

## Supplementary Online Content

Biggs MA, Upadhyay UD, McCulloch CE, Foster DG. Women's mental health and well-being 5 years after receiving or being denied an abortion: a prospective, longitudinal cohort study. *JAMA Psychiatry*. Published online December 14, 2016. doi:10.1001/jamapsychiatry.2016.3478

**eTable 1.** Unadjusted Mixed Effects Linear and Logistic Regression Psychological and Well-Being Models

**eTable 2.** Change in Predicted Means From Baseline to Five Years After Seeking Abortion

**eTable 3.** Sensitivity Analyses: Adjusted Mixed Effects Linear and Logistic Regression Models of Depression, Anxiety, Self-Esteem and Life Satisfaction, Removing 15 Women Who Placed Their Newborns for Adoption

**eTable 4.** Sensitivity Analyses: Adjusted Mixed Effects Linear and Logistic Regression Models of Depression, Anxiety, Self-Esteem and Life Satisfaction, Limited to the 11 Facilities With a Participation Rate of 50% or More

**eFigure.** Participant Flow Chart

This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Unadjusted Mixed Effects Linear and Logistic Regression Models of Psychological and Well-being Outcomes

Predictor variables	Depression		Well-Being
	Symptoms-BSI	Cases	Self-Esteem
Study Group	<b>Coef.[95%CI] (‡)</b>	<b>OR[95%CI] (‡)</b>	<b>Coef.[95%CI] (‡)</b>
<i>Near-Limits (reference)</i>	(† p=.002)	(† p=.20)	(† p=.001)
<i>First-Trimesters</i>	-0.42[-0.96,0.11] (‡ p=.003)	0.92[0.45,1.91] (‡ p=.67)	0.03[-0.18,0.24] (‡ p=.48)
<i>Turnaway-Births</i>	0.11[-0.52,0.74] (‡ p=.21)	0.87[0.36,2.08] (‡ p=.06)	-0.34[-0.58,-0.09] (‡ p=.04)
<i>Turnaway-No-Births</i>	0.41[-0.60,1.43] (‡ p=.62)	1.46[0.40,5.39] (‡ p=.48)	-0.42[-0.81,-0.02] (‡ p=.005)
Years	-1.43[-1.81,-1.04]	0.49[0.29,0.81]	0.42[0.25,0.58]
First-Trimester X years	1.14[0.52,1.76]	1.22[0.60,2.46]	-0.05[-0.32,0.21]
Turnaway-Births X years	-0.57[-1.31,0.17]	0.61[0.26,1.43]	0.44[0.12,0.76]
Turnaway-No-Births X years	-0.33[-1.54,0.88]	2.02[0.50,8.21]	0.61[0.09,1.13]
Years <sup>2</sup>	0.44[0.26,0.62]	0.98[0.88,1.08]	-0.13[-0.20,-0.05]
First-Trimesters X years <sup>2</sup>	-0.47[-0.76,-0.18]	0.98[0.85,1.14]	-0.01[-0.13,0.12]
Turnaway-Births X years <sup>2</sup>	0.32[-0.03,0.68]	1.18[0.99,1.41]	-0.17[-0.33,-0.02]
Turnaway-No-Births X years <sup>2</sup>	0.18[-0.39,0.76]	0.81[0.57,1.15]	-0.21[-0.46,0.04]
Years <sup>3</sup>	-0.04[-0.07,-0.02]		0.01[0.00,0.03]
First-Trimesters X years <sup>3</sup>	0.05[0.02,0.09]		0.00[-0.01,0.02]
Turnaway-Births X years <sup>3</sup>	-0.04[-0.09,0.01]		0.02[0.00,0.04]
Turnaway-No-Births X years <sup>3</sup>	-0.03[-0.11,0.05]		0.03[-0.01,0.06]
Predictor variables	Anxiety		Life Satisfaction
	Symptoms	Cases	
Study Group	<b>Coef.[95%CI] (‡)</b>	<b>OR [95%CI] (‡)</b>	<b>Coef.[95%CI] (‡)</b>
<i>Near-Limits (reference)</i>	(† p<.001)	(† p=.56)	(† p<.001)
<i>First-Trimesters</i>	-0.19[-0.71,0.33] (‡ p=.02)	0.80[0.35,1.86] (‡ p=.41)	0.13[-0.06,0.33] (‡ p=.04)
<i>Turnaway-Births</i>	0.56[-0.05,1.16] (‡ p=.07)	1.00[0.38,2.65] (‡ p=.48)	-0.12[-0.35,0.11] (‡ p=.09)
<i>Turnaway-No-Births</i>	2.32[1.34,3.29] (‡ p<.001)	3.70[0.99,13.83] (‡ p=.86)	-0.38[-0.74,-0.01] (‡ p=.01)
Years	-0.37[-0.73,-0.01]	0.39[0.18,0.81]	0.31[0.15,0.47]
First-Trimester X years	0.90[0.32,1.48]	1.71[0.77,3.81]	-0.35[-0.61,-0.09]
Turnaway-Births X years	-0.90[-1.60,-0.21]	0.70[0.26,1.84]	0.29[-0.03,0.60]
Turnaway-No-Births X years	-2.18[-3.31,-1.04]	0.82[0.19,3.54]	0.49[-0.01,1.00]
Years <sup>2</sup>	0.06[-0.11,0.23]	1.00[0.90,1.11]	-0.08[-0.16,-0.01]
First-Trimesters X years <sup>2</sup>	-0.38[-0.65,-0.10]	0.90[0.76,1.06]	0.14[0.01,0.26]
Turnaway-Births X years <sup>2</sup>	0.39[0.05,0.72]	1.11[0.91,1.36]	-0.09[-0.24,0.06]
Turnaway-No-Births X years <sup>2</sup>	0.84[0.30,1.39]	1.00[0.71,1.40]	-0.20[-0.45,0.04]

