

Women's Emotions One Week After Receiving or Being Denied an Abortion in the United States

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CONTEXT: The notion that abortion causes poor mental health has gained traction, even though it is not supported by research. Few studies have comprehensively investigated women's postabortion emotions.

METHODS: Baseline data from a longitudinal study of women seeking abortion at 30 U.S. facilities between 2008 and 2010 were used to examine emotions among 843 women who received an abortion just prior to the facility's gestational age limit, were denied an abortion because they presented just beyond the gestational limit or obtained a first-trimester abortion. Multivariable analyses were used to compare women's emotions about their pregnancy and about their receipt or denial of abortion after one week, and to identify variables associated with experiencing primarily negative emotions postabortion.

RESULTS: Compared with women who obtained a near-limit abortion, those denied the abortion felt more regret and anger (scoring, on average, 0.4–0.5 points higher on a 0–4 scale), and less relief and happiness (scoring 1.4 and 0.3 points lower, respectively). Among women who had obtained the abortion, the greater the extent to which they had planned the pregnancy or had difficulty deciding to seek abortion, the more likely they were to feel primarily negative emotions (odds ratios, 1.2 and 2.5, respectively). Most (95%) women who had obtained the abortion felt it was the right decision, as did 89% of those who expressed regret.

CONCLUSIONS: Difficulty with the abortion decision and the degree to which the pregnancy had been planned were most important for women's postabortion emotional state. Experiencing negative emotions postabortion is different from believing that abortion was not the right decision.

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In policy making and public debate, the idea that abortion is psychologically traumatic has gained traction.¹ The notion that abortion—a procedure that 30% of U.S. women undergo in their lifetime²—has distressing emotional sequelae has generated legislative and public support for measures aimed at increased regulation of the procedure, including legislation mandating ultrasound viewing, 24-hour waiting periods and state-directed counseling, as well as parental consent for minors. Outside of policy making, arguments that women need protection from abortion because it may have negative psychological or emotional effects have been mobilized to shift public opinion.¹

Amid this controversy, an appreciation for the complexity of women's emotions after an abortion is often missing.³ Although the notion that abortion causes mental disorders is not supported,^{4–8} studies indicate that women's emotional reactions to abortion are quite variable: While some women experience abortion as a complicated social and personal issue, others experience it as relatively unproblematic.^{6,9–12} Qualitative research indicates that relationship context and clinical experience can be sources of emotional difficulty for women regarding their abortions.^{13,14} Yet, in general, the sentiment of relief predominates.^{6,9–12}

Nonetheless, gaps in the literature may explain the persistence of the belief that abortion harms women. Reviews of studies on mental health and emotions following abortion consistently point to methodological flaws of existing research.^{4,5,7} For instance, research has focused almost exclusively on first-trimester abortion patients;⁷ few studies have examined the experiences of women who seek later abortions.⁸ As a result, researchers do not know whether gestational age affects women's emotional response to abortion. Furthermore, most quantitative studies have been conducted in narrow geographic locations, which limits the generalizability of results to contexts with particular social or cultural attitudes toward abortion.

We suggest that the notion that abortion is emotionally harmful makes three tacit assumptions. First, it presumes that negative emotions a woman expresses stem from the abortion, and not from other sources, such as the pregnancy itself. Yet, qualitative research has shown that following the end of a pregnancy, some women mourn not the fetal loss, but other losses, including the loss of a romantic relationship.^{13,15} Other women experience guilt or anger at themselves for becoming pregnant unintentionally.¹⁶ To date, scholarship has not distinguished women's feelings about the pregnancy from those about the

abortion. Recognizing that women could have different—perhaps contradictory—feelings about the pregnancy and the abortion is critical in valid examination of postabortion emotions.

Second, the idea that abortion hurts women often does not account for concurrent positive and negative emotions. Some studies have treated emotions as a one-dimensional construct, assuming that having high levels of negative emotions is the same as having low levels of positive emotions.¹⁷ Others have interpreted mixed or seemingly contradictory emotions as reflections of rationalization or denial,¹⁰ disregarding mixed emotions as a valid condition.¹² In the United States, where abortion is particularly politicized, debates over its emotional effects have often focused on regret versus relief,^{1,18} while more complex emotional experiences have received less consideration.³ With a few exceptions,^{6,12,19} studies have not quantitatively assessed the extent to which negative emotions—including regret—are accompanied by positive ones.

Finally, the hypothesis that abortion hurts women assumes that the emotional health of women with unwanted pregnancies would be better if they carried their pregnancy to term rather than had the abortion they desire. Most studies examining women's postabortion emotional experience lack an appropriate comparison group.⁷ Although studies have compared the emotions of women who have had an abortion with those of women who have had a miscarriage,⁹ such a design cannot account for important differences between the groups, particularly regarding desire for pregnancy.

