The Stigma of Having an Abortion: Development of a Scale and Characteristics of Women Experiencing Abortion Stigma

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CONTEXT: Although abortion is common in the United States, women who have abortions report significant social stigma. Currently, there is no standard measure for individual-level abortion stigma, and little is known about the social and demographic characteristics associated with it.

METHODS: To create a measure of abortion stigma, an initial item pool was generated using abortion story content analysis and refined using cognitive interviews. In 2011, the final item pool was used to assess individual-level abortion stigma among 627 women at 13 U.S. Planned Parenthood health centers who reported a previous abortion. Factor analysis was conducted on the survey responses to reduce the number of items and to establish scale validity and reliability. Differences in level of reported abortion stigma were examined with multivariable linear regression.

RESULTS: Factor analysis revealed a four-factor model for individual-level abortion stigma: worries about judgment, isolation, self-judgment and community condemnation (Cronbach's alphas, 0.8–0.9). Catholic and Protestant women experienced higher levels of stigma than nonreligious women (coefficients, 0.23 and 0.18, respectively). On the subscales, women with the strongest religious beliefs had higher levels of self-judgment and greater perception of community condemnation than only somewhat religious women. Additional differences were found by race, age, education, religiosity and motherhood status on the subscales.

CONCLUSION: This valid and reliable scale can be used in research examining abortion stigma and related outcomes (e.g., women's health, relationships and behavior). The scale can also be used to evaluate programs and interventions that aim to reduce the stigma experienced by women who have abortions.

Each year, 1.2 million women in the United States have abortions.[1] Half of unintended pregnancies end in abortion, and nearly one-third of women have an abortion during their reproductive years.[1,2] Women who choose abortion commonly report the desire to be a responsible parent to current or future children as paramount in their decision.[3] Although women routinely choose abortion in response to difficult circumstances, many encounter social stigma as a result of their decision.

Substantial proportions of the U.S. public have negative attitudes about the morality and legality of abortion.[4] More than half of Americans aged 18 and older believe that having an abortion is morally wrong.[4,5] In addition, large proportions of Americans do not think abortion should be legal and available for women who "cannot afford any more children" (52%) or for women who are not married, and not planning to marrying, their sexual partner (58%).[4] Ethnicity and religious affiliation are associated with negative attitudes toward abortion, especially among Latino and white Catholics and white evangelical Christians.[4,6] Negative attitudes toward abortion are associated with conservative beliefs about when life begins, women's sexual behavior and women's roles in society, and with the perception that abortion is a marginal and unnecessary health care practice.[7,8] Taken together, these attitudes toward abortion and about women's roles and responsibilities lead to stigma for women who have abortions.

Goffman describes three types of stigma: blemishes of character, deformations of the body, and tribal or group identity.[9] Norris et al. point out that abortion stigma can have many targets: women who have abortions, abortion providers and even abortion rights advocates.[10] The experience of stigma varies significantly among these groups. For women, abortion might be experienced as a blemish on individual character or even as a social demotion into the category of "bad girls and fallen women."[11(p. 3)] Kumar, Hessini and Mitchell describe abortion stigma as "a negative attribute ascribed to women who seek to terminate a pregnancy that marks them, internally or externally, as inferior to ideals of womanhood."[7(p. 628)] We propose that the stigma of abortion remains over time and can be measured after the abortion has occurred.

Although multiple validated measures of abortion attitudes exist, no measure of abortion stigma has been validated among women who have had abortions; in fact, only four previous studies have examined the stigma of having an abortion.[12–15] In the earliest one, Weidner and Griffitt explored college students' reactions to women who have abortions and their male partners.[12] The researchers found that both male and female students said they would

distance themselves socially from someone who had been involved in an abortion. In 1993, Major and Gramzow assessed abortion patients' experiences with stigma in a two-year follow-up interview using a single-item measure: level of agreement with the statement "I have felt that I would be stigmatized (looked down on) by others if they knew that I had an abortion."[13(p. 738)] Results show that two years after an abortion, experiencing abortion stigma was positively associated with both secrecy and suppressing unwanted thoughts. Women who suppressed thoughts had an increased risk of both intrusive thoughts about the abortion and distress about the abortion.

Two more recent abortion stigma studies are highly relevant. The first compared community- and individual-level stigma across Mexico, Nigeria, Pakistan, Peru and the United States in 2006 using a focus group methodology.[14] The authors found that across cultures, negative attitudes toward abortion were associated with secrecy and selective disclosure among women who have abortions. Also in 2006, Shellenberg and Tsui explored "perceived and internalized" stigma in a national survey of abortion patients in the United States.[15] They found that a majority of women felt that other people would look down on them because of their abortion, and half felt that they needed to keep their abortion a secret.