Years <sup>3</sup>	0.00[-0.02,0.02]		0.01[0.00,0.02]
First-Trimesters X years <sup>3</sup>	0.04[0.01,0.08]		-0.01[-0.03,0.00]
Turnaway-Births X years <sup>3</sup>	-0.04[-0.09,0.00]		0.01[-0.01,0.03]
Turnaway-No-Births X years <sup>3</sup>	-0.10[-0.17,-0.03]		0.03[0.00,0.06]

<sup>†</sup> Testing whether overall trajectories differ by group using testparm, a post-estimation test after fitting the unadjusted models; <sup>‡</sup> Testing whether the trajectory of one study group differs from the *Near-limit* group (testparm) after fitting the unadjusted models; Coef.= unstandardized coefficient, CI=confidence interval, OR=odds ratio; Blank cells for quadratic and cubic terms indicate that they were not included in the model because they did not improve the model fit.

eTable 2. Change in Predicted Means From Baseline to Five Years After Seeking Abortion

Study Group	Coefficient (95% CI)					
	Depression		Anxiety		Well-Being	
	Symptoms	P Value	Symptoms	P Value	Self-Esteem	P Value
Near-limits	-1.60 (-2.01 to -1.19)	<.001	-0.58 (-0.97 to -0.19)	.004	0.37 (0.22 to 0.53)	<.001
First-trimesters	-0.99 (-1.51 to -0.46)	<.001	0.07 (-0.57 to 0.42)	.774	0.31 (0.11 to 0.51)	.002
Turnaway-births	-1.49 (-2.19 to -0.80)	<.001	-1.00 (-1.66 to -0.35)	.003	0.65 (0.39 to 0.91)	<.001
Turnaway-no-births	-2.39 (-3.63 to -1.14)	<.001	-2.70 (-3.89 to -1.52)	<.001	1.22 (0.75 to 1.69)	<.001
	Cases		Cases		Life Satisfaction	
Near-limits	-3.11 (-4.56 to -1.67)	<.001	-2.53 (-4.12 to -0.94)	.002	0.21 (0.06 to 0.36)	.007
First-trimesters	-2.58 (-4.07 to -1.09)	<.001	-2.55 (-4.29 to -0.80)	.004	0.03 (-0.17 to 0.22)	.80
Turnaway-births	-1.46 (-3.13 to 0.22)	.09	-1.87 (-3.85 to 0.10)	.06	0.41 (0.15 to 0.67)	.002
Turnaway-no-births	-5.07 (-8.88 to -1.26)	.009	-4.17 (-7.56 to -0.78)	.02	1.04 (0.57 to 1.50)	<.001

Abbreviations: CI, confidence interval; Coef., unstandardized coefficient.

