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## The Misclassification of Ambivalence in Pregnancy Intentions: A Mixed-Methods Analysis

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### Abstract

**CONTEXT**—Researchers have developed various measures of pregnancy ambivalence in an effort to capture the nuance overlooked by conventional, binary measures of pregnancy intention. However, the conceptualization and operationalization of the concept of ambivalence vary widely and may miss the complexity inherent in pregnancy intentions, particularly for young people, among whom unintended pregnancy rates are highest.

**METHODS**—To investigate the utility and accuracy of current measures of pregnancy ambivalence, a mixed-methods study was conducted with 50 young women and their male partners in northern California in 2015–2016. Survey data were used to descriptively analyze six existing pregnancy ambivalence measures; in-depth interviews addressing pregnancy desires and plans were deductively coded and thematically analyzed to understand why some participants appeared to be ambivalent from the survey data when their interview responses suggested otherwise.

**RESULTS**—Eighty participants would be considered ambivalent by at least one measure. After assessment of the interview data, however, these measures were deemed to have misclassified almost all (78) participants. Qualitative analysis revealed several themes regarding misclassification: conflation of current pregnancy desires with expected postconception emotional responses; acceptability of an undesired pregnancy; tempering of survey responses to account for partners' desires; perceived lack of control regarding pregnancy; and, among participants with medical conditions perceived to impact fertility, subjugation of pregnancy desires in the interest of self-protection.

**CONCLUSIONS**—Current approaches to measuring pregnancy ambivalence may fail to capture the intricacies of pregnancy intentions and may be ineffective if they do not account for young people’s experiences, especially when used to inform clinical practice, programs and policy.

For decades, researchers have called for improvement in the measurement of pregnancy intentions,<sup>1–6</sup> and some studies have suggested that standard survey measures likely misclassify many people’s actual desires and intentions.<sup>7,8</sup> Moreover, the concept of pregnancy planning may not be relevant to all individuals, particularly members of groups considered at greatest risk for unintended pregnancy, such as low-income women and women of color.<sup>6,9–11</sup> Indeed, several qualitative studies describe women’s beliefs that pregnancies “just happen,” that pregnancy planning is not possible, that the ideal circumstances for pregnancy planning may be unattainable, and that the binary of planned and unplanned pregnancy incompletely reflects young people’s perspectives.<sup>9,12–14</sup> These findings suggest a chasm between the lived experiences of individuals and current approaches to categorizing pregnancies, leading to the misclassification of pregnancy intentions and therefore reducing the validity of research regarding unintended pregnancy.

Currently, pregnancy intentions are measured in a variety of ways, both retrospectively and prospectively. Classic timing-based, retrospective measurement commonly focuses on determining whether a pregnancy was wanted at the time it occurred. Unintended pregnancies may be classified as mistimed (occurring too soon) or unwanted (not desired ever).<sup>1</sup> Prospective measurement has encompassed a range of attitudinal and behavioral constructs, including happiness and other feelings about pregnancy, the importance of avoiding pregnancy, pregnancy desire, whether one is trying or planning to become pregnant, and parenting “readiness.”<sup>15–19</sup> Importantly, these measures capture various dimensions of perceptions of pregnancy that may not be parallel to or constitute “intention.”<sup>2,15</sup>

Contraceptive use has also been included in pregnancy intention measurement,<sup>1,20,21</sup> despite a robust literature indicating that contraceptive decision making includes many considerations beyond pregnancy intentions, such as side effects, access, affordability and relationship dynamics.<sup>3,5,22–24</sup> As Klerman noted, these measures and the scholarship that relies on them reflect an assumption that “becoming pregnant is a very rational activity based on planning and forethought.”<sup>3(p. 161)</sup> Such assumptions may undergird the presumed logical relationship between pregnancy intentions and contraceptive use, and lead to research and interventions that neglect the constellation of factors that inform pregnancy preferences and intentions, including structural ones, such as social position, educational and career opportunities, and experiences of income inequality and poverty.<sup>9,25,26</sup>