These studies have limitations. For example, Weidner and Griffitt examined only hypothetical scenarios with college students;[12] it is unclear whether the disapproval expressed by respondents would result in social distancing from women who have had abortions in real life. Furthermore, the data are 30 years old, and cultural changes in social relationships and attitudes may have occurred, especially among young people. The other three studies provide some understanding of the prevalence of stigma among women who have abortions.[13–15] However, they do not provide a valid and reliable measure for stigma that considers additional dimensions of the experience, including women's negative attitudes toward themselves or perception of community attitudes. Finally, surveys taken among abortion patients at the time of their procedures cannot report on how stigma manifests over time.

Stigma related to mental and physical illness, sexuality, race and obesity has negative impacts on individuals' mental and physical health, emotional well-being and health-seeking behaviors.[16–18] Stigma that is related to circumstances or experiences that can be concealed, like having had an abortion, can carry additional individual costs associated with behaviors meant to manage the stigma, such as keeping the experience secret, trying to "pass" as a nonstigmatized person in social interactions and suppressing unwanted thoughts.[13,19,20] An American Psychological Association report reviewing studies of mental health following abortion found that "the most methodologically strong studies…showed that interpersonal concerns, including feelings of stigma, perceived need for secrecy, exposure to antiabortion picketing, and low perceived or anticipated social support for the abortion decision,

negatively affected women's postabortion psychological experiences."[21(p. 92)]

A valid, reliable measure of abortion stigma can improve our understanding of the relationship between abortion stigma and mental health, physical health, emotional well-being and health-seeking behavior. In this article, we introduce a multidimensional measure of individual-level abortion stigma for women who have had an abortion. We then apply the scale, presenting a multivariable analysis of social and demographic characteristics associated with abortion stigma for women.

METHODS

This study was conducted in multiple stages: conceptualization, item development, cognitive interviews, survey implementation, scale validation and multivariable regression analysis. We used STATA 12 for our analysis. Each stage of data collection and analysis received institutional review board approval from the University of California, San Francisco.

Conceptualization

We draw on a conceptual model of abortion stigma developed by Cockrill and Nack.[11] After analyzing qualitative interviews with 34 women, they identified three types of stigma (internalized, felt and enacted) and three types of stigma management behavior (managing the damaged self, maintaining a good reputation and managing a damaged reputation). Cockrill and Nack's model[11] builds on Herek's model of sexual stigma, or "society's shared belief system through which homosexuality is denigrated, discredited and constructed as invalid relative to heterosexuality,"[22(p. 171)] as well as literature concerning the management of deviance.[23]

Many women who have abortions come from cultural or religious communities that hold negative beliefs about abortion and may therefore internalize negative views of abortion.[24] Internalized stigma can manifest as the negative views women hold toward themselves, as well as prejudicial attitudes they may hold toward other people who are directly involved in abortion (e.g., other women, providers). Felt stigma describes a stigmatized individual's perceptions of other people's attitudes toward abortion and their expectations for judgment, rejection or discrimination on the basis of those attitudes. Finally, enacted stigma describes actual experiences with other people that demonstrate to women their loss of social status following an abortion. These experiences could include gossip, name-calling, physical abuse or discrimination by health care providers.

Cockrill and Nack's conceptual model also theorizes that women employ intrapersonal and interpersonal behavioral strategies to manage the real or potential negative effects of stigma.[11] For example, in reaction to stigma, women may justify or excuse the abortion, or transfer the blame to others. Stigma is also associated with secretive behaviors, such as telling cover stories to mask the abortion or not

revealing any personal experience when abortion is a topic of conversation. In some circumstances, experiencing stigma may lead to resistance strategies, such as condemning the negative attitudes that lead to stigma and attempting to normalize the abortion experience for others.

Item Development and Cognitive Interviews

We used Cockrill and Nack's model[11] as a framework for developing our item pool. We conducted a content analysis of 20 abortion stories written by women and posted online to help us word and order the survey questions; the sites visited were Project Voice, Project Rachel, The Experience Project, I'm Not Sorry, Rachel's Vineyard and Pregnancy Help Now. Finally, we reviewed the literature on other stigma measures[25,26] and consulted with four published experts in scale validation to get feedback on the items and establish face validity. We developed an initial pool of 66 items to measure internalized stigma (seven items), enacted stigma (28 items), felt stigma (14 items) and stigma management strategies (17 items). The initial pool is available from the authors upon request.

To measure internalized stigma, we included items on women's feelings toward themselves following their abortion and their attitudes and beliefs about abortion. Because abortion is a concealable social experience, we measured felt stigma with a set of items exploring a woman's concerns about poor treatment or damage to her reputation if her abortion were to become known to others. Most women tell someone else about their abortion; therefore, we measured enacted stigma with items exploring a woman's interactions with key people in her life (the man involved in the pregnancy, her mother, health care providers and a more general category of "other people" who knew about her abortion). To measure stigma management behaviors, we included items on how often women disclosed their abortions or sought emotional support, as well as how often they concealed their abortions through omission or deception.