Change over time is based on the results of a post-estimation test (lincom) conducted after fitting the adjusted longitudinal models.

**eTable 3.** Sensitivity Analyses: Adjusted Mixed Effects Linear and Logistic Regression Models of Depression, Anxiety, Self-Esteem and Life Satisfaction, Removing 15 Women Who Placed Their Newborns for Adoption

Predictor variables	Depression		Well-Being
	Symptoms-BSI	Cases	Self-Esteem
Study Group	Coef.[95%CI] (‡)	aOR[95%CI] (‡)	Coef.[95%CI] (‡)
<i>Near-Limits (reference)</i>	(† <i>P</i> =.004)	(† <i>P</i> =.37)	(† <i>P</i> =.003)
<i>First-Trimesters</i>	-0.59[-1.09,-0.09] (‡ <i>P</i> =.003)	0.68[0.32,1.44] (‡ <i>P</i> =.70)	0.07[-0.14,0.27] (‡ <i>P</i> =.48)
<i>Turnaway-Births</i>	0.08[-0.53,0.69] (‡ <i>P</i> =.41)	0.91[0.36,2.32] (‡ <i>P</i> =.15)	-0.32[-0.57,-0.07] (‡ <i>P</i> =.07)
<i>Turnaway-No-Births</i>	0.42[-0.52,1.37] (‡ <i>P</i> =.59)	2.00[0.53,7.46] (‡ <i>P</i> =.48)	-0.40[-0.78,-0.02] (‡ <i>P</i> =.005)
Years	-1.43[-1.81,-1.05]	0.59[0.36,0.95]	0.41[0.25,0.58]
First-Trimester X years	1.13[0.51,1.75]	1.23[0.60,2.49]	-0.05[-0.32,0.21]
Turnaway-Births X years	-0.48[-1.25,0.28]	0.67[0.27,1.62]	0.38[0.05,0.71]
Turnaway-No-Births X years	-0.38[-1.59,0.83]	1.85[0.46,7.39]	0.60[0.08,1.12]
Years <sup>2</sup>	0.44[0.26,0.62]	0.98[0.86,1.09]	-0.13[-0.20,-0.05]
First-Trimesters X years <sup>2</sup>	-0.47[-0.76,-0.17]	0.98[0.85,1.14]	-0.01[-0.13,0.12]
Turnaway-Births X years <sup>2</sup>	0.27[-0.10,0.63]	1.15[0.96,1.37]	-0.14[-0.30,-0.02]
Turnaway-No-Births X years <sup>2</sup>	0.21[-0.37,0.79]	0.82[0.58,1.15]	-0.21[-0.46,0.04]
Years <sup>3</sup>	-0.04[-0.07,-0.02]		0.01[0.00,0.02]
First-Trimesters X years <sup>3</sup>	0.05[0.01,0.09]		0.00[-0.01,0.02]
Turnaway-Births X years <sup>3</sup>	-0.03[-0.08,0.01]		0.01[-0.01,0.04]
Turnaway-No-Births X years <sup>3</sup>	-0.03[-0.11,0.04]		0.02[-0.01,0.06]
Predictor variables	Anxiety		
	Symptoms	Cases	Life Satisfaction
Study Group	Coef.[95%CI] (‡)	aOR [95%CI] (‡)	aOR [95%CI] (‡)
<i>Near-Limits (reference)</i>	(† <i>P</i> <.001)	(† <i>P</i> =.53)	(† <i>P</i> <.001)
<i>First-Trimesters</i>	-0.37[-0.85,0.11] (‡ <i>P</i> =.03)	0.56[0.23,1.33] (‡ <i>P</i> =.45)	0.17[-0.02,0.36] (‡ <i>P</i> =.04)
<i>Turnaway-Births</i>	0.57 [-0.01,1.15] (‡ <i>P</i> =.11)	0.88[0.32,2.46] (‡ <i>P</i> =.63)	-0.18[-0.41,0.05] (‡ <i>P</i> =.07)
<i>Turnaway-No-Births</i>	2.28[1.38,3.18] (‡ <i>P</i> <.001)	4.32[1.58,16.13] (‡ <i>P</i> =.52)	-0.41[-0.76,-0.06] (‡ <i>P</i> =.01)
Years	-0.37[-0.73,-0.01]	0.57[0.34,0.97]	0.31[0.15,0.47]