In this article, we use innovative data from an ongoing longitudinal study to examine women's short-term emotions about pregnancy and abortion. We overcome some of the limitations of prior investigations by including an appropriate control group and a more nuanced consideration of women's emotions regarding abortion versus pregnancy. We compare the emotional responses of women who obtained an abortion with those of women who wanted an abortion but were unable to obtain one; to our knowledge, no study has made such a comparison. With a thorough consideration of both positive and negative emotions regarding pregnancy and abortion, we identify variables associated with having a primarily negative emotional response to abortion. These analyses bring empirical data to bear on the question of women's short-term emotional responses to abortion and denial of abortion, and yield a better understanding of the negative emotions women experience following abortion.

METHODS

Study Sample and Procedures

Our analyses used baseline interview data from the Turnaway Study, a five-year, longitudinal project evaluating the health and socioeconomic consequences of receiving or being denied abortion in the United States. Between 2008 and 2010, we recruited women seeking an abortion at 30 facilities across the United States. Possible

study facilities were identified using the National Abortion Federation directory and contacts within the abortion research community, and we selected those that had the highest abortion gestational limit within 150 miles (11 sites in the South, seven in the Midwest, six in the West and six in the Northeast). Details about study facilities are described elsewhere.²⁰

Women were recruited into three study groups—the turnaway group, the near-limit group and the first-trimester group. The turnaway group included women who had been denied an abortion because they had presented for care up to three weeks beyond the facility's gestational age limit. The near-limit group comprised women from the same facility who had presented in the two weeks prior to the gestational age limit and had received an abortion. The first-trimester group consisted of women who had received a first-trimester procedure at the same facility. We anticipated that relatively few women would meet the turnaway eligibility requirements; therefore, to ensure a large enough overall sample for analysis without being restricted by the low number of women eligible for the turnaway group, we enrolled twice as many near-limit participants as turnaway or first-trimester participants.

Facility staff trained in study procedures approached potential participants with a flyer describing the study. Women interested in participating were led to a private location within the facility and given additional information, informed consent documents and a human subjects' bill of rights. To qualify for participation, patients had to be 15 or older, speak English or Spanish and have a pregnancy in which the fetus had no known anomalies. Eligible women were connected by telephone to research staff, who obtained their informed consent. We obtained parental consent for minors in states in which parental involvement was required to have an abortion. In states without these requirements, minors provided informed consent after facility staff verified their understanding of the risks and benefits of participation. Enrolled participants provided contact information and confidentiality protection preferences to research staff, who scheduled a baseline telephone interview to take place eight days later. Women received a \$50 gift card after completing the interview. The study was approved by the institutional review board of the University of California, San Francisco.

Overall, 956 eligible women completed baseline interviews; the study participation rate was 38%.

Measures

We used a series of questions to assess women's emotions about their pregnancy and their receipt or denial of abortion. Interviewers read the following statement: "As you know, women experience a range of emotions after having an abortion. First, I'm going to ask you about how you feel about having become pregnant. For each emotion, please tell me how much you have experienced it during the past seven days, including today." Women responded about six emotions: relief, happiness, regret, guilt, sadness and

anger. Responses were measured on a Likert scale ranging from 0="not at all" to 4="extremely." Women who had obtained the abortion were asked about these same emotions with regard to the abortion, and women in the turnaway group were asked about these emotions with regard to having been denied the abortion. In addition, women who had had the abortion were asked an open-ended question about the one emotion they felt most in the week after the procedure. They were also asked, given the situation, if the decision to have an abortion was right for them; answers were coded "yes," "no" and "don't know." Women in the turnaway group were asked if they still wished that they could have had the abortion; again, answers were coded "yes," "no" and "don't know."

For analyses examining variables associated with a primarily negative emotional response to abortion, we attempted to categorize women into groups of similar emotions using cluster analyses; however, we could not identify distinct groups. So instead, we used responses regarding the four negative emotions (regret, guilt, sadness and anger) to create one scale, with possible scores ranging from 0 to 16, and responses for the two positive emotions (relief and happiness) to create another scale, which had a range of 0–8. We then created four categories of responses: primarily positive emotions (0–3 on the negative scale, greater than 3 on the positive scale), primarily negative emotions (greater than 3 on the negative scale, 0–3 on the positive scale), low emotions (0–3 on both scales) and mixed emotions (greater than 3 on both scales). We used the same cut point for both scales to be especially sensitive to negative emotions. Because women who experience primarily negative emotions are of particular social concern, we conducted final analyses using a dichotomous variable indicating whether women had expressed primarily negative emotions.

We assessed several features of the circumstances of women's pregnancy. Pregnancy planning was measured with the London Measure of Unplanned Pregnancy, a six-item retrospective tool that ranks pregnancy intention on a 0–12 scale (Cronbach's alpha, 0.6);²¹ higher scores represent a pregnancy that involved more planning. We assessed difficulty deciding whether to have an abortion with a five-point scale that ranged from "very easy" to "very difficult." Women reported the nature of their current relationship with the man with whom they became pregnant. Responses were categorized as husband; boyfriend or fiancé; and ex-partner, friend, acquaintance or no relationship. Participants also reported their perception of whether their partner wanted them to have the abortion. Possible responses were yes, no, he was not sure and he was unaware of the pregnancy; some participants volunteered that their partner had left the decision up to them, and we included this response in our analyses even though it was not one of the response choices.