To refine the item pool, and assess content validity, we conducted cognitive interviews with 14 women at three family planning clinics in Northern California. The women gave verbal informed consent and were each paid $30. They were 19–44 years old and differed by race (nine were white, three black, one American Indian, one mixed-race), ethnicity (three were Latina) and monthly income ($800–4,000). The first 11 completed a paper survey that included all 66 items and then answered open-ended questions aimed at determining whether the items were being interpreted as intended and were being interpreted consistently. In addition, we assessed content validity by asking each woman to report on whether the items assessed the full range of experiences related to abortion stigma. Each interview was recorded and transcribed. After analyzing these transcripts, we revised the wording on most items and item answers to clarify meaning, clarified the survey instructions and deleted a section about postabortion medical care (eight items). Finally, in consultation with stigma scale experts, we added three items assessing attitudes toward the legality of abortion, for a total pool of 61 items.

The items were grouped under eight sections: Telling the People I Am Closest To, How I Was Treated, The Man Involved in My Pregnancy, My Mother (Or the Woman Who Raised Me), Things I Worried About, How I Felt About Myself, My Community's Attitudes and Beliefs, and My Attitudes and Beliefs. Twenty-one items (e.g., "I felt ashamed") were measured by a five-level bidirectional Likert scale (0="strongly agree," 1="disagree," 2="neither agree nor disagree," 3="agree" and 4="strongly disagree"). Eighteen items (e.g., "I have had a conversation with someone that I'm close to about my abortion") were measured by the frequency of the experience on a four-level unidirectional scale (0="never," 1="once," 2="more than once" and 3="many times"). Eleven items (e.g., "How worried were you that other people might find out about your abortion?") were measured on a four-level unidirectional scale (0="not at all worried," 1="a little worried," 2="quite worried" and 3="extremely worried"). Seven items measuring community attitudes (e.g., "How much of your community holds the following belief: abortion is a sin?") used a five-level unidirectional scale (0="no one," 1="a few people," 2="about half the people," 3="many people" and 4="most people"). Each of the remaining four items had a unique set of 3–5 possible responses. (For details on all 61 items, see Supporting Information online.)

Our final three postsurvey cognitive interviews explored the revised items and an iPad-assisted survey design. We programmed the item pool and demographic questions into iFormBuilder, a software application for conducting self-administered surveys using iPads. Interviews were recorded and transcribed. The final version of the survey was translated from English into Spanish, and the translation was tested by three fluent Spanish speakers.

Survey Implementation

We developed our recruitment plan with two important considerations: timing of the abortion and confidentiality. To adequately measure the three types of stigma and stigma management behaviors, we wished to recruit women who had had sufficient time to experience the effects of disclosing (or not disclosing) their abortion to someone else. Therefore, we sought to recruit women from a general family planning clinic population and to identify those who had had an abortion in the past. However, we did not want to "out" women who had previously had abortions, so abortion history was not a part of the inclusion criteria, and no direct disclosures of abortion experience were necessary for participation in this study.

To address these considerations, the stigma scale study was implemented along with another study on contraceptive attitudes. Both surveys were programmed for the iPad. Participants were not told that there were two questionnaires, and only women who reported a past abortion received the survey about stigma. The front desk staff

TABLE 1. Results of principal components factor analysis of items assessed for the Individual Level Abortion Stigma scale

Factor and items	Factor loading†
Worries about judgment‡	
Other people might find out about my abortion	0.78
My abortion would negatively affect my relationship with someone I love	0.79
I would disappoint someone I love	0.77
I would be humiliated	0.84
People would gossip about me	0.84
I would be rejected by someone I love	0.82
People would judge me negatively	0.86
Cronbach's α=0.94	
Eigenvalue, 9.25; 33% explained variance	
Isolation	
I have had a conversation with someone I am close with about my abortion§,††	0.75
I was open with someone that I am close with about my feelings about my abortion§,††	0.75
I felt the support of someone that I am close with at the time of my abortion§,††	0.84
I can talk to the people I am close with about my abortion‡‡,††	0.48
I can trust the people I am close to with information about my abortion‡‡,††	0.42
When I had my abortion, I felt supported by the people I was close with‡‡,††	0.46
Cronbach's α=0.83	
Eigenvalue, 3.84; 14% explained variance	
Self-judgment‡‡	
I felt like a bad person	0.71
I felt confident I had made the right decision††	0.51
I felt ashamed about my abortion	0.70
I felt selfish	0.62
I felt guilty	0.76
Cronbach's α=0.84	
Eigenvalue, 3.19; 11% explained variance	
Community condemnation§§	
Abortion is always wrong	0.77
Abortion is the same as murder	0.72
Cronbach's α=0.78	
Eigenvalue, 2.33; 8% explained variance	
Total scale: 20 items	
Cronbach's α=0.88	

†After orthogonal rotation. ‡Answer options were "not worried," "a little worried," "quite worried" and "extremely worried." §Answer options were "never," "once," "more than once" and "many times." ††Item was reverse-coded. ‡‡Answer options were "strongly disagree," "disagree," "neither agree nor disagree," "agree" and "strongly agree." §§Answer options were "no one," "a few people," "about half the people," "many people" and "most people."

provided all clients with a flyer, which stated, "This study aims to learn more about women's sexual relationships, their reproductive choices, and their experiences with and attitudes toward family planning and abortion." Then the front desk staff pointed out the study recruiter, who was sitting in the waiting room. The recruiter provided an orientation to using the iPad and was on-site to answer any questions women might have. Participants consented by reading (or being read) a consent form and selecting "I consent" on the iPad. Participants then answered questions about their demographic characteristics, including age, race, religion, education and pregnancy history. Any answers to the question "How many abortions have you had?" that were greater than zero automatically initiated the abortion stigma survey. Women who reported no abortions proceeded to the contraceptive attitudes survey. All participants were paid $20.

