What's ideal got to do with it?
Stability and Change in Personal Ideal Number of Children among U.S. Women

ABSTRACT

Do most U.S. women maintain a consistent preference for their ideal number of children? In the United States, the normative number of children is two, and is usually conflated with fertility intentions. When examined, ideal number is differentiated from childbearing intentions and further separated from achieved childbearing. Demographic surveys usually ask about normative ideal number rather than personal preferences. In contrast to societal norms, do personal ideal number of children (PINC) vary between women at one time and within women over time? In order to explore PINC and changes over time we explore these questions with a subsample of 881 women in relationships with the same person in both waves of the National Survey of Fertility Barriers that are ages 25-45. A subsample of the primary analytic sample was used as a comparison, and further limited the sample to women who had partner reports in both waves. We find considerable variation in PINC, ranging from 0 to more than 4. Overall, PINC is stable for about 69% of women; however, the remaining 31% are equally likely to increase or decrease PINC between waves. These changes in PINC may be a result of a number of individual, societal, or partner-level changes that occur between waves. PINC at Wave II is consistently shown through linear regressions to be significantly predicted by PINC at Wave I, as well as a changes in her importance of parenthood and importance of raising a child.

Keywords: Ideal number, Fertility, Parity

Background

In the United States, there have been two demographic transitions involving dramatic increases or decreases in family size. Derived from the gender revolution, the contraceptive revolution, and the sexual revolution, the Second Demographic Transition provided an impetus for change in fertility patterns (Lesthaeghe 2010). Not only did the Second Demographic Transition contribute to achieved fertility rates, but also fertility intentions and ideals. In the U.S., the Second Demographic Transition shifted normative and societal expectations of fertility from larger to smaller families. The normative ideal number of children in the U.S. in recent decades has been two children (Hagewen and Morgan 2005). In addition, there is evidence that U.S. women feel pressure to conform to the two-child norm (Morgan and Rackin 2010).

Many studies conceptualize ideal number of children through the lens of a societal ideal family size rather than a personal ideal number of children (PINC) (De Santis and Livi Bacci 2001; Goldstein, Lutz, and Testa 2003; Livi Bacci 2001). It is uncertain, however, if individual women consider the broader norm ideal for themselves. Because "ideal number of children" is assumed to reflect societal norms rather than personal preferences, there has been little interest in modeling ideal number of children. The limited interest in general ideal family size stems from the idea that ideal number of children simply reflects stable societal norms rather than personal preferences (Goldstein et al. 2003). We explore this assumption using a measure of women's ideal number of children regardless of the number of children they have now or intend on have in the future by capturing personal ideal number of children (PINC). Our goal is to measure how much PINC varies among women, and if it is stable or malleable over time.

Why might PINC vary among women? Hayford (2009) argues that the societal norms about the ideal number of children will be the heaviest influence on women's PINC. Morgan

and Rackin (2010) extend Hayford's perspective and suggest that societal and social pressures could constrain or influence PINC. Reported ideal number of children is often conceptualized as a component of fertility intentions (Hagewen and Morgan 2005). Other studies (Morgan and Rackin 2010) have coupled fertility intentions and achieved fertility as topics separate from PINC. The bracketing of ideal number children within the category 'fertility intentions' could prevent new insights that are possible by examining fertility intentions separately from PINC. Goldstein, Lutz, and Testa (2003) provide evidence that PINC and achieved fertility are separate concepts because they show that even when population fertility rates are low, personal ideal number of children remains high. Fertility intentions are often constrained by situational factors such as relationship and economic status (Johnson et al. 2011), but PINC should not be similarly constrained. We argue, however, that PINC is not synonymous with fertility intentions or achieved fertility, therefore it could be useful to understanding fertility outcomes.

PINC could also provide a valuable way to measure fertility preferences. Casterline and El-Zeini (2007) suggest that comparing ideal number of children with subsequent number of children creates less bias than asking if a particular birth was intended or not. A weakness in the PINC approach to measuring fertility preferences, however, is that women could change their PINC for a variety of reasons, including having a child and being happy about it. If PINC can change, then it is not as useful for capturing unintended births, because having a birth above the original PINC could be intended if PINC increased (and vice versa). We therefore argue that it is useful to explore PINC in addition to fertility intentions.

