

**Parents' Pregnancy Intention and Maternal and Child Health  
Outcomes: NSFG 2006-2010**

Suzumi Yasutake

Johns Hopkins University

September 25, 2014

Extended Abstract prepared for Population Associations of America in 2015

## **Abstract**

Parents' pregnancy intentions are important for maternal and child health. I used the NSFG 2006-2010 to examine pregnancy intentions categorized as "jointly wanted", "jointly mistimed", "jointly unwanted" and "other combinations" and maternal and child health outcomes. The bivariate analysis found that jointly unwanted pregnancies are more likely to have poor maternal behaviors from preconception to the postpartum period. Mothers of jointly unwanted pregnancies smoke more than other mothers before conception and are less likely to have prenatal care and to live with their children. Jointly wanted pregnancies are more likely to have positive maternal health and birth outcomes. Babies of jointly intended pregnancies are more likely to be breastfed and less likely to be low birth weight. In future research, I will conduct a multivariate analysis considering demographic characteristics. Also, I will analyze pregnancies unwanted at least by one parent to examine who drives negative consequence of jointly unwanted pregnancies.

## Introduction

This research examines a couple's intendedness of pregnancies and maternal and child health outcomes by the National Survey of Family Growth (NSFG) 2006-2010. I examined the couple's intendedness on preconception smoke, smoking during pregnancies, prenatal care, birth weight, breastfeeding, and living arrangement of children from the pregnancies. I categorized pregnancies as "wanted by both parents", "being considered mistimed by both parents", "unwanted by both parents", and "pregnancies that parents do not agree." The bivariate analysis found that a favorable influence of jointly wanted pregnancies and a negative influence of jointly unwanted pregnancies. Previous research has found that couples' intendedness has many effects. Overall, research found that jointly intended pregnancies have positive influence on children and parents.

Research by the Early Childhood Longitudinal Study Birth Cohort found that mistimed pregnancy by mother or father has a negative influence on children's social development (Saleem and Surkan 2013). Moreover, when parents' intendedness was not concordant—for instance, if the mother wanted the pregnancy, but father did not—this also had a negative influence on the children's social development (Saleem and Surkan 2013). Parents' agreement on intendedness influences children's health, as well (Korenman, Kaestner, and Joyce 2002). Children who only the mother wanted or only the father wanted at conception have a higher risk of negative health outcomes than children whose parents jointly wanted them (Korenman, Kaestner, and Joyce 2002). Also, when parents were not in agreement on intendedness or both of them did not want the pregnancy, the risk of inadequate prenatal care and negative births outcome increases (Hohmann-Marriott 2009)

I hoped to use the National Survey of Family Growth 2006-2010 to add the current research because, to my knowledge, there is no research of joint intendedness of pregnancies by NSFG2006-2010 on maternal and children's health outcome. I categorized joint intendedness by pregnancies wanted by both parents, pregnancy both parents considered mistimed, pregnancy both parents unwanted, and other combinations such as one wanted and the other didn't. "Other combination" includes mothers or fathers answered as "indifferent, don't care, don't know" and are all categorized in "other."

- Research question
  - What are the associations of joint intendedness of pregnancies and maternal and children's health outcome?
    - Maternal variables include preconception smoke, smoking during pregnancies, prenatal care and breastfeeding.
    - Children's variables include low birth weight and living arrangement.

## Data

I used the 2006-2010 National Survey of Family Growth (NSFG). This survey is conducted by the Center for Disease Control and Prevention's National Center for Health

Statistics (Mosher, Jones, and Abma 2012). The 2006-2010 NSFG collected data from a national sample of men and women on “factors affecting birth and pregnancy rates, including contraception; infertility; marriage, divorce, and cohabitation; pregnancy outcomes; and health” (Mosher, Jones, and Abma 2012). This includes 12,279 women and 10,403 men between 15-44 years old. The overall response rate was 78% for females and 77% for males (Centers for Disease

Control and Prevention). The 2006-2010 NSFG is based on a “nationally representative, multistage, area probability sample” (Mosher, Jones, and Abma 2012). All female respondents were asked about each of their pregnancies that they have had and information about the pregnancies. The 2006-2010 NSFG contains measure of intendedness of pregnancy for both men and women. Women were first asked whether they stopped using birth control before pregnancy. Then, they were asked the reason of stopping the birth control. If the answer was because they wanted to become pregnant, they were asked about the timing of pregnancy. Women were also asked their perception of the father’s intendedness of the pregnancy. The question asked was “Right before you became pregnant, did the father want you to have a baby at any time in the future?” If yes, she was asked a follow-up question: “So would you say you became pregnant sooner than he wanted, at about the right time, or later than he wanted?” (Mosher, Jones, and Abma 2012)

The unit of analysis is a birth within 5 years of the survey date and excludes current pregnancies. I used sampling weights provided with 2006-2010 NSFG. I conducted the analyses using the svy command by Stata13 to adjust for the survey design.

I created joint intendedness variables by combining respondents’ answer of intendedness variables and male answer of intendedness. The categories of joint intendedness are “both wanted”, “both mistimed” and “both unwanted” and “others”.

