was not working. e Reference = Cohabiting. f Binary coded, reference = not satisfied.

Figure 5 — considering all parities, a definite (positive) intention to have a child is more likely to result in realization than an uncertain one. Nonetheless there is quite a lot of error in prediction of realization of actual births from intentions, as seen by the low pseudo R² and the high value of χ^2/df .

Addition of factors representing actual control in Model 1.2 increases both explanatory power and the size of the effect of certainty on realization. After taking the woman's age, partnership status, and level of education into account, a woman who is certain in her intention to have a child in the next three years is almost three (2.98) times more likely to realize her intention than a woman who is uncertain. Before taking these factors into account, the odds of realization of fertility intentions were only 1.13. Each of the background factors provides insight into the relationship between stability of fertility intentions and realization. In Italy, marriage is associated with stability: a married woman is in a more stable relationship for having a child than a cohabiting woman (see for example Timberlake, et al. 2005, Perelli-Harris et al. 2012, Manlove et al., 2012). Increasing age, after a certain limit, acts as a biological constraint on ability to have a child. Education is also associated with actual control: a woman with higher education is likely to be in a job (or organization) to which she can return after she has her child, while a woman with little education is less likely to be in such a position (Bratti 2005, Cavalli 2012). Women with secondary and tertiary education might also be more able to overcome barriers to have a child than women with lower levels of education.

Hypotheses 1 and 1.1 are therefore supported by the analyses.

6.2 Effects on intention

Table 3 presents the odds and fit statistics for the statistically significant variables in the models of the effects of beliefs and background factors on intention to have a child. Both beliefs predict intention, on their own and in interaction. When the background variables are entered as controls, only woman's age emerges as significant, and only in Model 2.1 (with *joy and satisfaction*). With a quite small coefficient at $p = 0.03$, this effect might be random or might result from failure to adequately measure the mediating cognitions. This latter point of view is supported by the lack of significance of the same variable in Models 2.2 and 2.3. The single beliefs explain a relatively small proportion of uncertainty in intention, as can be expected, but they provide a moderately good fit to the data, suggesting that inclusion of a larger set of beliefs might provide a more satisfactory explanation of uncertainty in intention to have a child. These results support H2, that beliefs mediate the effect of background factors on intention to have a child. They also provide quite strong support for H3, that beliefs fully mediate the effect of background factors on intentions.⁴

Table 3. Effects on intention

	Model 2.1		Model 2.2		Model 2.3	
	odds	P	odds	p	odds	P
Constant	0.04	0.002	0.04	<0.001	0.09	<0.001
<i>Joy and satisfaction in life</i> ^a	1.94	<0.001				
<i>Relationship with partner</i> ^b			2.39	<0.001		
<i>Interaction:</i>						
Joy and satisfaction in life*Relationship with partner					1.13	<0.001
Woman's age	0.65	0.03	0.97	0.11	0.96	0.09
Pseudo R ²	0.08		0.08		0.08	
χ^2	31.77	0.001	58.69	<0.001	58.00	<0.001
df	12		13		13	
χ^2/df	2.65		4.51		4.46	

Notes: Logistic regression, n = 526. Dependent variable = intention (0 = probability yes; 1 = definitely yes). Control variables are all those in Table 2; only those with significant effect are shown. t1 =time of GGS Wave 1.

a Scale: 1 not worse, 2 better, 3much better. b Scale: 1 worse, 2 neither better nor worse, 3 better, 4 much better.

7. Concluding remarks

The most important new contribution of this paper is demonstration that uncertainty in a stated intention to have a child results in significantly lower realization of that intention. “Probably yes” should not be treated as meaning the same thing as “Definitely yes”, nor should “Probably yes” be expected to result in realization of intention to have a child with anywhere near the probability of an intention expressed with certainty.

This paper also raises a number of issues that will benefit from further investigation. An issue of particular relevance concerns further definition and understanding of the stability of intentions. While time is used as a proxy of stability in the TPB –and clearly the longer the interval between expressing an intention and observing whether the intention has been realized, the more events can intervene to prevent realization– these results confirm that uncertainty is, in its own right, a key factor influencing the stability of fertility intentions: even when the measures of intention to have a child were taken at the same time, a higher proportion of women who expressed a definite intention to have a child within the next three years realized that intention than women who were uncertain. Conceptual consideration of the nature of stability of fertility intentions, and other ways in which stability might be captured, has the potential to advance fertility theory.