In this paper we analyze the degree of variation in initial PINC among U.S. women and change in PINC over time within women. Rather than assume that PINC simply mirrors cultural norms in a society (De Santis and Livi Bacci 2001; Livi Bacci 2001) or is a stable trait (Nabodiri

1983), we examine the distribution and change in PINC. We then assess what characteristics may influence the stability of PINC through a number of multivariate linear regressions.

Data and Methods

For this research we use both waves of the National Survey of Fertility Barriers (NSFB), a random digit dialing telephone survey of 4,797 women of childbearing ages (25 to 45) in Wave I. The survey also included a subset of the women's husbands/partners thatare included in the analyses. Initial interviews were conducted between 2004 and 2006 (Wave I). Follow-up interviews were conducted approximately three years after the initial interviews with all women who could be reached between 2008 and 2010 (Wave II). Using Census central office codes, high minority population areas were oversampled to provide adequate subgroup representation, therefore we use weighted analyses. The two institutions that collected the data obtained Internal Review Board (IRB) approval. Information about the data can be accessed at: http://sodapop.pop.psu.edu/codebooks/nsfb/wave1/, and the data files for public access at: http://sodapop.pop.psu.edu/data-collections/nsfb. The estimated response rate for the screener sample is 53.0%; the response rate for the completed sample is 37%. Despite relatively low response rates, this sample is similar to other random digit dialing (RDD) telephone surveys of the same time period, and is never the less mostly representative of the population based upon comparisons with Census data. Wave II contains 2,136 women participants, or 58% of those who participated in Wave I. Only 158 (6%) women refused to participate in the second interview. The remaining lack of response was due to inability to re-contact the women, in large part because of the rapid increase in cell-only households, mobility due to the economic crisis of 2007, and enforcement of immigration regulations during this time

The analytic sample consists of women who were interviewed at both Wave I and Wave II (N=2223), and who reported fertility ideals (Wave I N=4745 and Wave II N=1996). After limiting the first sample to women who reported on their partners importance of parenthood (Sample 1), then to women whose partner's answered about their fertility ideals (Sample 2) this yielded a final analytic sample of 881 women for Sample 1 and 250 for Sample 2. The measure of the focal concept, *personal ideal number of children (PINC)*, is a single item that asked participants: "The next question asks how many children that you consider ideal for yourself, this could be more or less than you already have, or more or less than you expect to have. If you yourself choose exactly the number of children to have in your whole life, how many would you choose?"

To assess if what influences the change in PINC between waves we employ the regressor method (Su, 2012), that includes PINC at Wave I as a predictor of PINC at Wave II. There are a number of change scores that are used as predictors within the models, the change scores were calculated by subtracting the Wave I response from the Wave II response. Through this method, positive results indicate increases in the predictor variable, negative results indicate decreases, and a change score of zero reflects stability within that variable from Wave I to Wave II.

Predictor variables are broken into three major categories, individual, partner, and social. The first, and the largest, comes from individual aspects of the female respondent. These begin with demographic characterstics of age, education, race, her change in economic status, whether or not she had a child between waves, and her parity level at Wave I. Change scores were calculated for the following variables related to the female respondent: religiousity, employment status, importance of parenthood, importance of raising a child, importance of work, importance of leisure, depression scores, and life satisfaction.

The second category of predictor variables stems from the female respondent's perception of her partner, or the partner's reports. A change score is calculated based upon a change in her report of her partner's importance of having a child. A number of change scores are created based upon the male partner's reports including: PINC, importance of parenthood, importance of raising a child, importance of work, importance of leisure, fertility intentions, employment status, and religiousity.