Researchers have also highlighted the gray area in pregnancy intentions that cannot be neatly captured in binaries such as intending versus not intending, planning versus not planning, and avoiding pregnancy versus trying to become pregnant.<sup>1,3</sup> The nebulously defined concept of pregnancy ambivalence is often used to describe perceived inconsistencies among pregnancy intentions, feelings about pregnancy and contraceptive use, as well as overall uncertainty about intentions.<sup>20,21,27–30</sup> Some researchers suggest that ambivalence in pregnancy intentions may be a relatively common—and perhaps expected—state,

particularly for young people.<sup>20,29,31</sup> For example, one analysis identified pregnancy ambivalence on the basis of inconsistent answers to questions regarding the importance of avoiding pregnancy and the feelings one would have if one were pregnant today; it found that 36% of women and 53% of men in a nationally representative sample of unmarried young adults were ambivalent.<sup>21</sup> In a study of women in urgent care clinics, respondents were asked, “Are you currently trying to get pregnant or avoid pregnancy?” Twenty-nine percent of the sample were classified as ambivalent because, when asked if they were trying to get pregnant or avoid pregnancy, they responded “don’t know,” “wouldn’t mind getting pregnant” or “wouldn’t mind avoiding pregnancy.”<sup>27</sup>

Ambivalence has also been measured by assessing whether respondents agreed with the statement “Sometimes I think I am ready to get pregnant and other times I think I am not.” In a study using this approach, 38% of 16–40-year-olds were classified as ambivalent.<sup>32</sup> Yet another study used a different approach: Participants were considered ambivalent if they responded that they were “okay either way” to a question asking if they were currently trying to become pregnant; nearly a quarter of respondents were classified as ambivalent.<sup>33</sup> The variation in these findings may be due to different sampling approaches, the types of questions asked and response options, and methods of calculating responses (e.g., whether scores were generated by averaging responses across all pregnancy intention questions or by counting the number of midscale “ambivalent” responses).<sup>34</sup>

But do these measurement approaches truly capture ambivalence? The dictionary definition of ambivalence is “simultaneous and contradictory attitudes or feelings (as attraction and repulsion) toward an object, person, or action” or “uncertainty as to which approach to follow.”<sup>35</sup> As such, current measurements fail to conceptualize and operationalize the nuances of the term: Ambivalence is its own construct, and its meaning may shift as an individual deals with the issues at hand, is pulled between two poles or is truly uncertain. Further limitations are the reliance on unidimensional measures and the conflation of distinct constructs into “ambivalent intentions.” That is, some measures presume that responses to items capturing different constructs (such as feelings about pregnancy and desire to avoid pregnancy) are inherently contradictory or opposite sides of the same construct. Aiken and colleagues<sup>17</sup> conducted qualitative interviews with women in Texas who wanted no more pregnancies but would be happy about an unplanned pregnancy — “incongruent” responses that some researchers<sup>21,36</sup> describe as ambivalence in pregnancy intentions. However, their analysis revealed that respondents’ survey answers did not reflect ambivalence, but rather a deep love of children, a belief in “God’s will” and social pressure to regard pregnancies positively, despite sincere intentions to avoid pregnancy. A longitudinal study of young U.S. women defined ambivalence as simultaneously having positive and negative pregnancy desires, and found that few participants were ambivalent.<sup>37</sup>

Though little quantitative research has unpacked the complexities of pregnancy ambivalence, qualitative data suggest the current approaches to measuring it may fail to operationalize its true meaning and may misclassify individuals as ambivalent when they are actually quite clear about their intentions. Given these questions, we used a mixed-methods approach to investigate the utility and accuracy of measures, with the goal of informing new approaches that advance a more holistic understanding of pregnancy intentions.

## METHODS

### Data Collection

Data were drawn from the Young Couples Study, a qualitative study of 50 couples (100 individuals) conducted in 2015–2016 to guide the development of new measures of pregnancy intentions. The sample was sufficiently large to encompass participants of varied races and ethnicities, education levels and parental statuses, and was chosen using theoretical sampling, an approach by which researchers iteratively select individuals throughout data collection to yield maximum variation in the data. Theoretical sampling allows for a wide range of themes and concepts to emerge during data analysis.<sup>38</sup>

For couples to be eligible, the female partner had to identify as being Latina or Hispanic, black or African American, Asian or white; be 18–24 years old; not be pregnant or trying to become pregnant; and be able to identify a primary male partner who was 18 or older and with whom she was sexually active and had been in a relationship for at least two months. We used this cutoff to reflect the minimum duration of sexual relationships for the majority of U.S. adolescents and young adults in romantic relationships. In addition, the age range used in the study allowed us to collect information from women during the developmental period in which they have the highest rates of unintended pregnancy.<sup>39–41</sup> Both members of the couple had to reside in the San Francisco Bay Area and be willing to participate.