We also assessed aspects of the circumstances of the abortion. Participants provided open-ended responses for the reasons they had sought the abortion. Responses

were categorized into major themes²² and included variables for the three most commonly reported reasons: The woman was not financially prepared, it was not the right time for a baby and partner-related issues were a concern (e.g., relationship was bad or partner was not supportive). A measure of perceived abortion stigma from the community was created from women's reports of how much they felt they would be looked down upon by people in their community who knew that they had sought the abortion; response options were "not at all," "a little bit," "moderately," "quite a bit" and "extremely." We assessed support from family and friends by women's level of agreement with six statements derived from the Multidimensional Scale of Perceived Social Support^{23,24}—for example, "I can talk about my problems with my friends" (Cronbach's alpha, 0.8). Possible responses were "strongly disagree," "disagree," "neutral," "agree" and "strongly agree." In addition, we included a variable assessing whether women had received counseling about whether to have the abortion from the facility from which they were recruited, and a variable measuring gestational age at the time the women sought their abortion.

We included several measures of social and demographic characteristics. Participants reported their age, race and ethnicity. Because many participants were still pursuing education or were living with parents and did not know their household incomes, we did not use income or educational attainment as measures of participants' socioeconomic status. Instead, we used mother's education level as a proxy; response options ranged from "less than high school" to "college graduate or more." We included the number of children the participant was raising, including stepchildren and foster children (coded as none, one, or two or more), and a measure of whether participants had had a previous abortion. A school–employment status variable measured whether participants were in school only, employed only, both or neither. Finally, we assessed history of depression using three questions from the Composite International Diagnostic Interview.²⁵ We considered women to have a history of depression if they reported that they had ever had a period of two weeks or longer in which they had felt sad, empty or depressed, or had lost interest in most things, to the extent that their daily activities were seriously disrupted.

Analyses

To assess differences in participant characteristics and in pregnancy and abortion circumstances across the three study groups, we used a series of bivariable mixed effects regression models.²⁶ We conducted linear, logistic, multinomial logistic or ordinal logistic analyses, depending on how the characteristic was coded; the near-limit group was the reference group. All analyses included random site effects to account for the clustering of participants within sites.

We described participants' emotions about their pregnancy and about having obtained or been denied the

abortion. We examined group differences in each emotion using two approaches: by bivariable mixed effects linear regression, comparing mean scores on each emotion between groups, and by ordinal logistic regression, using the Likert scale coding of the emotions variables. Both approaches were used to establish whether results were sensitive to the coding of the emotions variables. We then repeated these analyses including control measures for age, race and ethnicity, number of children, and school and employment status. The near-limit group was the reference group. Among women who had had the abortion, we described the main emotions felt and the degree to which women felt that abortion was the right decision. Among those who had been denied the abortion, we assessed the proportion who wished they had obtained the abortion.

For women who had obtained the abortion, we compared mean scores for each emotion felt about the pregnancy with those for emotions felt about the abortion during the week following the procedure. We used multivariable mixed effects linear regression to assess differences in pregnancy and abortion emotions, controlling for study group, age, race and ethnicity, number of children, and school and employment status.

We examined variables associated with experiencing primarily negative emotions after the abortion among the first-trimester and near-limit groups using bivariable and multivariable mixed effects logistic regression. Similarly, we examined variables associated with feeling that the abortion was the right decision. Postestimation chi-square tests were used to assess differences between pairs of responses for categorical variables.

By design, our sample included one group of women with gestational ages near each facility's cut point and another group with gestational ages spread across the first trimester. To account for this distribution, we fit bivariable mixed effects models including both a facility-level variable for gestational cut point and an individual-level variable for difference from the limit. Because we found no variation in emotional response by gestational age either within or between facilities, we included only an individual-level gestational age variable in the final analyses.

We excluded all 76 participants recruited at one site at which 95% of women who were initially denied an abortion and enrolled in the turnaway group obtained an abortion at a different facility before the baseline interview. In addition, we excluded 31 women from other sites who were turned away and later obtained abortion elsewhere, as well as two near-limit group participants and two first-trimester group participants who decided not to have abortions, two participants who reported miscarrying before a scheduled abortion and one participant who was missing data on abortion emotions. Fifteen women in the turnaway group who obtained abortions and five who experienced miscarriages after the baseline interview were included, for a final analytic sample of 843 women.

To assess whether differential enrollment of eligible women across facilities affected our results, we conducted

sensitivity analyses, repeating all analyses including only sites that enrolled more than 50% of eligible women. Stata version 12.0 was used for analyses.