The final category of predictor variables relates to the social pressures that may exist. The first predictor stems from the familial pressure to have a child, and a change score was calculated to measure the importance of having a child to the female respondent's parents. Another change score was calculated to measure the number of friends with children that the female respondent reports changes between waves. The larger sample, Sample 1, is used to run the first model that consists of all individual variables, all social variables, but only the female's report of her partner. The smaller sample, Sample 2, is used for the same model that is described above, as well as one that includes all individual variables, all social variables, and all partner report variables.

Results

Figure 1 shows the distribution of PINC at each wave in the larger sample. At both Wave I and Wave II the most populated category is a PINC of 2, but in neither wave do over fifty percent select 2 children as their PINC. Looking at the data from this aggregate view may give a false sense of stability of PINC within the data.

Fig. 1 The overall distribution of the percentage of women at each category of PINC at Wave I and Wave II. *Source:* National Survey of Fertility Barriers Wave I (2004-2006) and Wave II (2008-2010)

Figure 2, however, shows the level of stability in PINC from Wave I to Wave II in the larger sample. When tracking change over time within individuals, nearly one-third (31%) of women change their PINC within a 3 year time period. Figure 2 shows that about half of the women who change their report of PINC provide a higher PINC at Wave II, and the other half who change reported a lower PINC, creating the appearance of stability in the aggregate summary of change in PINC.

Fig. 2 The distribution of the percentage of women at each category of change in PINC between Wave I and Wave II. *Source:* National Survey of Fertility Barriers Wave I (2004-2006) and Wave II (2008-2010)

In order to get a better idea of the stability, or lack there of, in women we have created two samples of women from the NSFB. The first sample consists of all women in the study who reported about their what the importance of having a child was to her male partner (N=881). The second sample is made up of couples in which the male partner answered a number of questions about himself and his fertility (N=250). Table 1 shows descriptive statistics of the variables used within the regression models for both samples. Due to the fact that these are two separate samples, statistical tests were not completed to compare the mean differences.

Women in the larger sample have slightly higher PINCs at both Wave I and Wave II. The larger sample shows a slight increase in PINC on average, with a mean of .008, the smaller sample shows a decrease in PINC on average with a mean of -.016. Women in the larger sample are slightly older, and have lower educational attainment on average. The smaller sample is

nearly 86% white, while the smaller sample is 75% white. The larger sample has higher rates of economic hardship, but is less likely to have had a birth between waves. This may be due to the fact that the larger sample has a higher parity level at Wave I, with an average of 1.417 compared to 1.120 for the smaller sample.

When examining the other individual level factors we see that women in the larger sample have more stability in their employment status, fertility intentions, importance of parenthood, importance of work, depression levels and life satisfaction. Women in the smaller sample have more stability in their religiousity levels and their importance of leisure. The two samples were very similar on their stability in the importance of raising a child with values of .037 for the larger sample, and .036 for the smaller sample.

When inspecting partner level factors, the only variable that can be compared between the two samples is the female partner's report of her male partner's importance of having children. In both sample we see that on average women's reports decrease, but this decrease is larger for the smaller sample. In general with the stability of the male partner's reports that he increases in his reports related to fertility, aside from a slight decrease on average in his importance of parenthood of -.006, and a major decrease in his fertility intentions by -1.380.

The social level factors show very similar values between the two samples. On average women in the larger sample report an increase of .003 in the importance of having children to their parents, while the increase is .004 for those in the smaller sample. Again, similar rates are shown for the number of friends with children with the larger sample having an increase of .047 on average, while the smaller sample has an increase of .060 on average.

Most notably, we see that women in the larger sample have higher rates of PINC on average, and are more likely to increase while those in the smaller sample have lower rates and

are more likely to decrease. In general we see similar trends within the two groups in their reporting at both Wave I and Wave II, the most important differences stem from the level of stability that exists for some variables in one sample compared to the others.

Table 2 shows the results from a number of linear regression with PINC at Wave II as the dependent variable. The first model represents the larger sample, and only uses the female partner's report of her male partner's importance of having a child. The second model uses the smaller sample, but uses the sample model as Model 1. The final model, Model 3, uses the smaller sample and uses his reports, rather than her reports of him.