First-Trimester X years	0.88[0.30,1.46]	1.66[0.75,3.68]	-0.35[-0.61,-0.09]
Turnaway-Births X years	-0.85[-1.57,-0.13]	0.78[0.30,2.06]	0.29[-0.03,0.61]
Turnaway-No-Births X years	-2.24[-3.37,-1.11]	0.68[0.17,2.82]	0.50[0.00,1.01]
Years <sup>2</sup>	0.06[-0.11,0.23]	1.01[0.91,1.12]	-0.08[-0.16,-0.01]
First-Trimesters X years <sup>2</sup>	-0.37[-0.64,-0.10]	0.90[0.77,1.06]	0.14[0.01,0.26]
Turnaway-Births X years <sup>2</sup>	0.36[0.01,0.70]	1.08 [0.89,1.31]	-0.08[-0.24,0.07]
Turnaway-No-Births X years <sup>2</sup>	0.87[0.33,1.41]	1.01[0.73,1.39]	-0.21[-0.45,0.03]
Years <sup>3</sup>	0.00[-0.02,0.02]		0.01[0.00,0.02]
First-Trimesters X years <sup>3</sup>	0.04[0.01,0.08]		-0.01[-0.03,0.00]
Turnaway-Births X years <sup>3</sup>	-0.04[-0.08,0.00]		0.01[-0.01,0.03]
Turnaway-No-Births X years <sup>3</sup>	-0.10[-0.17,-0.03]		0.03[0.00,0.06]

† Testing whether overall trajectories differ by group using testparm, a post-estimation test conducted after fitting the adjusted models; ‡ Testing whether the trajectory of one group differs from *Near-limit* group (testparm), after fitting the adjusted models; Coef.=unstandardized coefficient, CI=confidence interval, aOR=adjusted Odds Ratio; Blank cells for quadratic and cubic terms indicate that they were not included in the model because they did not improve the model fit; models adjust for race, age, marital status, parity, history of child abuse and neglect, history of depression or anxiety, prior drug use, problem alcohol use, and highest level of education.

**eTable 4. Sensitivity Analyses: Adjusted Mixed Effects Linear and Logistic Regression Models of Depression, Anxiety, Self-Esteem and Life Satisfaction, Limited to the 11 Facilities with a Participation Rate of 50% or More**