### **Variables of interests**

I conducted bivariate analysis of joint intendedness of pregnancy and birth outcome, maternal smoke, birth weight, payment of delivery, and living arrangement by all births of the past 5 years.

### **Illustrative results**

I conducted the bivariate analysis with pregnancy intentions and outcomes of interests.

Table 1 presents the distributions of the joint intendedness of pregnancies in the past 5 years from the survey. Among all pregnancies, 55.5% were wanted by women, 26.11% was considered as mistimed by women, and 17.43% was unwanted by women (Appendix Table 1). Almost half of the pregnancies were wanted by parents. Eleven per cent was mistimed by both parents and 9% was unwanted by both parents. Other combinations of intentions are 30.31%.

Table 2 shows the tabulations of pregnancy intention and maternal behavior through preconception to postnatal. The first section shows the associations between joint pregnancy intentions and smoking of women before pregnancy. Among pregnancies that both parents wanted, 80.17% of pregnancies were by non-smoking mothers, whereas other pregnancies were below 70%. The association is significant.

The second section shows the associations between joint pregnancy intentions and post conception smoking of women among who smoked before conception. The association is not significant.

The third section shows the associations between joint pregnancy intentions and prenatal care. The associations are significant. Among pregnancies that were wanted by both parents,

93.67% had prenatal care, whereas other births were below 90%. Particularly pregnancies not wanted by both parents were lower, 80.56%.

The fourth section shows the associations between joint pregnancy intention and weeks of breastfeeding. The associations are significant. Only around 30% of pregnancies wanted by both parents are never breastfed, whereas other pregnancies are around and over 40%.

The fifth section shows the associations between living arrangements of children from the pregnancies. Children who were born from pregnancies both parents did not want are less likely to live with their mother (10%).

Table 3 shows the bivariate analysis of birth outcomes and joint pregnancy intentions. The first section shows the associations of joint intendedness of pregnancies and birth outcomes. Pregnancies wanted by both parents are more likely to be live births (79.76%), whereas only half of pregnancies not wanted by both parents are live births. The section 2 shows the associations of joint intendedness and low birth weight. The associations are significant. Births from unwanted pregnancies by both parents are much more likely to be low birth weight compared to other pregnancies.

## **Discussion**

This preliminary research explored the associations of joint intendedness of pregnancies and maternal preconception to postpartum behaviors. I categorized joint intendedness of pregnancies as pregnancies that were wanted by both parents, were considered to be mistimed, were unwanted by both parents and other combinations. The preliminary analysis found that the large gap between the pregnancies that were wanted by both parents and unwanted by both parents. Particularly, pregnancies unwanted by both parents seem to have unhealthy maternal preconception behaviors measured by smoking. During the pregnancy, mothers are less likely to go to prenatal care and children from unwanted pregnancy are less likely to live with mothers. Moreover, pregnancies unwanted by both parents are more likely to be low birth weight at birth. Contrarily, pregnancies wanted by both parents have favorable maternal behaviors and better pregnancy outcomes. The results suggest that pregnancies unwanted by parents have poor birth outcomes, and, moreover, children from the births are disadvantage at many aspects. Contrary to pregnancies wanted by both parents, which has more favorable paths before conception and after births, the difference between these pregnancies of wanted and unwanted by parents could be larger as mothers and children become older.

Unwanted pregnancies could be considered unplanned, too. The results suggest the importance of intervention throughout preconception to postpartum period and possibly longer.

## **Proposed Analysis**

I will further conduct multivariate analysis to examine the influence of joint intendedness of births by controlling for demographic characteristics and other factors associated with these outcomes. Additionally, I will analyze a subset of pregnancies, which is unwanted at least by one parent, to examine who drives negative consequence of jointly unwanted pregnancies.

Table 1. Distributions of joint intendedness of pregnancy

	%		
Both wanted	48.59	[ 45.92	51.27 ]
Both mistimed	11.79	[ 10.59	13.1 ]
Both unwanted	9.311	[ 7.907	10.93 ]
Other Combinations	30.31	[ 28.47	32.22 ]

Total 100

N 29,615,634.00

CI in []

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Table 2 Joint Intendedness of Pregnancies and Maternal Behaviors