Consistently throughout the models the PINC at Wave I is a significantly predictor of the PINC at Wave II, with coefficients ranging from .672 to .730 all with a $p<.001$ significance value. Other consistent preddictors of PINC at Wave II are her importance of parenthood, and her importance of having a child. The coefficients however are noticeably different between samples. The coefficient of her importance of parenthood is ..302 in the larger sample, but it is roughly .43 in the smaller sample, it is consistently significant at a $p<.001$ level. Her importance of raising a child in the larger sample has a coefficient of .083, and is significant at the $p<.05$ level. In the smaller sample, however, the coefficient for her importance of raising a child is .252 and is significant at a $p<.01$ level.

All significant predictors that exist for the smaller sample, are also significant in the larger sample. The larger sample, however, has a number of significant predictors that uniquely exist for this composition. Education has a negative relationship with Wave II PINC, indicating that those with higher educational attainment have lower levels of PINC at Wave II ($b= -.023$, $p<.01$). For the larger sample, those with a birth between waves ($b= .260$ $p<.001$) and those that have higher parity levels at Wave I ($b= .134$, $p<.001$) have higher responses for PINC at Wave II. A

change in fertility intentions is only significantly related to PINC at Wave II for the larger sample, and an increase in fertility attentions was associated with a higher report of PINC at Wave II ($b = .032$, $p<.05$). Finally, there is a negative relationship with a change in her depression scores and her PINC at Wave II ($b = -.126$, $p<.05$), indicating that an increase in depression is associated with a decrease in PINC at Wave II.

Overall a larger portion of the variance in PINC at Wave II is being explained within these models. For the larger sample, the model explains about 66 % of variance. In the smaller sample, both Model 2 and Model 3 explain about 68% of the variance in PINC at Wave II. Although this number is exceedingly high for social research, a large portion of this variance is simply being explained by the presence of PINC at Wave I, which we know from previous results is the same in Wave II in nearly 70% of these women.

Conclusion

There is overlap between PINC and the general societal ideal of two children yet there is also substantial variation. Among women who had no change in actual fertility, 31% changed their PINC, suggesting that PINC does not simply reflect achieved fertility and therefore can change for other reasons. These other reasons were explored through three different regression on two different samples. The categories of predictors of a change in PINC were grouped into three major categories: individual, partner, and social. The regressions showed that only the individual level factors were significantly related to a change in PINC.

More specifically, the findings showed that there were three major indicators of PINC at Wave II for both samples, and five additional variables that were significant for the larger sample of women in relationships but not necessarily with partner reports. Not surprisingly, PINC at Wave I is a significant predictor of PINC at Wave II. Beyond that, an increase in the importance

of parenthood and the importance of raising a child is associated with a higher PINC at Wave II. This is as expected when considering a greater desire for having kids is associated with a desire to have a greater number of them. Again, both having more kids and having a child between waves is associated with have higher levels of PINC at Wave II, this corresponds to the same concepts of a greater value found in parenthood.

Education levels has been discussed in previous research with mixed findings, but within our larger sample it is shown that higher education achievement is associate with lower levels of PINC at Wave II. As shown in previous research, mental health can have a major influence on fertility decisions, and in our larger sample we see that an increase in depressive symptoms is associated with lower levels of PINC at Wave II.

Finally, contrary to previous research, we do not find conclusive support that fertility intentions and PINC are measuring the same thing. In fact, in our smaller sample, a change in intentions is not associated with PINC at Wave II. For the larger sample, however, we see that an increase in fertility intentions is associated with higher levels of PINC at Wave II. This finding strengthens the argument that PINC needs to be studied separate from fertility desires and intentions.