We recruited individuals through Craigslist and Facebook advertisements, and through flyers and postcards distributed at community agencies and clinics, community colleges and universities. Interested individuals completed a brief eligibility screening survey online or by telephone; those who were eligible were invited to provide contact information for their partner and share the study website and phone number so partners could complete the screening. During the screening process, women answered several questions regarding their pregnancy intentions to ensure that a range of statuses was represented in the study; men were not asked comparable questions during screening. The Committee for Protection of Human Subjects at the University of California, Berkeley, approved the study protocol.

After providing informed consent, each participant completed a paper survey about sociodemographic characteristics and prospective pregnancy intentions that included existing measures of pregnancy ambivalence.<sup>15,21,27,42,43</sup> Trained members of the study team then conducted in-depth interviews in private spaces at universities, libraries and community organizations in the San Francisco Bay Area; partners were interviewed separately and simultaneously by an interviewer of the same gender. Interviewers used a semistructured guide to elicit information on relationship history and dynamics; contraceptive use; and pregnancy intentions, desires and attitudes. The guide was developed using the literature on pregnancy intentions and ambivalence, and was piloted and refined during the interview training process, in which each of the eight interviewers completed at least two practice interviews.

Participants were asked open-ended questions regarding pregnancy intentions, desires and attitudes; they were also asked if they would like to get pregnant or have their partner do so in the future, when the ideal time for a pregnancy would be and how they would feel if they

found out they or their partner were pregnant today. Additionally, interviewers explored participants' answers to survey items about pregnancy intentions to elucidate how individuals understood these questions and why they selected their responses. The mean interview length was 77 minutes (range, 46–132). Digital audio recordings were professionally transcribed verbatim. Research staff verified the accuracy of the de-identified transcripts by listening to the recording while reviewing the transcript. Each participant received \$30.

### **Pregnancy Ambivalence Measures**

Using the eligibility screening survey for women and the interview demographic survey for women and men, we assessed six previously used, prospective measures of pregnancy ambivalence. Three of the measures were included in both surveys, two only in the screener survey and one only in the interview survey; thus, we had a total of nine data points for women and four for men. We chose the measures on the basis of previous uses in the ambivalence literature, and made minor question and response option alterations where needed for our study and population (e.g., for men, including reference to their partner's becoming pregnant).

In the first measure (“incongruence”),<sup>21,36</sup> we captured a classification of ambivalence that relies on detecting incongruent responses to two questions (included in both the screener and the interview survey): “Thinking about your life right now, how important is it for you to avoid becoming/getting someone pregnant?” and “If you found out today that you were/your partner was pregnant, how would you feel?” For the first question, four response options ranged from “not at all important” to “very important,” and a fifth was “don't know.” For the second, the six response options were “very happy,” “a little happy,” “wouldn't care,” “a little unhappy,” “very unhappy” and “don't know.” Participants were classified as ambivalent if they had any combination of responses other than “very important to avoid pregnancy” and “very unhappy,” or “not at all important” and “very happy.”

A second measure (“how would you feel”)<sup>42–44</sup> used only the question on feelings if pregnant (or if a partner were pregnant) today to capture the appearance of indifference or uncertainty toward pregnancy. For this, individuals were classified as ambivalent if they indicated in either survey that their expected emotional response was “wouldn't care” or “don't know.” In a third measure (“importance of avoiding”),<sup>21</sup> participants were classified as ambivalent if they responded “don't know” to a question regarding the importance of avoiding pregnancy in the screener or interview survey. In the interview survey only, a fourth measure (“trying or avoiding”)<sup>15,27</sup> captured indifference. Participants were asked, “Are you [and your partner] currently trying to get pregnant or avoid pregnancy?” Response options were “I am/my partner is currently pregnant,” “I am/my partner is trying to get pregnant,” “I wouldn't mind getting/if my partner got pregnant,” “I wouldn't mind avoiding pregnancy,” “I am trying to avoid pregnancy” and “I don't know.” Those who indicated they would not mind getting pregnant, would not mind avoiding pregnancy or did not know were classified as ambivalent.

A fifth measure (“ready”)<sup>32</sup> captured readiness for pregnancy; the screener asked women, “Are you currently ready to become pregnant?” Response options were “yes,” “sometimes I

think I'm ready, and other times I think I'm not" and "no." Individuals were classified as ambivalent if they selected the middle option. Finally, a sixth measure ("okay either way")<sup>33</sup> asked women in the screener, "Are you currently trying to get pregnant?" Response options were "yes," "I am okay either way" and "no." Those who selected the middle option were classified as ambivalent.