To achieve regional diversity, we selected six states for recruitment: California, Colorado, Florida, Michigan,

New Jersey and Tennessee. We recruited from a total of 13 Planned Parenthood health centers from January 2011 until August 2011. Women were eligible if they were seeking general reproductive health services, including pregnancy tests, STD tests, Pap smears and other routine services. None of the participating clinics offered abortion services on the day of recruitment.

We needed to select a sufficiently large, diverse and reasonably representative sample for conducting factor analysis on a scale. A participant-to-item ratio of 10 to 1 is generally considered sufficient;[27] therefore, we sought a sample of at least 610 women who had had an abortion. Of the 2,593 women who spoke with the recruiter, 2,200 (85%) agreed to participate in the study. Of these, 643 reported an abortion, and 627 completed the entire abortion stigma survey (29%). Five percent of these women elected to take the survey in Spanish.

Scale Validation

We explored item variability by examining a correlation matrix; correlations of greater than 0.30 suggest that items will hang well together in factors.[28] To explore the variability of responses, we looked at the range, mean and standard deviation of each item in our pool.[28] Most item means were toward the middle of response ranges, with standard deviations of around 1.0; exceptions were items measuring experiences of outright discrimination or violent behavior, which had low means and low variability. Finally, we conducted a Kaiser-Mayer Olkin test to measure sampling adequacy,[29] which produced a robust score of 0.86.

Principal components factor analysis was used to explore the variance in our sample and to selectively reduce the number of items in the scale. We used the Kaiser-Guttman criterion to evaluate eigenvalues (seeking eigenvalues of greater than 1) and analyzed a scree plot to select and reduce the number of factors.[30] On the basis of these analyses, we determined that our scale had a four-factor structure.

We examined item communalities to explore the extent to which each item in the factor shared variance with the underlying factor.[28] More than half of the items had communalities greater than 0.50, suggesting that the extracted factors accounted for the majority of the variance in the analyzed items. Catell's scree plot provided a visual analysis of the factors contributing to the majority of the variance in our sample.[28] We used orthogonal rotation to produce distinct and uncorrelated factors. After rotation, we produced another scree plot, which showed a similar four-factor structure, with 31 items loading greater than 0.40 on the first four factors.

We labeled our first factor "worries about judgment" because it included items examining concerns about judgment and outcomes of judgment, such as distancing, gossip and visible disapproval (Table 1). The second factor, "isolation," included items that measured the extent to which women spoke with close friends and relatives about their abortion, and the degree to which they felt supported

by them. The third factor, "self-judgment," included predominantly negative feelings toward oneself because of the abortion. The final factor, "community condemnation," measured a woman's perception of the proportion of her community who hold strongly negative views of abortion.

After extracting the factors, we followed Comrey and Lee's guidelines for selecting items for factor loadings, omitting those with factor loadings of less than 0.40.[31] We sought to remove items that split evenly between factors. Three items loaded above 0.35 on two factors; we removed two of these. The third ("I felt ashamed about my abortion") loaded high (0.70) on the self-judgment factor and low (0.36) on the worries about judgment factor. After analyzing the factor without this item, we decided to retain it in the self-judgment factor. Including the item did not seem to increase the correlation between these factors; it increased the overall interpretability and reliability of our full scale and the self-judgment factor.

To demonstrate internal consistency and reliability, we sought the highest Cronbach's alpha possible for our full scale and factors, removing any items that reduced the alpha scores.[28] We retained 20 items in our final four-factor scale. Our final alphas (0.8–0.9) reveal that our full scale and factors were internally consistent and reliable.

Our initial conceptualization suggested that abortion stigma is multidimensional. To test this hypothesis, we used pairwise correlations to examine the relationships between the factors and between each factor and the overall scale (Table 2). As expected, the factors correlated strongly with the full stigma scale (most coefficients were 0.6 or higher), yet were not strongly correlated with one another (coefficients were 0.4 or lower). Therefore, each factor can be considered its own subscale measuring an independent dimension of stigma.

We named the full measure the Individual Level Abortion Stigma scale (ILAS scale). The higher the score on the ILAS scale and subscales, the greater the stigma. Seven of the items assess positive behaviors or feelings, and are therefore inversely correlated with the other 13 items. By reverse-coding these seven items, we ensured that the scale ranges did not cross zero. Scores for the full scale and subscales were calculated by summing the item scores and dividing by the number of items. Within the scales and subscales, there are no obvious thresholds or cutoff points related to stigmatization. Thus, we recommend that the scales be used as continuous variables whenever possible. Because the subscales are not highly correlated, they can be used as independent measures of the different dimensions of stigma.