The findings regarding PINC suggest that exploring PINC, fertility intentions, and achieved fertility as related yet unique dimensions of reproductive careers among U.S. women has potential utility. We hope that this exploration of PINC will provide an impetus to more research on the factors associated with forming and changing PINC. Future research should investigate whether or not change that may be attributed to a number of situational and personal factors. PINC is also a helpful measure for understanding infertility in the population compared to experiences in fertility clinics. Infertility is often associated with involuntary childlessness, yet

many women experience secondary infertility (Greil et al 2011). Involuntary childlessness compared to infertility among women who have children is associated with worse life satisfaction (McQuillan, Greil, Stone Torres 2007). Ascertaining what women's PINC is outside of possibly constraining realities provides an avenue for capturing unfilled fertility aspirations from infertility or other barriers (Johnson et al. 2014), and the consequences of missing a desired number of children at any parity level. We anticipate future fruitful insights from studies that utilize PINC in addition to other measures of failed fertility such as unwanted, unintended, or not conceived pregnancies.

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Figure 1.

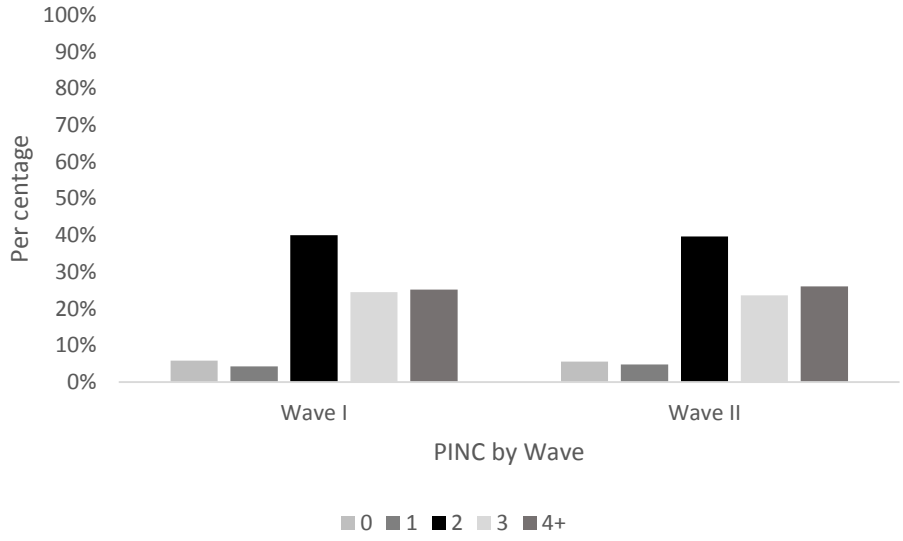

Figure 2.