## Analysis

We used Stata version 15.1 to compute frequencies for all quantitative measures. For the qualitative analysis, we employed a deductive coding approach using Dedoose, a web-based mixed-methods program. Codes were determined a priori using the interview guide and captured participants' perspectives on pregnancy. For individuals who appeared to be ambivalent by at least one measure, coded data capturing current pregnancy perspectives were entered into a data matrix.<sup>45</sup> Full interview narratives were reviewed to contextualize these participants' perspectives. If individuals did not appear to be ambivalent from their qualitative narratives—that is, they were misclassified as ambivalent by the quantitative approach—interview data were further examined to understand their survey responses. Through such iterative examination, we generated qualitative themes that elucidated why individuals had been misclassified.

In the following, we present quantitative and qualitative data to represent and contextualize participants' feelings and behaviors regarding pregnancy, and to assess how well current measures of ambivalence are able to capture individuals' pregnancy outlooks.

## RESULTS

### Sample Characteristics

The mean age of the sample was 23, and participants reported diverse racial and ethnic backgrounds; 65% were people of color (Table 1). Thirty percent of participants were attending a four-year college, while 20% were college graduates. Forty-one percent were parents, and 71% had been in their current relationship for a year or longer. Six in 10 had private insurance, while nearly a third had public insurance.

### Quantitative Findings

The vast majority (80%) of the sample would be considered ambivalent on at least one of the studied measures (42 women and 38 men). Notably, all but one of the parents (40) were classified as ambivalent. Considering only the four data points in the interview survey (referring to questions asked of all participants), 74% of participants were classified as ambivalent (36 women and 38 men).

In both the screener and the interview surveys, the measure that led to the largest proportion of participants' being classified as ambivalent was incongruence (Table 2). This measure alone led to 74% of women being classified as ambivalent in the screener and 69% of women and men being classified as ambivalent in the interview survey. Most of these individuals reported that they had some feelings of happiness about a potential pregnancy and that it was important to avoid one; none said they would be very unhappy about a

pregnancy and that avoiding a pregnancy was not at all important. For many participants, this was the only measure by which they were classified ambivalent; removing this measure reduced the overall proportion of participants classified as ambivalent to 48%.

Twenty percent of women in the screener and 26% of all participants in the interview survey said they would not care or did not know how they would feel if they found out they were (or their partner were) pregnant today. The least common type of misclassification resulted from individuals' saying that they did not know how important it was to them to avoid pregnancy (2% in both surveys). In the interview survey, about one-fifth (21%) of participants selected an ambivalent response to a question about whether they were currently avoiding or trying for pregnancy. On the screener, more than a third (36%) of women selected "sometimes I think I'm ready, and other times I think I'm not" in response to questions regarding their current pregnancy readiness, and nearly a fifth (18%) reported being "okay either way" when asked if they were currently trying to become pregnant.

### Qualitative Findings

Despite the quantitative classifications, the overwhelming majority of participants were not ambivalent on the basis of their qualitative responses. Of the 80 individuals classified as ambivalent by survey responses, only two appeared ambivalent from their qualitative data, indicating that 78% were misclassified according to at least one of the traditional quantitative constructions of pregnancy ambivalence. These participants had clear and concrete prospective pregnancy desires—that is, their interviews revealed little ambiguity about their current desire for pregnancy or to avoid pregnancy. This begs the question: Why did participants appear ambivalent on quantitative measures? Our thematic analysis of qualitative data suggested several possible explanations. These five themes were not mutually exclusive, and multiple themes typically applied to the experiences of individual participants.

•**Current desires and expected postconception feelings**—Though many participants were clear that they were not trying to become pregnant, or to get their partner pregnant, some reported feeling that an unexpected pregnancy “wouldn't be the worst thing in the world,” or that they would be happy with a pregnancy, even if they did not currently desire one. In the quantitative analysis, incongruence among responses to questions assessing the importance of avoiding pregnancy and expected feelings about a pregnancy was the most frequent reason participants were classified as ambivalent. However, this construction of ambivalence is particularly sensitive to misclassification owing to the conflation of pregnancy affect and intentions. Though planning for a pregnancy and expectations of pregnancy happiness are logically distinctive constructs, this measure of ambivalence presumes that if someone would be happy with a pregnancy, that individual must desire one. For example, it would be incongruent to be happy about an unexpected pregnancy when one believes it is very important to avoid pregnancy. In our analysis of the qualitative data, we found that participants with such incongruent responses were, for the most part, not ambivalent at all. Instead, they had a very clear sense of their intentions, plans and desires.