TABLE 1. Selected characteristics of women seeking abortion at 30 U.S. facilities, by whether they obtained the abortion at a gestational age near the facility's limit, obtained it during the first trimester or were turned away because they had passed the gestational limit, Turnaway Study, 2008–2010

Characteristic	All (N=843)	Near-limit (N=411)	First-trimester (N=254)	Turnaway (N=178)
Social and demographic				
Mean age (range, 14–46)†	24.9	24.9	25.9*	23.7*
Race/ethnicity			*	
White	32.5	31.9	39.0	24.7
Black	32.3	31.6	31.5	34.8
Latina	22.4	21.2	21.3	27.0
Other	12.8	15.3	8.3	13.5
Maternal education			**	
<high school	15.1	12.2	20.5	14.0
High school	35.8	36.0	35.8	35.4
Some postsecondary	13.5	15.1	9.8	15.2
≥college	26.8	26.5	28.4	25.3
Missing	8.8	10.2	5.5	10.1
No. of children				
0	39.7	36.6	40.6	45.5
1	27.0	30.2	24.8	22.5
≥2	33.4	33.2	34.7	32.0
Prior abortion	45.3	46.7	46.6	39.9
School/employment status			*	**
In school only	14.5	12.7	12.7	21.4
Employed only	38.1	40.2	41.5	28.7
Both	15.8	13.9	22.1	11.2
Neither	31.6	33.3	23.7	38.8
History of depression	13.2	12.9	16.1	9.6
Pregnancy circumstances				
Mean pregnancy planning (range, 0–12)	2.7	2.7	2.6	2.9
Difficulty deciding to seek abortion			***	
Very easy	13.0	10.5	16.9	13.0
Somewhat easy	17.1	15.8	22.1	13.0
Neither easy nor difficult	14.1	15.6	14.6	10.2
Somewhat difficult	29.0	27.3	26.8	36.2
Very difficult	26.8	30.9	19.7	27.7
Relationship with pregnancy partner				
Husband	8.6	7.5	9.9	9.4
Boyfriend/fiancé	52.3	53.3	50.0	53.2
Friend/ex-partner/acquaintance/ no relationship	39.1	39.3	40.1	37.4
Perception of partner's abortion preference			*	
Wanted	25.1	21.2	31.9	24.2
Not sure	20.0	21.5	19.7	16.9
Unwanted	21.6	21.0	18.9	27.0
Unaware of pregnancy	17.8	17.8	16.9	19.1
Left decision up to participant	15.6	18.5	12.6	12.9
Abortion circumstances				
Reasons for abortion‡				
Not financially prepared	39.7	43.3	35.0*	38.2
Not the right time for a baby	36.2	34.7	38.6	36.0
Partner-related reasons	30.9	33.3	34.7	20.2**
Perceived community stigma				**
Not at all	42.5	39.1	41.0	52.3
A little	13.7	14.0	13.7	13.1
Moderate	14.6	14.3	16.5	12.5
Quite a bit	12.3	13.0	12.5	10.2
Extreme	17.0	19.6	16.5	11.9
Mean social support (range, 0–6)	3.2	3.2	3.2	3.2
Received counseling at facility	64.5	70.2	70.0	43.5***
Mean gestational age (range, 3–29 wks.)	16.7	19.7	7.6***	22.7***

*Mean or distribution differs from that for near-limit group at $p < .05$. **Mean or distribution differs from that for near-limit group at $p < .01$. ***Mean or distribution differs from that for near-limit group at $p < .001$. †One participant aged 14 was recruited early in the study, before the minimum age was changed to 15. ‡Responses not mutually exclusive. Note: Unless otherwise noted, data are percentages.

RESULTS

Participants were, on average, 25 years old; 33% were white, 32% black, 22% Latina and 13% members of other racial or ethnic groups (Table 1, page 125). Sixty percent had children, and 45% had experienced a prior abortion. As expected for a cohort of women seeking abortion, the mean level of pregnancy planning was low—2.7 on a 0–12 scale. Fifty-six percent of participants had had difficulty deciding to seek an abortion, 14% had found the decision neither easy nor difficult and 30% had found it easy. Sixty-one percent were in a current romantic relationship with the man with whom they became pregnant; 39% reported that the man was a friend, ex-partner or acquaintance, or that they had no relationship with him.

Characteristics varied between the first-trimester group and the near-limit group. Women in the first-trimester group were older; were more likely to be white and less likely to be “other race”; had less educated mothers; and were more likely to be in school and employed. They had had less difficulty deciding to have the abortion, were more likely to think that their partner had wanted the abortion and were less likely to have sought the abortion for financial reasons. By design, the first-trimester group had a lower mean gestational age than the near-limit group.

Participants in the turnaway and near-limit groups differed on fewer characteristics. Women in the turnaway group were younger; more likely to be in school only; and less likely to be employed only, to have sought an abortion for a partner-related reason and to have received counseling. They also perceived lower community abortion stigma and, by design, had a higher mean gestational age.

Emotions About Pregnancy and Abortion

Participants in all three groups expressed a range of emotions about their pregnancy (Table 2). Overall, women most commonly felt at least a little bit of sadness, regret or guilt (62–74%), but some felt happiness and relief (33%

and 25%, respectively). A greater proportion of women in the turnaway group than of those in the near-limit group felt happiness about their pregnancy (60% vs. 27%).