Because previous research has shown that abortion stigma leads to secrecy about abortion,[13] we tested construct validity by using logistic regression to assess the associations between our full scale and subscales and an independent measure of secrecy, expecting to see a positive relationship between stigma and secrecy behavior. The secrecy item was included in our initial factor analysis of items measuring stigma. However, it did not hang

TABLE 2. Coefficients from analyses assessing pairwise correlations between dimensions of abortion stigma

Dimension	Full scale	Worries about judgment	Isolation	Self-judgment	Community condemnation
Full scale	1.00				
Worries about judgment	0.78**	1.00			
Isolation	0.62**	0.22**	1.00		
Self-judgment	0.76**	0.42**	0.23**	1.00	
Community condemnation	0.43**	0.19*	0.11**	0.30**	1.00

*$p<.05$. **$p<.01$.

together with the items in any of our four factors. This evidence suggests that secrecy is a separate phenomenon that is related to, but not the same as, stigma or any of our factors. (Similarly, Major and Gramzow examined secrecy, disclosure and stigma as related but separate phenomena.[13])

The secrecy question was "I withheld information about my abortion from someone that I am close with." Answer categories were "never," "once," "more than once" and "many times." For ease of interpretation, we dichotomized the variable by giving a value of 0 to "never" and 1 to any answer of "once" or more.

Multivariable Regression Analysis

Using a multivariable linear regression model that accounted for clustering by clinic site, we modeled the social and demographic characteristics associated with stigma as measured by the validated scale and subscales. We chose variables that have previously been shown to be associated with abortion incidence: age at time of abortion, race, education, religion, religiosity and state of residence.[24] Because number of previous miscarriages, births and abortions emerged as relevant in our cognitive interviews, we explored variables measuring these characteristics. Also, on the basis of our cognitive interviews, we added a variable measuring time since most recent abortion partway through data collection; data on this measure were collected from 437 women. We ran bivariate analyses between each variable and our full scale and subscale variables. The final multivariable model included any independent variable that was associated (p<.05) with the overall scale or any of the subscales in our bivariate analysis.

Because the scales are linear, beta coefficients represent the mean difference in stigma scores between the various subgroups and the reference group, while controlling for the other variables in the model. Coefficients of greater than 1.0 signify that subgroups experienced more stigma than the reference group, while coefficients of less than 1.0 signify that subgroups experienced less stigma.

RESULTS
Sample Characteristics
The majority of the women reporting previous abortions were between 19 and 29 years old (Table 3, page 84). Thirty-nine percent of our sample were white, 30% black

TABLE 3. Percentage distribution of women participating in a study of abortion stigma, by selected characteristics, 2011

Characteristic	% (N=627)
Age	
15–18	5.6
19–24	33.8
25–29	24.9
30–39	23.1
>40	12.6
Race/ethnicity	
White	39.2
Black	29.8
Hispanic	19.5
Asian/Pacific Islander	5.1
Other	6.4
Education	
<high school	7.8
High school/GED	18.3
Some college	52.6
≥college degree	21.2
Religion	
Protestant	19.1
Catholic	25.6
Other Christian	13.6
Other	5.8
Not religious/don't know	35.8
Religiosity	
Not at all religious/spiritual	15.3
Somewhat religious/spiritual	65.2
Very religious/spiritual	19.5
No. of previous births	
0	50.9
1	21.2
≥2	27.9
No. of previous abortions	
1	66.0
≥2	33.9
No. of miscarriages	
0	80.0
≥1	20.0
Time since abortion†	
<1 year	18.0
1–4 years	24.9
5–9 years	12.3
10–49 years	13.7
Missing	31.1
Total	100.0

†Question was added in February 2011; 437 women responded. *Notes:* Women were recruited at 13 Planned Parenthood health centers in six states. Percentages may not total 100.0 because of rounding.

and 20% Hispanic; 5% were Asian or Pacific Islander, and 6% were of some other race. Fifty-three percent had some college experience. Fifty-eight percent of women identified themselves as Christian, and most considered themselves at least somewhat religious or spiritual (85%). Half were already mothers, a third had experienced more than one abortion and a fifth had experienced at least one miscarriage. Forty-three percent of all women (and 62% of the 437 who were asked the question) had had their most recent abortion in the previous four years.

Scale Scoring

Respondents' scores were concentrated on the low end of the full scale and averaged 1.4 (Table 4). Responses to the isolation subscale were also concentrated on the low end, with a mean score of 1.2, as were those on the worries about judgment subscale (mean, 0.9); one-quarter of respondents selected "not at all worried" for every item in the judgment factor. By contrast, responses on the self-judgment scale were concentrated on the high end of the scale, though the mean score was 2.0, directly in the middle of the scale. The community condemnation subscale was the most evenly distributed of all the scales and had a mean score of 1.9.