We found that individuals' pregnancy intentions and perceived emotional responses to a potential pregnancy often operated independently and that possible feelings of happiness regarding an unintended pregnancy did not constitute actual ambivalence. For example, when a participant who was avoiding pregnancy was asked how she would feel if she found out she were pregnant today, she responded:

“Happy a little bit, but also a little scared and nervous. But there would be a feeling of happiness, too, because I'd be like, I think it's such a beautiful thing, and you know, I'd be like, oh, it's ours, like that's beautiful.”—*23-year-old white woman*

This participant was not ambivalent in the least in her intentions, and noted that she would likely choose to have an abortion in the event of an unexpected pregnancy. However, she was designated ambivalent by quantitative measures because her expected emotional responses deviated from what might be considered congruent intentions and emotions. A 21-year-old Latina woman also described having mixed feelings: “It's not something I would like really want, but if I found out I was pregnant I would still be, I would still be happy about it.” In addition, a few women who were actively avoiding pregnancy reported feeling that pregnancy would not be “the end of the world” because they could manage the situation by getting an abortion. These participants were categorized as ambivalent by traditional measures because their confidence in their ability to obtain an abortion gave the appearance of incongruence between intention and emotional response.

•**Making it work**—Some participants did not desire a pregnancy at the time of the interview but felt they could handle parenting or would have an obligation to parent if they or their partner became pregnant. These individuals' qualitative responses revealed that their answers to quantitative measures regarding their true desires—not to become pregnant—were sometimes in conflict with their moral values. A 21-year-old Latina woman strongly wanted to avoid pregnancy, as she was still in school and felt it might interfere with her life plans. Even so, she felt that an abortion would not be an option. She was classified as ambivalent because she indicated that it was very important to avoid pregnancy and that she would feel “a little unhappy,” as opposed to “very unhappy,” if she found out she was pregnant today. She explained:

“Yes, I do believe that, you know, if I get pregnant, it happens for a reason, and all children are like blessings. And so I'm not going to be, you know, like upset because the baby, it's not at fault for my decisions. And so it happened, it's my fault, but now there is nothing I can do about it, and I'm just going to make the best of it.... Or even if I get pregnant now, like I know why, because I'm not on any kind of birth control, and I'm still risking it by having sex with my boyfriend. So like I said, I definitely don't want to get an abortion or anything like that, so I would just try to make the best of it.”

Like this participant, those guided by their moral values tended to provide ambivalent survey responses because the strongest options—for example, being very unhappy if they or their partner were pregnant today—did not feel applicable to them, given that they would not choose an abortion, even if the pregnancy were undesired. This was particularly true for



participants who would continue an unplanned pregnancy exclusively because of moral objections to abortion.

Some participants were classified as ambivalent on quantitative measures because, though they did not actively desire a pregnancy, they believed they would accept an unexpected pregnancy and could “make it work.” This was particularly salient for participants who were already parenting; the experience of being a parent made them feel that they could handle another child. These respondents rarely chose extreme response options, such as indicating that it is “very important” to avoid pregnancy. This was also the case for a 22-year-old multiracial woman who was not a parent; she described a conversation with her partner during a pregnancy scare, in which he said: “We’re going to be okay.... If it came down to it, though, we would rise to the occasion because no one is truly ready, even when you prepare for it to the T.”

In their interviews, both members of this couple expressed certainty that “now is not the right time” and, therefore, did not appear ambivalent about their current intentions. Even so, they were classified as ambivalent on quantitative measures because their feelings that they would be “okay” with an unexpected pregnancy resulted in the “middle ground” or “conflicting” responses that have been equated with ambivalence. In addition, the woman reported that she would not mind avoiding pregnancy and sometimes felt ready, but sometimes not, for a pregnancy.

**•Relationship context**—In our full sample, about one-fifth of couples had current pregnancy desires that did not align, mostly owing to one partner’s desire for a pregnancy and the other’s desire to avoid pregnancy because of relationship instability or structural impediments, such as lack of home ownership or a stable career. For example, one man said he wanted to avoid another pregnancy until he had “a more secure home” and was able “to pay the bills right.”