Respondents also expressed a range of emotions about their abortion experience. In the first-trimester and near-limit groups, the emotion most reported by women about the abortion was relief (96% and 90%, respectively); the difference between groups was significant. Smaller proportions of women in the first-trimester group than of those in the near-limit group expressed regret (33% vs. 41%) and sadness (61% vs. 68%). Sadness was the emotion most reported by women in the turnaway group (60%). Women denied an abortion differed from those who received a near-limit procedure in terms of nearly every emotion felt about their experience: Women in the turnaway group were more likely to have felt regret (50% vs. 41%) and anger (42% vs. 29%), whereas they were less likely to have felt relief, happiness and guilt (30–49% vs. 56–90%). Results were the same when we compared mean emotion scores between groups. Sixty-two percent of women in the turnaway group still wished that they had been able to obtain an abortion (not shown).

In open-ended responses, women in the near-limit and first-trimester groups reported that the main emotions they felt about their abortion were relief and sadness (37% and 20%, respectively). One-quarter of women gave a response outside of the six emotions assessed by the study; the most common of such responses were feeling no emotions or nothing (5%), having mixed emotions (3%) and feeling that the right decision had been made (2%).

Women reported negative and positive emotions about their abortion experience concurrently. Among women in the near-limit group who felt any regret, 87% also reported feeling relief; among those who felt any relief, 39% also felt regret; and among those who felt any sadness, half also felt some happiness. Similarly, among women in the turnaway group who felt any regret at having been denied

TABLE 2. Percentage of women feeling any of each emotion about their pregnancy and their abortion experience, and mean emotion score, by group

Emotion	Pregnancy				Abortion experience			
	All	Near-limit	First-trimester	Turnaway	All	Near-limit	First-trimester	Turnaway
Percentage feeling emotion†								
Relief	25	23	24	30	83	90	96*	49***
Happiness	33	27	25	60***	52	56	53	43**
Regret	66	64	65	74	41	41	33*	50**
Guilt	62	63	61	58	53	62	55	30***
Sadness	74	76	72	73	64	68	61*	60
Anger	43	43	43	41	31	29	28	42***
Mean emotion score (range, 0–4)								
Relief	0.5	0.5	0.5	0.6	2.3	2.5	2.7**	1.1***
Happiness	0.6	0.5	0.4	1.2***	1.1	1.2	1.2	0.9**
Regret	1.7	1.7	1.7	1.9	0.8	0.8	0.6*	1.2***
Guilt	1.5	1.5	1.5	1.4	1.2	1.4	1.2	0.6***
Sadness	1.7	1.7	1.6	1.7	1.4	1.5	1.2*	1.5
Anger	0.9	1.0	0.9	1.0	0.7	0.6	0.5	1.0***

*Different from near-limit group at p<.05. **Different from near-limit group at p<.01. ***Different from near-limit group at p<.001. †p-values are based on analyses using the full Likert scale coding for each emotion variable.

an abortion, 40% also felt relief; among those feeling any relief, 41% also felt regret; and among those expressing sadness, 33% also felt happiness.

In multivariable analyses, emotions about the pregnancy did not differ between the first-trimester and near-limit groups (Table 3). Pregnancy emotions were also generally similar between the turnaway and near-limit groups. Notably, however, women in the turnaway group expressed far more happiness about the pregnancy than women in the near-limit group: On average, they scored 0.8 points higher on the 0–4 scale.

When asked about their abortion experience, women in the first-trimester group reported feeling more relief and less regret a week later than did those in the near-limit group (mean differences, 0.3 and –0.2, respectively). However, compared with the women in the near-limit group, those in the turnaway group felt less relief (–1.4) and happiness (–0.3), and more regret (0.5) and anger (0.4). Guilt was the only negative emotion women in the turnaway group felt less than did those in the near-limit group (–0.7).*

Participants who had obtained an abortion expressed significantly more relief and happiness about the abortion than about the pregnancy. For instance, on a 0–4 scale, women scored more than two points higher for relief about the abortion than for relief about the pregnancy (mean difference, 2.3; 95% confidence interval, 2.0–2.7). Correspondingly, participants were less regretful, sad and angry about the abortion than about the pregnancy. For instance, on a 0–4 scale, women scored more than one point lower for regret about the abortion than for regret about the pregnancy (–1.2; 95% confidence interval, –1.6 to –0.8). Feelings of guilt about the pregnancy did not differ from those about the abortion.

Emotions After the Abortion

Among women who had obtained an abortion, 24% reported feeling primarily negative emotions a week later, and 35% reported feeling primarily positive emotions. Another 23% had a low emotional response—feeling no or few negative or positive emotions—and 18% had mixed emotions.