Our results also suggest that, at least among Italian women, partnership quality may play a role in determining the stability of fertility intentions. Deeper understanding of the nature of the stability of fertility intentions should also be accompanied by further study of the factors that give rise to stability and instability. In this study, we consider –for parsimony– only two of the 23 beliefs included in the GGS. Future studies, more concerned with a complete explanation of stability or uncertainty, might include a larger set of beliefs. Moreover, as stated while describing existing qualitative results, a wider range of intentions might be found to explain low stability, like the ones that have been grouped in the Contingent and Ambivalent categories. Further research could be aimed at studying these and other forms of instability in fertility intentions.

Finally, concerning the way in which fertility intentions are measured, these results again underline as did Morgan (1981), the importance of adopting scales which recognize the information contained in expressions of uncertainty about fertility intentions. At least in societies and groups where it is easier to act on an intention to not have a child (e.g., by using contraception), simplistic dyadic measures are ineffective measures of intention which will be more successful at predicting realization of negative rather than positive intentions to have a child. More fine-grained measures of “positive” intentions to have a child are needed if we are to better predict and understand the relationship between intentions to have children and realization of those intentions.

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Notes

1. Research conducted within the EU Seventh Research Framework Programme (FP7) project 'Reproductive decision-making in a macro-micro perspective' (REPRO). A total of 332 in-depth face-to-face interviews were conducted: 27 in France, 92 in Germany, 97 in Italy, 45 in Poland, 26 in Bulgaria and 45 in Hungary.
2. The interviews were part of the REPRO Project, conducted with the Italian and Polish samples described in note 1.
3. Note that the sample size requirements for the regression are not violated: all 10 women with a definitely positive intention who believed that satisfaction with life would worsen with the arrival of another child also believed that their closeness with their partner would worsen.
4. Note that we also investigate the determinants of the two beliefs we find to have an effect on intention. Among the most interesting results we find that: i) the older the woman, the weaker the respondent's belief that having a child would improve the respondent's relationship with their partner. The effect is found to be small, and may reflect stronger relationships among older couples (so we can argue that the quality of relationship does not improve if it is already mature); ii) the belief that having a child would bring joy and satisfaction to life is higher among couples who live in the north of the country (that is the wealthier regions); iii) expectations of joy and satisfaction are higher the more education a person has. Results are reported in Appendix 2.

Appendixes

1. Descriptive statistics (absolute values and percentages of realization) at Wave 1

	Childless Women	% of realization	Women with one child	% of realization	Women with 2 children	% of realization
Intends definitely to have a child	115	60,9	86	72,1	20	93,8
Intends probably to have a child	89	47,2	156	42,9	60	26,4
Age (median)	32	50	33	60,71	34	57,14
Lives in the North	115	56,25	122	52,71	39	63,64
Lives in the Centre	31	14,29	43	18,6	10	15,15
Lives in the South or Island	58	29,46	77	28,68	31	21,21
Has siblings	180	87,5	216	88,37	70	93,94
Has no siblings	24	12,5	26	11,63	10	6,06
High education	47	29,46	42	17,05	33	21,21
Medium education	109	54,46	141	61,24	36	42,42
Low education	48	16,07	59	21,71	11	36,36
Worked part-time	30	16,07	48	22,48	11	21,21
Worked full-time	128	65,18	106	41,09	21	18,18
Did not work	46	18,75	88	36,43	48	60,61
Married	180	92,86	234	96,12	80	100
Not married	24	7,14	8	3,88	-	-
Satisfied with housework division	152	73,21	164	66,67	58	78,79
Not satisfied with housework division	52	26,79	78	33,33	22	21,21
Is religious	100	54,46	146	58,14	61	78,79
Is not religious	104	45,54	96	41,86	19	21,21
N	204		242		80	

2. The determinants of the beliefs

Independent Variable	Dependent Variable: Joy and Life Satisfaction^a		Dependent Variable: Relationship with partner^b	
	odds	p	odds	p
Woman's age	0.97	0.18	0.94	0.004
Couple live in the North ^d	1.52	0.02	1.15	0.41
Couple live in the South_Island ^d	1.05	0.84	0.86	0.58
She has siblings	0.89	0.67	1.11	0.68
She has tertiary education ^e	1.81	0.01	1.42	0.12
She has no secondary education ^e	0.65	0.046	0.99	0.98
She worked part-time at t1 ^f	1.24	0.72	1.98	0.21
She worked full-time at t1 ^f	1.1	0.87	1084	0.26
She was a student at t1	1.21	0.75	1.39	0.54
She is married ^g	1.46	0.3	1.76	0.11
She is satisfied with housework division ^h	0.72	0.09	1	0.99
She is religious	1.09	0.64	1.09	0.62
pseudo R2	0.03		0.02	
χ^2	27.05	0.004	19.16	0.05
Df	11		11	
χ^2/df	2.5		1.74	