“[Our daughter] sometimes needs diapers, she sometimes needs wipeys, and sometimes that tells me, like, if we have another baby, we’re going to need double the diapers and double the wipeys, and it’s going to take more responsibility, more hours to work.”—*18-year-old Latino man*

He went on to describe how their situation influenced his partner’s desire to avoid pregnancy in the near future. His 18-year-old Latina partner, however, expressed a desire to have more children, but noted the importance of avoiding pregnancy in light of her partner’s desires: “I try to talk to him about it, but it’s nonnegotiable with him. When he says no, it’s just no. And I respect him, I’m not going to force him.”

This woman was classified as ambivalent on four measures. Relationship factors, like this couple’s conflicting desires, may lead participants to temper their answers on quantitative measures to incorporate or reflect their partners’ pregnancy desires and preferences, giving the impression of ambivalence. Similarly, some participants described wanting children but did not feel they could actualize those desires because of relationship difficulties. For example, a 21-year-old multiracial woman desired another baby—a desire she shared with

her partner—but wanted to avoid pregnancy because of the instability of her relationship: “I’ve been serious about the next kid thing. Like I really want to have a family with him, and I’m just like, it ain’t going to happen if you can’t act right.” Later in the interview she elaborated:

“If I was open to it, he would definitely want to have a baby immediately and everything.... To me, I don’t want to get pregnant right now. Like not really, really bad, but like I plan to not get pregnant because we need to work through things.”

In this case, the tension between the participant’s current desires (to have another baby) and her plans (to not become pregnant) may be perceived as misaligned and therefore ambivalent. Yet despite what may appear to be ambivalence, both the participant’s desires and her plans are unambiguous and are not in opposition; rather, her relationship context does not allow for a neat and linear connection between her desires and her plans.

•**External locus of control**—For some participants who felt that God was in control of their fertility or that they generally did not have control over what happened to them, survey responses did not reflect their true (and generally unambivalent) desires, which were obscured by their willingness to surrender to an external force. Such participants often responded to quantitative measures by saying they were avoiding pregnancy but would be happy if they or their partner became pregnant. Interview narratives, however, suggested that these response patterns were partly due to fatalistic beliefs that they must accept whatever happens to them. For example, a 22-year-old multiracial woman described her use of the phrase “whatever happens happens” like this: “I say it all the time.... I’m not afraid for something bad to happen, but I’m not afraid for something good to happen either. I pretty much can adapt to whatever happens around me.”

This woman was currently avoiding pregnancy but described how she has had to adapt to events that were out of her control, such as losing her job and getting pregnant unexpectedly. Because of these experiences, she held a “whatever happens happens” mentality and felt that the ideal time to get pregnant would be “anytime,” as she would “just deal with it.” For this theme, participants frequently expressed feeling that contraception was “irrelevant” and often reported inconsistent contraceptive use or reliance on less effective methods (or none at all), owing to their sense that contraception would not make a difference in their or their partner’s likelihood of getting pregnant. Others who used more effective methods still believed they would become pregnant if it was “God’s plan.” A 24-year-old Asian man, who wanted to avoid pregnancy and whose partner was using an IUD, described their situation:

“Well, like we’re Christian, so we believe in God. And if God decides like, ‘They’re gonna have a baby,’ there’s nothing really that can stop it. Because even like I’ve heard of so many stories of people that are on all these contraceptives, or like not all of them at the same time, but they’re using one, that even people that have had a vasectomy ... or like they’ve had surgery to try to stop it, but somehow it happens.”

•**Self-protection and medical conditions**—Participants who believed they might be infertile owing to medical conditions, such as polycystic ovary syndrome, often expressed a

“whatever happens” attitude regarding their pregnancy intentions. This attitude appeared to mask a fear of infertility and served as a form of self-protection. Women who wanted to become pregnant in the future but feared it would be difficult answered quantitative questions in an “ambivalent” way. In large part, it seemed this was due to fear of pain and disappointment if they admitted to pregnancy desires that they would not be able to actualize. For example, a 22-year-old black woman was classified as ambivalent because she reported her current pregnancy desire as being “okay either way.” Additionally, while she indicated in her screener that she was avoiding pregnancy, in her interview she said she was actively trying to become pregnant. When asked about these responses, she explained:

“So I say that because I have a disease called polycystic ovarian syndrome, and it makes it that much harder to bear children. So for me, it’s like I have to accept the fact that I might not be able to have children. I have to be okay with not having them as well as if I am able to. So that’s why I say like, I’m okay either way. Don’t get me wrong, I would love it, especially with my situation, but just like that’s not for me to choose. That’s for, you know, my body to decide if it wants to bear children, if it feels that it’s capable of doing it, then it will do so.”