In multivariable analyses, women's odds of experiencing primarily negative emotions generally did not differ by social and demographic characteristics (Table 4, page 128). One exception was that Latinas were more likely than black women to have negative emotional responses ($p < .05$). The greater the extent to which women had planned the pregnancy or had difficulty deciding to seek abortion, the more likely they were to have a primarily negative emotional response (1.2 and 2.5, respectively). Women who felt that their partner had left the abortion decision up to them were less likely to have a primarily negative emotional response than were those who thought that their partner had not wanted the abortion or that he had not been sure ($p < .05$). Several variables that were associated with increased odds of primarily negative

TABLE 3. Mean group differences (and 95% confidence intervals) from multivariable regression analyses assessing women's emotions about their pregnancy and about their abortion experience, by group

Emotion	Pregnancy	Abortion experience
Relief		
Near-limit	ref	ref
First-trimester	0.04 (–0.13–0.21)	0.26 (0.04–0.47)*
Turnaway	0.04 (–0.16–0.23)	–1.38 (–1.61 to –1.13)***
Happiness		
Near-limit	ref	ref
First-trimester	–0.01 (–0.17–0.15)	–0.10 (–0.31–0.12)
Turnaway	0.76 (0.58–0.94)***	–0.31 (–0.55 to –0.07)**
Regret		
Near-limit	ref	ref
First-trimester	–0.04 (–0.29–0.20)	–0.21 (–0.40 to –0.02)*
Turnaway	0.27 (–0.01–0.54)	0.46 (0.24–0.67)***
Guilt		
Near-limit	ref	ref
First-trimester	–0.01 (–0.24–0.23)	–0.20 (–0.41–0.01)
Turnaway	–0.04 (–0.30–0.23)	–0.73 (–0.96 to –0.49)***
Sadness		
Near-limit	ref	ref
First-trimester	–0.08 (–0.30–0.14)	–0.22 (–0.44–0.01)
Turnaway	–0.03 (–0.28–0.22)	0.02 (–0.23–0.27)
Anger		
Near-limit	ref	ref
First-trimester	–0.04 (–0.25–0.17)	–0.10 (–0.29–0.08)
Turnaway	0.03 (–0.21–0.27)	0.43 (0.22–0.63)***

* $p < .05$. ** $p < .01$. *** $p < .001$. Notes: ref=reference group. Analyses included controls for age, race and ethnicity, number of children, and school and employment status. For each emotion, possible scores ranged from 0 (“not at all”) to 4 (“extremely”).

emotions in bivariable models—history of depression, seeking the abortion for partner-related reasons, perception of abortion stigma and lack of social support—were nonsignificant in the multivariable model.

The vast majority of women who had obtained an abortion (95%) reported one week later that having the procedure was the right decision for them. Even among those who had had a primarily negative emotional response, 84% felt that abortion was the correct choice; among those who expressed any regret about the abortion, 89% felt that abortion was the right decision. Because few participants reported that abortion was not the right decision, we were unable to run a multivariable model with this outcome; however, in bivariable analyses, Latinas were less likely than white women to say that abortion was the correct choice (odds ratio, 0.3; 95% confidence interval, 0.0–0.9). The greater the extent to which women had planned the pregnancy, the less likely they were to feel that abortion was the right decision (0.6; 95% confidence interval, 0.5–0.7); results were similar for difficulty deciding to seek abortion (0.2; 95% confidence interval, 0.1–0.4)

*Results were unchanged when we repeated multivariable analyses using ordinal logistic regression, with two small exceptions. First, relief about the abortion was no longer significantly higher in the first-trimester group than in the near-limit group. Second, the first-trimester group felt significantly less sadness about the abortion than did the near-limit group (odds ratio, 0.8; 95% confidence interval, 0.56–1.00).

TABLE 4. Odds ratios (and 95% confidence intervals) from mixed effects logistic regression analyses assessing associations between selected characteristics of women who had abortions and primarily negative emotional response one week later

Characteristic	Unadjusted	Adjusted
Social and demographic		
Age	1.03 (1.00–1.06)	1.02 (0.97–1.06)
Race/ethnicity		
White (ref)	1.00	1.00
Black	0.81 (0.51–1.31)	0.61 (0.34–1.12)
Latina	1.53 (0.93–2.53)†	1.21 (0.66–2.23)†
Other	0.95 (0.51–1.74)	0.74 (0.36–1.55)
Maternal education		
<high school (ref)	1.00	1.00
High school	1.06 (0.60–1.87)	1.26 (0.63–2.50)
Some postsecondary	0.96 (0.47–1.94)	1.36 (0.59–3.17)
≥college	1.24 (0.69–2.23)	1.58 (0.77–3.24)
No. of children		
0 (ref)	1.00	1.00
1	1.12 (0.71–1.77)	1.05 (0.60–1.85)
≥2	1.40 (0.91–2.15)	1.23 (0.67–2.26)
Prior abortion		
No (ref)	1.00	1.00
Yes	0.97 (0.68–1.40)	1.20 (0.75–1.90)
School/employment status		
In school only	0.74 (0.40–1.37)	0.85 (0.38–1.89)
Employed only	0.90 (0.59–1.37)	0.79 (0.46–1.35)
Both	0.60 (0.34–1.08)	0.88 (0.42–1.84)
Neither (ref)	1.00	1.00
History of depression		
No (ref)	1.00	1.00
Yes	1.69 (1.05–2.73)*	1.14 (0.62–2.10)
Pregnancy circumstances		
Pregnancy planning	1.35 (1.21–1.50)***	1.23 (1.07–1.40)**
Difficulty deciding to seek abortion	2.65 (2.16–3.26)***	2.52 (2.00–3.16)***
Relationship with pregnancy partner		
Husband	0.68 (0.32–1.42)	0.51 (0.21–1.24)
Boyfriend/fiancé	0.96 (0.68–1.40)	1.02 (0.62–1.67)
Friend/ex-partner/acquaintance/ no relationship (ref)	1.00	1.00
Perception of partner's abortion preference		
Wanted (ref)	1.00	1.00
Not sure	1.38 (0.81–2.34)	1.41 (0.76–2.64)
Unwanted	1.61 (0.95–2.72)	1.76 (0.92–3.37)
Unaware of pregnancy	1.10 (0.63–1.95)	1.13 (0.57–2.22)
Left decision up to participant	0.48 (0.24–0.96)*,‡	0.63 (0.28–1.40)§
Abortion circumstances		
Reasons for abortion		
Not financially prepared	1.17 (0.81–1.69)	1.33 (0.86–2.08)
Not the right time for a baby	0.78 (0.53–1.15)	1.05 (0.65–1.69)
Partner-related reasons	1.57 (1.08–2.28)*	1.17 (0.73–1.90)
Perceived community stigma	1.25 (1.11–1.41)***	1.12 (0.97–1.30)
Social support	0.71 (0.54–0.93)*	0.75 (0.53–1.05)
Received counseling at facility		
No (ref)	1.00	1.00
Yes	1.14 (0.76–1.72)	1.24 (0.76–2.02)
Gestational age	1.01 (0.98–1.03)	0.98 (0.95–1.02)
First-trimester group	0.93 (0.64–1.34)	na††