	Smoked before pregnancy		Stop Smoking after Pregnancy among smoked		Any Prenatal Care		Breastfeed Weeks					Living with mother		
	(1)		(2)		(3)		(4)					(5)		
	No	Yes	No	Yes	No	Yes	Never	<9wks	10-22wks	24-43wks	48-217wks	Yes	No	Total
Both wanted	80.17 [77.35,82.71]	19.83 [17.29,22.65]	53.79 [45.75,61.64]	46.21 [38.36,54.25]	6.33 [5.117,7.814]	93.67 [92.19,94.88]	27.65 [23.91,31.73]	20.11 [17.44,23.08]	14.64 [12.36,17.25]	19.13 [16.53,22.03]	18.47 [15.66,21.67]	98.63 [97.71,99.18]	1.37 [.8174,2.294]	100
Both Mistimed	69.78 [63.53,75.37]	30.22 [24.63,36.47]	53.44 [42.7,63.87]	46.56 [36.13,57.3]	13.75 [10.31,18.1]	86.25 [81.9,89.69]	40.46 [32.42,49.04]	19.92 [14.86,26.18]	16.35 [12.16,21.64]	12.22 [8.441,17.36]	11.05 [7.71,15.59]	97.25 [95.31,98.4]	2.75 [1.599,4.694]	100
Both Unwanted	62.05 [52.57,70.69]	37.95 [29.31,47.43]	49.23 [37.86,60.68]	50.77 [39.32,62.14]	19.44 [13.52,27.14]	80.56 [72.86,86.48]	42.17 [33.4,51.47]	21.84 [15.87,29.28]	12.14 [7.494,19.06]	14.81 [9.581,22.2]	9.035 [4.427,17.56]	90.92 [84.52,94.84]	9.08 [5.158,15.48]	100
Other Combinations	64.47 [60.52,68.23]	35.53 [31.77,39.48]	48.05 [41.63,54.54]	51.95 [45.46,58.37]	11.79 [9.934,13.94]	88.21 [86.06,90.07]	38.74 [33.89,43.81]	24.94 [20.96,29.39]	13.41 [10.86,16.44]	11.67 [8.943,15.09]	11.25 [9.062,13.9]	96.67 [95.21,97.7]	3.33 [2.302,4.79]	100
Total	73.13 [70.52,75.58]	26.87 [24.42,29.48]	51.07 [46.09,56.03]	48.93 [43.97,53.91]	9.717 [8.63,10.92]	90.28 [89.08,91.37]	33.2 [29.79,36.8]	21.57 [19.47,23.84]	14.31 [12.57,16.25]	15.95 [14.05,18.06]	14.96 [13.03,17.12]	97.41 [96.65,98]	2.59 [1.996,3.346]	100
p	0.00		0.58		0.00		0.00					0.00		
N	29615634		7275446		27120545		18891074					21130583		
Confidence Interval in [ ]														



Table 3 Jointintendedness and Birth Outcomes

	Pregnancy Outcomes					Low Birth Weight	
	(1)					(2)	
Joint Intendedness	Live Births	Induced Abortion	Still Births	Miscarriage	Ectopic Pregnancy	No	Yes
Both Wanted	79.76 [77.33,81.98]	0.59 [.3207,1.09]	0.54 [.2908,.9932]	17.68 [15.63,19.92]	1.44 [.9301,2.212]	93.11 [91.25,94.59]	6.892 [5.408,8.747]
Both Mistimed	66.43 [60.37,71.99]	15.18 [11.13,20.36]	0.34 [.1528,.7499]	16.78 [12.91,21.53]	1.28 [.5035,3.195]	94.2 [91,96.31]	5.797 [3.689,8.999]
Both Unwaned	51.15 [44.93,57.33]	24.59 [19.51,30.49]	0.95 [.2602,3.4]	21.57 [16.56,27.6]	1.74 [.6552,4.555]	84.24 [76.69,89.68]	15.76 [10.32,23.31]
Other combinations	66.33 [62.96,69.54]	12.99 [10.67,15.73]	0.89 [.4062,1.953]	18.39 [15.91,21.15]	1.39 [.8635,2.244]	91.32 [88.84,93.3]	8.677 [6.705,11.16]
Total	71.45 [69.54,73.29]	8.30 [7.108,9.68]	0.66 [.4253,1.024]	18.15 [16.78,19.6]	1.43 [1.045,1.963]	92.13 [90.8,93.29]	7.865 [6.709,9.201]
p	0.00					0.00	
N	29615634					18891074	

Appendix Table 1 Birth Intention by Parents: Mother's Intention and Father's Intentions

Joint Intention of Pregnancies				
Mother's Intention	Father's Intention		%	
Wanted	Wanted	48.59	[ 45.92	51.27 ]
Wanted	Mistimed	2.87	[ 2.34	3.51 ]
Wanted	Unwanted	2.80	[ 2.24	3.49 ]
Wanted	Others	1.15	[ 0.86	1.54 ]
Mistimed	Wanted	6.70	[ 5.93	7.56 ]
Mistimed	Mistimed	11.79	[ 10.59	13.10 ]
Mistimed	Unwanted	5.11	[ 4.24	6.15 ]
Mistimed	Others	2.52	[ 1.88	3.37 ]
Unwanted	Wanted	3.73	[ 3.12	4.46 ]
Unwanted	Mistimed	3.07	[ 2.59	3.63 ]
Unwanted	Unwanted	9.31	[ 7.91	10.93 ]
Unwanted	Others	1.32	[ 0.99	1.74 ]
Others	Wanted	0.54	[ 0.31	0.95 ]
Others	Mistimed	0.06	[ 0.02	0.18 ]
Others	Unwanted	0.14	[ 0.06	0.32 ]
Others	Others	0.32	[ 0.17	0.60 ]
Total		100.00		
N		29,615,634.00		