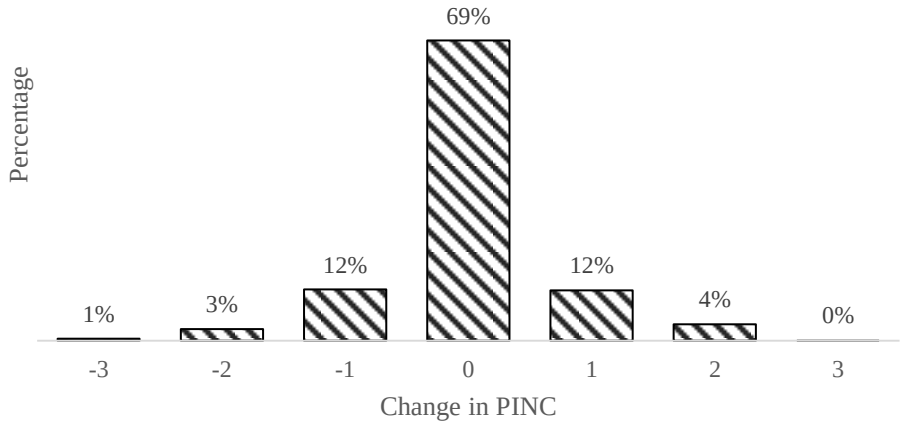

Table 1. Descriptive Statistics of Both Samples

	Sample 1 – Women in Relationships		Sample 2 – Partner Level Data	
	Mean	*S.D.*	Mean	*S.D.*
Wave II PINC	2.596	1.097	2.412	1.243
Wave I PINC	2.588	1.090	2.428	1.247
PINC Change	.008	.748	-.016	.781
Her Age	35.383	5.837	34.468	5.929
Her Wave I Education	15.735	2.704	16.516	2.539
Her Race (White)	.750	.433	.856	.352
Δ in Economic Hardship	.044	.578	.034	.498
Birth Between Waves	.291	.454	.384	.487
Wave I Parity	1.417	1.224	1.120	1.271
Δ in Religiosity	-.003	.467	.000	.447
Δ in Employment Status	-.028	.827	-.064	.833
Δ in Fertility Intentions	-1.154	1.224	-1.496	2.255
Δ in Importance of Parenthood	-.001	.479	-.019	.491
Δ in Importance of Raising a Child	.037	.570	.036	.517
Δ in Importance of Work	.083	.911	.184	.877
Δ in Importance of Leisure	-.011	.859	.004	.834
Δ in Depression Scores	-.028	.407	-.033	.403
Δ in Life Satisfaction	-.095	.517	-.135	.492
Δ in Her Report of Importance of Having a Child to Parents	.003	.711	.004	.685
Δ in the Number of Friends with Children	.047	.784	.060	.728
Δ in Her Report of Importance of Having a Child to Partner	-.049	.654	-.064	.649
Δ in Partner's PINC	-	-	.028	.741
Δ in Partner's Importance of Parenthood	-	-	-.006	.465
Δ in Partner's Importance to Raise a Child	-	-	.040	.620
Δ in Partner's Importance of Work	-	-	.080	.740
Δ in Partner's Importance of Leisure	-	-	.028	.857
Δ in Partner's Fertility Intentions	-	-	-1.380	2.231
Δ in Partner's Employment Status	-	-	-.020	.697
Δ in Partner's Religiosity	-	-	-.002	.478
N	881		250	

Table 2. Linear Regression predicting PINC at Wave II

	Model 1 Sample One			Model 2 Sample Two			Model 3 Sample Two		
	b		*Se*	b		*se*	b		*se*
Wave I PINC	.672	***	.025	.730	***	.051	.725	***	.051
Her Age	.003		.005	-.003		.009	-.002		.009
Her Education	-.023	**	.009	-.016		.019	-.018		.019
Her Race (White)	-.103		.053	-.013		.134	.030		.136
Δ in Economic Hardship	.002		.039	-.045		.093	-.047		.095
Birth Between Waves	.260	***	.063	.135		.125	.164		.138
Parity	.134	***	.023	.064		.051	.070		.051
Δ in Religiosity	-.079		.049	-.028		.102	-.039		.104
Δ in Employment Status	-.009		.028	-.021		.057	-.013		.057
Δ in Fertility Intentions	.032	*	.012	.002		.023	-.020		.029
Δ in Importance of Parenthood	.302	***	.054	.434	***	.102	.425	***	.099
Δ in Importance of Raising a Child	.083	*	.041	.252	**	.091	.252	**	.093
Δ in Importance of Work	-.028		.026	-.045		.055	-.029		.055
Δ in Importance of Leisure	.001		.027	-.037		.059	-.056		.059
Δ in Depression Scores	-.126	*	.057	-.217		.117	-.017		.012
Δ in Life Satisfaction	-.020		.045	-.155		.096	-.141		.096
Δ in Her Report of Importance of Having a Child to Parents	.004		.033	-.015		.071	.003		.071
Δ in the Number of Friends with Children	-.002		.029	-.075		.065	-.088		.065
Δ in Her Report of Importance of Having a Child to Partner	-.011		.038	-.022		.080	-		
Δ in Partner's PINC	-			-			-.020		.063
Δ in Partner's Importance of Parenthood	-			-			-.097		.106
Δ in Partner's Importance to Raise a Child	-			-			.145		.077
Δ in Partner's Importance of Work	-			-			.003		.067
Δ in Partner's Importance of Leisure	-			-			-.074		.057
Δ in Partner's Fertility Intentions	-			-			.041		.031
Δ in Partner's Employment Status	-			-			.041		.071
Δ in Partner's Religiosity	-			-			-.002		.098
N	881			250			250		
Adjusted R-Square	.664			.677			.680		

Δ indicates the change score between Wave 1 and Wave 2