*p<.05. **p<.01. ***p<.001. †Different from “black” at p<.05. ‡Different from “not sure” at p<.01 and “unwanted” at p<.001. §Different from “not sure” and “unwanted” at p<.05. ††First-trimester group omitted because of strong relationship with gestational age; results do not change when group is included in the model. Notes: ref=reference group. na=not applicable.

and perceived community stigma (0.7; 95% confidence interval, 0.6–0.9). Seeking an abortion because it was not the right time for a baby was positively associated with feeling abortion was the correct choice (2.7; 95% confidence interval, 1.0–7.2), while seeking abortion for a reason related to the partner was negatively associated with feeling that abortion was the correct choice (0.4; 95% confidence interval, 0.2–0.9).*

DISCUSSION

Debates over postabortion emotions have tended to focus on the potential for harm to women;^{1,3} however, methodological shortcomings of existing studies have limited researchers' ability to draw firm conclusions. We have used data from the Turnaway Study to address important limitations of prior studies and offer a comprehensive account of women's emotions one week after an abortion. Our results highlight the importance of disentangling emotions regarding an unwanted pregnancy from those regarding an abortion. Women felt more regret, sadness and anger about the pregnancy than about the abortion, and felt more relief and happiness about the abortion than about the pregnancy. If negative emotions about an unwanted pregnancy or related events are mistakenly attributed to a woman's abortion experience, negative emotions will be overestimated. Studies that have not purposively teased these emotions apart may have inadvertently confounded feelings about these related but distinct events.

Similarly, our findings suggest that some women hold positive emotions about their pregnancy and still seek abortion. Even though our sample consisted of women whose pregnancies were largely unplanned and who sought abortions, one-quarter of women across study groups expressed relief or happiness about becoming pregnant. Research has illustrated that women can be ambivalent about pregnancy, and that the notion of a pregnancy can elicit happiness or excitement even among those who do not want one^{27,28}—in some cases because women perceive benefits to childbearing,²⁹ and in others because they feel relieved to know that they can become pregnant.³⁰ Our results highlight the importance of differentiating emotions about a pregnancy from pregnancy intention.

Women in our sample tended to have mixed feelings toward abortion: Although many expressed varying degrees of sadness or guilt, most also experienced relief and happiness. Despite the common framing of emotional outcomes as either relief or regret,³ nine in 10 women in the near-limit group who reported regret also reported relief. These results indicate that a narrow focus on individual emotions—or on emotional harm to women—yields an inaccurate depiction of women's emotions. That women experience a range of emotions is consistent with results from quantitative studies from the United States^{6,10} and elsewhere,^{9,11,12,19,31} and extends the finding to women obtaining abortions in the second trimester in a diverse U.S. population. Our results also add to the literature indicating that relief is the dominant feeling in the short term after abortion^{6,10–12,32} and that the proportion of women who experience regret is relatively small.^{11,12}

*Results were generally unchanged when we restricted the sample to women from facilities that achieved greater than 50% enrollment. However, in analyses comparing the turnaway and near-term groups with regard to emotions about the abortion experience, the odds ratios for regret and anger were attenuated to below statistical significance.

In addition, our findings point to the importance of context for understanding postabortion emotions. Consistent with prior studies, we found that the main variables associated with experiencing primarily negative emotions were aspects of the pregnancy decision-making process and social environment.^{14,16,31,33,34} Specifically, women's likelihood of reporting primarily negative emotions was positively associated with the degree to which they had planned a pregnancy and had had difficulty deciding to seek abortion. The abortion decision is influenced by many factors, including desired family structure, cultural or spiritual beliefs, personal decision-making style, physical health and partner or social support.³⁵ Resources to help providers identify and counsel women who are having difficulty with the abortion decision have been developed;^{36,37} still, further research into the counseling preferences and needs of these women is needed.