Scale Validity

We assessed construct validity for the full scale and subscales by looking for associations between the scales and the independent measure of secrecy. Sixty-four percent of our sample reported that they withheld information one or more times from someone they were close to. Using logistic regression, we found a strong association between the full scale and withholding information from someone at least once (odds ratio, 3.3; 95% confidence interval [CI], 2.7–4.1). Even after social and demographic factors and clustering among the sites were controlled for, we also found strong associations between secrecy and the worries about judgment subscale (2.2; 95% CI, 1.7–2.9), the isolation subscale (1.8; 95% CI, 1.5–2.2), the self-judgment subscale (1.5; 95% CI, 1.5–1.7), and the community condemnation subscale (1.3; 95% CI, 1.1–1.6).

Multivariable

The final model included any demographic variable that was associated with the scale variables at the bivariate level; on this basis, abortion history and miscarriage were excluded from the final model (Table 5).

Scores varied by every characteristic except for length of time since the abortion occurred. Women who were aged 25–29, 30–39, or 40 or older at the time of the survey scored lower on the full scale than women aged 19–24 (coefficients, –0.17, –0.15 and –0.23, respectively). Women aged 40 or older scored lower on the worries about judgment subscale than women aged 19–24 (–0.29). On the self-judgment subscale, women in the three oldest age categories all scored lower than women aged 19–24 (–0.54 to –0.28). On the community condemnation subscale, women aged 25–29 scored lower than their 19–24-year-old counterparts (–0.24).

TABLE 4. Mean scores (and standard deviations) for the full scale and subscales

Scale	N	Mean
Full scale (range, 0.0–3.5)	643	1.35 (0.63)
Worries about judgment (range, 0.0–3.0)	631	0.86 (0.86)
Isolation (range, 0.0–3.5)	641	1.21 (0.81)
Self-judgment (range, 0.0–4.0)	630	2.00 (1.03)
Community condemnation (range, 0.0–4.0)	629	1.85 (1.07)

TABLE 5. Coefficients (and 95% confidence intervals) from multivariable regression analyses assessing differences in mean scores on the full scale and subscales, by selected participant characteristics

Characteristic	Full scale	Worries about judgment	Isolation	Self-judgment	Community condemnation
Age					
15–18	0.20 (–0.04–0.43)	0.34 (–0.02–0.71)	0.07 (–0.16–0.31)	0.09 (–0.45–0.62)	0.23 (–0.03–0.49)
19–24	ref	ref	ref	ref	ref
25–29	–0.17* (–0.29 to –0.04)	–0.12 (–0.32–0.07)	–0.08 (–0.28–0.12)	–0.28** (–0.47 to –0.10)	–0.24* (–0.43 to –0.05)
30–39	–0.15* (–0.29 to –0.01)	–0.07 (–0.24–0.09)	–0.07 (–0.24–0.10)	–0.33** (–0.55 to –0.12)	–0.15 (–0.41–0.10)
≥40	–0.23** (–0.40 to –0.07)	–0.29* (–0.53 to –0.05)	0.12 (–0.22–0.46)	–0.54** (–0.86 to –0.23)	–0.06 (–0.31–0.19)
Time since abortion					
<1 year	ref	ref	ref	ref	ref
1–4 years	–0.07 (–0.20–0.06)	–0.10 (–0.27–0.08)	–0.04 (–0.24–0.15)	–0.05 (–0.26–0.16)	–0.03 (–0.39–0.34)
5–9 years	0.06 (–0.12–0.23)	–0.14 (–0.36–0.07)	0.26 (–0.03–0.55)	0.10 (–0.16–0.37)	–0.06 (–0.50–0.38)
10–49 years	0.09 (–0.12–0.31)	0.06 (–0.15–0.28)	0.12 (–0.24–0.48)	0.13 (–0.20–0.45)	–0.21 (–0.69–0.27)
Missing	0.04 (–0.10–0.18)	0.01 (–0.18–0.19)	0.10 (–0.11–0.32)	0.03 (–0.19–0.24)	–0.04 (–0.38–0.30)
Race/ethnicity					
White	ref	ref	ref	ref	ref
Black	–0.08 (–0.26–0.11)	–0.40** (–0.62 to –0.19)	0.12* (0.01–0.24)	0.00 (–0.31–0.31)	0.19 (–0.11–0.49)
Hispanic	0.14 (–0.04–0.33)	0.16 (–0.04–0.37)	0.12 (–0.05–0.28)	0.19 (–0.18–0.56)	0.07 (–0.19–0.32)
Asian/Pacific Islander	0.01 (–0.20–0.22)	0.00 (–0.31–0.30)	–0.05 (–0.23–0.13)	0.09 (–0.27–0.46)	0.07 (–0.28–0.43)
Other	–0.05 (–0.27–0.16)	–0.06 (–0.33–0.20)	–0.02 (–0.34–0.31)	–0.10 (–0.37–0.16)	–0.01 (–0.30–0.29)
Education					
<high school	0.00 (–0.16–0.16)	–0.23 (–0.52–0.06)	0.09 (–0.23–0.42)	0.20 (–0.09–0.49)	0.30 (–0.15–0.76)
High school/GED	–0.07 (–0.19–0.05)	–0.14 (–0.33–0.04)	–0.15* (–0.29–0.00)	0.05 (–0.14–0.24)	0.10 (–0.10–0.31)
Some college	ref	ref	ref	ref	ref
≥college degree	0.02 (–0.15–0.18)	0.12 (–0.06–0.30)	–0.09 (–0.29–0.11)	0.00 (–0.27–0.27)	0.08 (–0.18–0.34)
Religion					
Protestant	0.23** (0.08–0.38)	0.26* (0.05–0.47)	0.26* (0.03–0.50)	0.20 (–0.14–0.53)	0.16 (–0.13–0.44)
Catholic	0.18* (0.04–0.33)	0.13 (–0.12–0.38)	0.20* (0.01–0.38)	0.21 (–0.10–0.53)	0.28* (0.07–0.49)
Other Christian	0.12 (–0.08–0.31)	0.13 (–0.17–0.44)	0.09 (–0.16–0.35)	0.21 (–0.13–0.56)	–0.08 (–0.37–0.21)
Other	0.15 (–0.11–0.41)	0.03 (–0.29–0.34)	0.19 (–0.05–0.43)	0.14 (–0.36–0.64)	0.31 (–0.22–0.84)
Not religious/ don't know	ref	ref	ref	ref	ref
Religiosity					
Not at all religious/ spiritual	–0.14* (–0.25 to –0.03)	–0.24* (–0.42 to –0.06)	0.06 (–0.12–0.24)	–0.27* (–0.48 to –0.05)	–0.14 (–0.45–0.17)
Somewhat religious/ spiritual	ref	ref	ref	ref	ref
Very religious/ spiritual	0.08 (–0.02–0.17)	–0.02 (–0.19–0.14)	–0.05 (–0.22–0.11)	0.26* (0.07–0.45)	0.25* (0.04–0.47)
Previous birth					
No	ref	ref	ref	ref	ref
Yes	–0.02 (–0.10–0.05)	–0.24** (–0.37 to –0.11)	0.12 (–0.01–0.26)	0.07 (–0.08–0.22)	0.06 (–0.08–0.20)