In contrast to participants who described an external locus of control and thus surrendered much of their decision making regarding pregnancy and in other domains, women who feared infertility demonstrated agency in decision making in other parts of their lives (e.g., regarding careers, education or relationships), feeling that only pregnancy was out of their hands.

## DISCUSSION

In her aptly titled 1999 commentary “A Reminder That Human Behavior Frequently Refuses to Conform to Models Created by Researchers,” sociologist Kristin Luker challenged researchers to revisit how they understood reproductive decision making and move past the outdated post–World War II concepts that informed common measures of pregnancy intentions.<sup>6</sup> In response to an analysis finding that pregnancies resulting from contraceptive failures were often not classified as unintended, Luker posited that measurement and policy approaches that equate contraceptive use with pregnancy intention were not applicable to contemporary social life, in which the meaning and consequences of reproduction and parenthood had become increasingly complex. Though the assessment of pregnancy ambivalence is an attempt to capture the complexity and nuances of pregnancy intentions, our analysis indicated that the chasm between how researchers measure these constructs and how individuals experience their lives remains. We found that current approaches to measuring pregnancy ambivalence may be ineffective, as the vast majority of our study participants could be considered ambivalent by at least one quantitative measure, while their qualitative data revealed that most were decidedly unambivalent about their pregnancy intentions.

Notably, measures assessing “incongruence” between current pregnancy intentions and expected happiness about a pregnancy may misclassify a high proportion of respondents as ambivalent. By comparing survey and interview data from the same individuals, we found

this conceptualization of ambivalence to be particularly weak. Participants were classified as ambivalent when they said it was very important to avoid pregnancy but did not indicate that they'd be “very unhappy” when asked how they would feel if they were pregnant today. The projected outcomes of these hypothetical unexpected pregnancies varied: Some participants envisioned that they could “make it work” and would choose to parent, while others expected to obtain abortions.

Earlier research drew distinctions between pregnancy happiness and pregnancy intentions, and suggested that creating a measure of ambivalence based on these constructs was problematic because it conflates affect and intentions.<sup>42</sup> Our findings are in line with those of Aiken and colleagues, who similarly conducted in-depth interviews to further explore indications of ambivalence in pregnancy intentions in quantitative data.<sup>17</sup> Their qualitative results indicated that no participants were ambivalent or conflicted about their desire to avoid pregnancy, even though their survey responses indicated they would be happy if they became pregnant and were trying to avoid pregnancy. Our results also mirror findings from previous research that stated desires and behaviors are not always congruent<sup>9</sup> and that women's circumstances and life experiences may render the notion of active pregnancy planning less applicable.<sup>9,11</sup> Beyond the topic of ambivalence, our results are consistent with other researchers' warnings that using questions about pregnancy happiness to detect latent pregnancy desire may be unreliable, because such an approach assumes there is a consistent and congruent expected emotional response to an intended or unintended pregnancy, when in fact pregnancy happiness and pregnancy desire are separate constructs.<sup>46,47</sup>

### Strengths and Limitations

Strengths of this analysis include the execution of an integrative, mixed-methods approach to highlight how participants made sense of existing measures of pregnancy intentions. Moreover, our sample included couples, which allowed us to explore the importance of relationship influences in the formulation and expression of pregnancy intentions, as well as the role, experiences and desires of men. Additionally, as a research team, we were aware of the importance of reflexivity and actively acknowledged our own preconceptions and beliefs about pregnancy planning to limit the potential impact of these biases on the research process and our analysis.

A limitation of the study was the focus on young adults aged 18–24 from the San Francisco Bay Area. While qualitative research aims for conceptual rather than sample representativeness, some of the themes that emerged from our data may be contingent on geographic and developmental context. Because we focused on young women, our sample did not include individuals who had completed childbearing, and we would expect such individuals to conceptualize pregnancy intentions differently. Furthermore, although this study is rare in that it collected data from couples, dyadic examination of pregnancy ambivalence was not possible, as only two of the 80 participants who were classified as ambivalent using quantitative measures expressed actual ambivalence during in-depth interviews. Finally, fewer measures of ambivalence were available for men, as pregnancy intentions were assessed during screening only for women; with more opportunities to

answer the pregnancy ambivalence items, more men likely would have been classified as ambivalent.