Perceived partner preferences about the abortion were another aspect of women's social context that related to their postabortion emotions. Women who thought that their partner had left the abortion decision up to them experienced more favorable emotions than those who thought that he had not wanted the abortion or had not been sure what he wanted. Multiple studies have illustrated that partner preferences and behaviors—including applying pressure for abortion,¹⁷ abdicating responsibility for the pregnancy¹⁴ and experiencing conflict about an abortion³⁸—can play a role in women's emotional difficulty postabortion. Some women experiencing emotional difficulty have reported that the abortion decision was not completely within their control, and that although they wanted decisional authority, they did not want to make their decision in isolation.¹⁴ Women who report discordant preferences or conflict with their partners over their abortion decision may need particular postabortion support.

Previous studies have identified several social and demographic characteristics associated with relatively poor emotional response to abortion: younger age, having no children or multiple children, being in an unstable romantic relationship, black race and later gestational age.^{6,34} Results have been inconsistent, however, and a comprehensive review concluded that research has not identified particular demographic characteristics associated with emotional difficulty.⁷ Although women in the first-trimester group reported slightly less regret and sadness about the abortion than those in the near-limit group, the probability of a primarily negative emotional response did not differ by gestational age. Thus, our results indicate that in general, aspects of the circumstances of the pregnancy are more strongly associated with short-term emotions than are demographic characteristics or length of gestation.

In addition to offering insight into the relationship between abortion and negative emotions, these data enabled us to appropriately compare emotional outcomes between two groups of women with unwanted pregnancies: those who had obtained a wanted abortion and those

who had been denied one. Women who had been turned away felt significantly more regret and anger, and less relief and happiness, one week later, than women who had obtained an abortion. Longitudinal data examining women's emotional trajectories over time will be needed to understand the longer term emotions felt by women who receive or are denied wanted abortions.

Furthermore, although emotions about the pregnancy were similar across participants, women in the turnaway group expressed much more happiness about their pregnancies than women in the near-limit group. One possible explanation for this finding is that women denied an abortion had more positive feelings about their pregnancy prior to seeking abortion, which contributed to their delay. Given that the two groups reported similar levels of pregnancy planning, perceived partner preferences about the pregnancy and difficulty deciding to seek abortion, we find this interpretation unlikely. Alternatively, it seems likely that women's emotions about their pregnancies shift over time, on the basis of life experience. Studies have indicated that women tend to report pregnancies as more intended if pregnancy intention is assessed after conception has occurred or a child has been born than if it is measured prior to pregnancy.^{39,40} Similarly, women who have learned that they will carry a pregnancy to term, even after seeking an abortion, may be less likely to express or feel unhappiness about becoming pregnant than women who obtained the wanted abortion.

Limitations and Strengths

Several factors limit our analyses. To our knowledge, no measure of emotional response has been psychometrically assessed. Our approach to measuring emotions may not have captured women's true emotions. In addition, our outcome measure was more sensitive to negative than positive emotions, because we used the same cut point for both, even though we assessed twice as many negative emotions. Emotions about pregnancy were examined one week after women had received or were denied an abortion. As conjectured above, women's emotions about the pregnancy itself may have been influenced by their abortion experience. Because data were collected after the abortion, we were unable to prospectively assess events occurring before the abortion that might have influenced emotions, such as changes in romantic relationships. Finally, emotional reactions were assessed one week after abortion or refusal of abortion; the extent to which these responses reflect longer term reactions remains to be determined.

Nevertheless, our analysis addressed many of the theoretical and methodological limitations of prior research. Given that a study randomizing women's receipt of abortion would be unethical and unfeasible, the experiences of our comparison group—women who sought but were denied an abortion—best capture what the experiences of women who obtained an abortion would have been had they not had done so. We purposively disentangled emotions regarding an unwanted pregnancy and abortion,

Women felt more regret, sadness and anger about the pregnancy than about the abortion.

and incorporated a nuanced assessment of emotions, without assuming that positive and negative were opposing ends of a single scale. Finally, our sample included women who had sought abortions over a range of gestational ages and geographic regions of the United States.

Conclusion

In spite of the varied emotions that women experienced in the week after an abortion, nearly all participants in this study reported that abortion was the right decision for them. Experiencing complex emotions and having strong feelings after an abortion—even negative ones—does not indicate that a woman feels she made the wrong decision. Our results are consistent with prior research that suggests that postabortion emotions vary from woman to woman—and, for a given woman, from abortion to abortion—largely as a function of life circumstances, difficulty with decision making and social support, including from romantic partners.^{14,16,33} Mechanisms targeting all women, such as regulations or information requirements, do not address these issues and may, in fact, exacerbate negative emotions. Efforts may be better directed toward identifying women having difficulty with the abortion decision and guiding them to individualized counseling in reproductive health care settings.

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