*p<.05. **p<.01. *Notes:* Multivariable models were adjusted for clustering effects by site. ref=reference group.

Race was not associated with differences in scores on the full scale. However, black women scored lower than white women on the worries about judgment subscale (coefficient, –0.40) and higher than white women on the isolation scale (0.12).

The only difference we found related to educational background was on the isolation subscale. Compared with women who completed some college, women who completed only high school scored lower (coefficient, –0.15).

Religious denomination and religiosity were associated with perceptions of stigma. Women who were Protestant or Catholic scored higher on the full scale than women who were not religious (coefficients, 0.23 and 0.18, respectively). Protestant women scored higher on the worries about judgment subscale than women who were not at all religious (0.26). Both Protestant and Catholic women scored higher on the isolation subscale than women who were not at all religious (0.26 and 0.20, respectively). In addition, Catholic women scored higher on the community condemnation subscale than women who were not religious (0.28).

Women who were not at all religious or spiritual scored lower on the full scale than women who were somewhat religious or spiritual (coefficient, –0.14). Religiosity was also associated with differences in scores on three subscales. Women who were not at all religious or spiritual scored lower on the worries about judgment subscale than women who were somewhat religious (–0.24). Compared with the somewhat religious group, women who were not at all religious scored lower on the self-judgment subscale (–0.27) and women who were very religious or spiritual scored higher (0.26). Finally, women who were very religious or spiritual scored higher on the community condemnation subscale than women who were somewhat religious (0.25).

Women who had had a previous birth scored lower on the worries about judgment subscale than women who had not (coefficient, –0.24).

DISCUSSION

We developed a brief scale to measure four dimensions of the stigma associated with having an abortion: worries about judgment, isolation, self-judgment and community condemnation. Each subscale is correlated with the full scale, but not highly correlated with the other subscales. Thus, the subscales can be used as independent measures. The distributions of responses in our sample were concentrated on the low end of our full scale and all subscales except the one measuring self-judgment.

The final scale is distinct from our original conceptual model of internalized, felt and enacted stigma and stigma management behaviors. Felt stigma split into two factors in the final scale: worries about judgment and community condemnation. Internalized stigma became the self-judgment factor. We had hypothesized that internalized stigma would also encompass negative attitudes toward abortion, but the items measuring these attitudes did not hang together with this factor. Enacted stigma and stigma management behaviors did not factor into our final scale. Few women reported experiencing enactments of stigma, especially from multiple sources at once. The infrequency of these experiences, combined with the fact that different types of enactments did not occur, may explain why a factor measuring enactments did not emerge from our analysis. It is possible that our measure was not sensitive enough to accurately measure the types of enacted stigma that women encounter.