## Conclusions

An important theme that emerged among our participants who were misclassified was the notion that pregnancies that are not actively desired or planned could still be acceptable and welcomed. While the construct of pregnancy acceptability has been highlighted in other research, it has primarily been explored through qualitative work with specific populations. Efforts to operationalize and measure pregnancy acceptability may lead to data that more holistically reflect individuals' actual experiences.<sup>2,9</sup> Specifically, we found that for some participants who were misclassified as ambivalent, a hypothetical unexpected pregnancy would clearly be unacceptable. (Notably, the acceptability of an actual unplanned pregnancy might be different from these hypothetical expectations.<sup>2</sup>) For others, an unexpected pregnancy would be acceptable; that is, though the timing might be less than ideal, it would be considered okay or even welcomed. An earlier analysis of these data found that 37% of participants would find a pregnancy they did not desire acceptable for a host of reasons, including relationship dynamics, parenting experiences and perceived lack of agency regarding pregnancy.<sup>48</sup>

We agree with a 2016 commentary suggesting that pregnancy acceptability could offer an alternative framing of prospective pregnancy expectations that allows for the identification of pregnancies that would truly be undesired and fully unacceptable.<sup>2</sup> Indeed, one study using data from the 2006–2010 National Survey of Family Growth found that as many as 340,000 pregnancies and 200,000 births may be misclassified as unintended, further highlighting the need for more accurate measurement approaches that make fewer assumptions about the meaning and relevance of pregnancy planning.<sup>7</sup> Though acceptability may offer a rich pathway for understanding the nuance of pregnancy intentions, we expect there will be inherent limitations to any attempt at quantitatively measuring or even qualitatively eliciting deep internal feelings that can fluctuate even over short periods of time.<sup>49</sup> Even so, moving away from ambivalence and toward constructs such as acceptability can shift how the pregnancy planning paradigm is conceptualized and operationalized so that it better encapsulates individuals' lived experiences.

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**TABLE 1.**

Percentage distribution of women aged 18–24 who were not pregnant or trying to become pregnant, and their male partners, by selected characteristics, Young Couples Study, 2015–2016

| Characteristic                        | All (N=100) | Women (N=50) | Men (N=50) |
|---------------------------------------|-------------|--------------|------------|
| <b>Race/ethnicity</b>                 |             |              |            |
| Latino                                | 45          | 50           | 40         |
| Black                                 | 22          | 22           | 22         |
| Asian/Pacific Islander                | 21          | 22           | 20         |
| Native American                       | 7           | 8            | 6          |
| White                                 | 35          | 34           | 36         |
| Multiracial                           | 24          | 26           | 22         |
| <b>Educational attainment</b>         |             |              |            |
| <high school                          | 3           | 4            | 2          |
| High school                           | 19          | 18           | 20         |
| Some college                          | 58          | 60           | 56         |
| Enrolled in four-year college         | 30          | 40           | 20         |
| Enrolled in community college         | 13          | 12           | 14         |
| College graduate                      | 20          | 18           | 22         |
| <b>Parent</b>                         |             |              |            |
| Yes                                   | 41          | 42           | 40         |
| No                                    | 59          | 58           | 60         |
| <b>&gt;Relationship length (mos.)</b> |             |              |            |
| 12                                    | 25          | 30           | 20         |
| >12                                   | 71          | 70           | 72         |
| <b>Health insurance</b>               |             |              |            |
| Private                               | 59          | 60           | 58         |
| Public                                | 31          | 34           | 28         |
| None                                  | 10          | 6            | 14         |
| Total                                 | 100         | 100          | 100        |

*Notes:* Participants could identify with multiple racial and ethnic groups, thus the sum of all categories exceeds 100. Four men were missing data on relationship length, and so percentages do not total 100. One woman did not know her health insurance status, while a second had both public and private insurance (and so contributed to each category).

**TABLE 2.**

Percentage of participants classified as reporting pregnancy ambivalence, by ambivalence measure, according to survey

| <b>Measure</b>         | <b>Screeener survey (N=50)</b> | <b>Interview survey (N=100)</b> |
|------------------------|--------------------------------|---------------------------------|
| Incongruence           | 74                             | 69                              |
| How would you feel     | 20                             | 2                               |
| Importance of avoiding | 2                              | 2                               |
| Trying or avoiding     | na                             | 21                              |
| Ready                  | 36                             | na                              |
| Okay either way        | 18                             | na                              |

*Note:* na=not applicable.

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