Predictor variables	Depression		Well-Being
	Symptoms	Cases	Self-Esteem
Study Group	<b>Coef.[95%CI] (‡)</b>	<b>aOR[95%CI] (‡)</b>	<b>Coef.[95%CI] (‡)</b>
<i>Near-Limits (reference)</i>	(† p=.02)	(† p=.78)	(† p=.01)
<i>First-Trimesters</i>	-0.53[-1.25,0.19] (‡ p=.01)	0.73[0.27,1.98] (‡ p=.65)	0.02[-0.26,0.29] (‡ p=.22)
<i>Turnaway-Births</i>	-0.14[-0.99,0.72] (‡ p=.36)	0.97[0.30,3.18] (‡ p=.75)	-0.42[-0.74,-0.10] (‡ p=.03)
<i>Turnaway-No-Births</i>	0.37[-0.91 ,1.64] (‡ p=.91)	2.17[0.41,11.46] (‡ p=.54)	-0.10[-0.59,0.38] (‡ p=.43)
Years	-1.34[-2.06,-1.01]	0.66[0.35,1.25]	0.38[0.17,0.60]
First-Trimester X years	1.41[0.54,2.28]	1.44[0.56,3.69]	-0.12[-0.48,0.24]
Turnaway-Births X years	-0.80[-1.86,0.26]	0.70[0.22,2.21]	0.56[0.12,1.00]
Turnaway-No-Births X years	-0.21[-1.84,1.41]	1.18[0.13,10.34]	0.20[-0.47,0.87]
Years <sup>2</sup>	0.47[0.22,0.71]	0.99[0.86,1.14]	-0.10[-0.20, 0.01]
First-Trimesters X years <sup>2</sup>	-0.63[-1.04,-0.22]	0.91[0.74,1.11]	-0.00[-0.17,0.17]
Turnaway-Births X years <sup>2</sup>	0.43[-0.07,0.94]	1.09[0.86,1.38]	-0.20[-0.41,0.02]
Turnaway-No-Births X years <sup>2</sup>	0.06[-0.72,0.84]	0.82[0.43,1.56]	-0.04[-0.37,0.28]
Years <sup>3</sup>	-0.04[-0.08,-0.01]		0.01[-0.01,0.02]
First-Trimesters X years <sup>3</sup>	0.07[0.02,0.13]		0.00[-0.02,0.03]
Turnaway-Births X years <sup>3</sup>	-0.06[-0.12,0.01]		0.02[-0.01,0.05]
Turnaway-No-Births X years <sup>3</sup>	-0.01[-0.11,0.09]		0.01[-0.04,0.05]
Predictor variables	Anxiety		Life Satisfaction
	Symptoms	Cases	
Study Group	<b>Coef.[95%CI] (‡)</b>	<b>aOR [95%CI] (‡)</b>	<b>Coef.[95%CI] (‡)</b>
<i>Near-Limits (reference)</i>	(† p<.001)	(† p=.27)	(† p<.001)
<i>First-Trimesters</i>	-0.31[-1.01,0.38] (‡ p=.09)	0.64[0.15,2.62] (‡ p=.25)	0.19[-0.07,0.45] (‡ p=.007)
<i>Turnaway-Births</i>	0.58[-0.24,1.40] (‡)	1.78[0.37,8.54] (‡ p=.38)	-0.21[-0.52,0.10] (‡)

	p=.11)		p=.10)
<i>Turnaway-No-Births</i>	2.14[0.91,3.37] (‡ p=.02)	7.03[0.88,56.50] (‡ p=.40)	-0.30[-0.76,0.16] (‡ p=.20)
Years	-0.15[-0.62, 0.32]	0.96[0.47,1.96]	0.21[-0.00,0.43]
First-Trimester X years	0.93[0.15,1.71]	1.75[0.54,5.65]	-0.47[-0.82,-0.11]
Turnaway-Births X years	-1.07[-2.02,-0.12]	0.45[0.13,1.60]	0.54[0.10,0.98]
Turnaway-No-Births X years	-2.01[-3.47,-0.55]	0.39[0.06,2.74]	0.70[0.04,1.37]
Years <sup>2</sup>	-0.03[-0.25,0.19]	0.98[0.86,1.12]	-0.00[-0.10,0.10]
First-Trimesters X years <sup>2</sup>	-0.43[-0.80,-0.06]	0.84[0.65,1.08]	0.15[-0.02,0.32]
Turnaway-Births X years <sup>2</sup>	0.44[-0.03,0.90]	1.19[0.93,1.53]	-0.26[-0.47,0.05]
Turnaway-No-Births X years <sup>2</sup>	0.80[0.10,1.50]	1.12[0.73,1.73]	-0.31[-0.63,0.01]
Years <sup>3</sup>	0.01[-0.02,0.04]		-0.01[-0.02,0.01]
First-Trimesters X years <sup>3</sup>	0.05[0.00,0.10]		-0.01[-0.04,0.01]
Turnaway-Births X years <sup>3</sup>	-0.05[-0.11,0.01]		0.04[0.01,0.06]
Turnaway-No-Births X years <sup>3</sup>	-0.10[-0.19,-0.01]		0.04[-0.00,0.08]

† Testing whether overall trajectories differ by group using testparm, a post-estimation test, conducted after fitting the adjusted models; ‡ Testing whether the trajectory of one group differs from the *Near-limit* group (testparm), after fitting the adjusted models; Coef.=unstandardized coefficient, CI=confidence interval, aOR=adjusted Odds Ratio; Blank cells for quadratic and cubic terms indicate that they were not included in the model because they did not improve the model fit; models adjust for race, age, marital status, parity, history of child abuse and neglect, history of depression or anxiety, prior drug use, problem alcohol use, and highest level of education.



eFigure. Participant Flow Chart