However, a new factor, consisting of perceptions and experiences of support, emerged. This factor was inversely related to the rest of the items on the scale, and when we reverse-coded its components, we understood it as a measure of isolation. One possible explanation of the emergence of this factor and the low frequency of enactments in our sample follows from research suggesting that U.S. women selectively disclose their abortions only to those who are likely to be supportive.[13] (Limited and selective disclosure are common strategies for individuals facing stigma related to HIV infection as well.[32,33]) Women who perceive stigma around them have fewer opportunities for disclosure and may experience more isolation.

Our analyses revealed several associations between religion and abortion stigma. Protestant women were more worried about judgment and were more isolated than nonreligious women, while Catholic women were more likely to be isolated from social support and more likely to perceive their community as hostile to abortion. Higher levels of self-judgment and increased perception of community condemnation were found among those women with the strongest religious beliefs compared with women who were only somewhat religious. Religious treatment of abortion varies substantially; however, the Catholic Church and many Protestant denominations are strongly opposed to abortion. Among religious subgroups, white evangelical Christians have the strongest antiabortion views, and highly religious Protestant women have a lower likelihood of having an abortion than nonreligious women.[4,34] Yet, one in five abortion patients identify themselves as evangelical, fundamentalist or born-again Christian,[24] and Catholic women have abortions at a rate similar to that of all women.[34] Highly religious Christian women have abortions; our research suggests that these women are at the greatest risk for stigma.

Black women were less worried about judgment related to abortion than white women in our sample. There are several possible explanations for this difference. Black Americans, even black Protestants, are more prochoice than the general population.[4] Therefore, black women may come from communities with less stigmatizing attitudes. Also, some groups respond to stigma by developing self-protective factors, such as attributing negative attitudes to prejudice, that can reduce worry about the validity of the attitudes and concerns about the meaning of such judgments.[18] Current research on black women in the United States suggests that they are more likely to report and be negatively affected by gendered racism rather than sexism or racism alone.[35] More research is necessary to understand how abortion stigma may interact with the multiple oppressions faced by black women.

Half of the women had previously given birth, and a third had had more than one abortion. Having multiple abortions was not associated with stigma on any of the scales. However, women who had given birth scored lower on the worries about judgment subscale than women who had never given birth. Most women who have abortions are mothers.[1] We hypothesize that because motherhood is such a valued social role, desiring an abortion for the welfare of existing children offers some protection against the sense of being judged because of an abortion. Likewise, the responsibilities of raising children may require so much attention that women in this group may have less time or emotional space to be concerned with the negative judgments of others.

Strengths and Limitations

In contrast to previous studies, ours allowed women to account for their experiences of stigma not only at the time of their abortion, but also later. However, reports on past experiences can be subject to recall bias. We attempted to address this possibility in two ways. First, in our cognitive interviews, we asked women to comment on how the length of time since their abortion affected their memory of the feelings and experiences associated with the event. Women reported feeling confident in their ability to recall the experience of the abortion and the emotions they felt at the time. Once we implemented the survey, we added a question asking women to report on how much time had passed since their abortion. Of the 437 women who responded to this question, 62% reported that their most recent abortion was within the last four years. In our

multivariable analysis, this measure was not associated with any dimension of stigma.

The study of abortion experiences is vulnerable to selective underreporting: Women who feel the most stigma may be the least likely to report their past abortions. Underreporting of abortion varies widely and can be highly context-dependent. Self-administered, computer-assisted designs facilitate better reporting of pregnancy history.[36–38] To increase reporting, we developed a recruitment protocol that did not require any direct disclosure of abortion experience, and the survey was self-administered using tablet computers. The level of abortion reporting in this study (29% of women reported a history of abortion) is consistent with national rates,[39] indicating that abortion underreporting was minimal.

Ours is not a nationally representative random sample. Because it is a sample taken from family planning clients, the group may deviate demographically in several ways, including being younger and poorer than the broader population of women who have had abortions. Even so, our sample reflects much of the diversity found in national samples of women who have had abortions in the United States.

Conclusion

The ILAS scale can be used to evaluate the efficacy of initiatives aimed at reducing stigma, including programs within clinics, postabortion talklines, and online or in-person support groups. Also, because stigma may affect mental or emotional health, the scale can be used in research on women's mental health outcomes associated with abortion. We recommend that researchers who are interested in global abortion stigma look back to the original 61-item survey as they develop their tools, because enacted stigma may be more prevalent in other cultures than it was in our sample. Components of the scale could be adapted, with minimal rewording, as measures of community attitudes toward abortion. The full scale can also be translated and adapted for researchers working on abortion stigma in other cultures, including contexts where abortion is not legal. The data from our multivariable analysis may be used to guide the development of future research, including research on interventions aimed at reducing stigma among women who have abortions. Finally, we encourage researchers to continue to expand knowledge about abortion stigma by developing additional measures for other constituents, contexts and cultures.

SUPPORTING INFORMATION

Additional Supporting Information may be found in the online version of this article on Wiley Online Library:

Appendix S1. Introduction to Survey.

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