Is the Classical Indicator of Unintended Pregnancy Applicable in all Socio-Cultural Settings? Evidence from New Orleans

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INTRODUCTION

Estimates from the 1995 National Survey of Family Growth (NSFG), indicate that 49% of all pregnancies in the U.S. are unintended, which represents a significant decline in the past decade (57% in 1988). Yet, there is a clear disparity in the percentage of unintended pregnancy in different racial/ethnic groups. Over 70% of pregnancies among African-American women were reported as unintended compared to about 40% of pregnancies among White women (1). This wide disparity in unintended pregnancy, in a country where contraception is commonly practiced (2), challenges us to think about what these estimates really indicate.

The validity of unintended pregnancy as a reproductive health indicator was recently challenged when a U.S. study demonstrated that almost one-third of pregnancies reported as contraceptive failures were classified as intended according to the NSFG definition which groups mistimed (i.e. occurred earlier than wanted) and unwanted (i.e. not wanted at the time of conception or any time in the future) pregnancies together (3). Furthermore, among those women who were using contraception at the time of pregnancy (contraceptive failures) and classified the pregnancy as unintended, according to the NSFG definition, over 40% of women reported being happy or very happy about the pregnancy (3). These observations suggest that the classical NSFG intention questions might be imprecisely measuring pregnancy intentions.

The measurement of pregnancy intention has received much attention in the reproductive health literature. Studies and reviews have all centered on the general notion that pregnancy intentions are multi-dimensional; particularly it is unclear whether pregnancy planning has the same connotation in different cultures and whether there is a distinction between wanting a pregnancy and planning a pregnancy (4, 5, 6, 7, 8, 9, 10). Many reproductive health researchers questioned whether pregnancy planning has meaning beyond white, middle-class groups of women for whom the NSFG was originally created (3, 9, 10, 11). In line with this inquiry is the general concern, articulated by Geronimus (2003), about how fertility issues are being inappropriately framed and studied, especially those that deviate from the "so-called" norm (12).

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She reminds us that fertility norms are culturally and socially defined (12). Thus, the applicability of the concept of planned fertility, or perhaps the features that define planned fertility in different settings needs to be explored.

In light of these concerns, what appears to be missing from the literature on pregnancy intentions is a discussion of what might be the features that shape fertility norms; how can these features be measured; which features have explanatory power in women's reported pregnancy intentions and childbearing behavior; and how does the classical NSFG measure of unintended pregnancy relate to these features. The present study aims to develop and test a measure that captures some of these features. It introduces a local construct called Valorization of Motherhood (VOM), developed from in-depth interviews with African-American women in New Orleans (13).

STUDY METHODOLOGY

Sample

Women were recruited for this present study as part of the Determinants of Unintended Pregnancy Risk in New Orleans Study. Two inner-city public clinic sites were used: one prenatal and one family planning clinic. In the first part of the study, the qualitative study, in-depth interviews were conducted with 77 women between February and August 2001. The ages of women interviewed ranged from 14 to 38 years old; 73 out of 77 women interviewed were African-American; and over 85% of these women had completed high school or were still attending at the time of interview. This study has been described in detail by Kendall et al., 2004 (13).

In the second part of the study, during the period from March 13, 2002 to February 28, 2003, 1374 women were surveyed at the same clinics. Pregnant women at the prenatal clinic were recruited during their first prenatal screening appointment. Women at the family planning clinic were recruited either during their initial doctor visit, a nurse re-visit (shot update, pill refill, repeat Pap), return annual with doctor (all methods), or problem doctor visit (STDs or method side-effects). All participants were asked to sign consent forms before their interview. The interviews lasted about 30 minutes, and the women received a tote-bag as honorarium.

No information is available on the number of women approached in the clinics who refused to participate. To assess how representative the surveyed samples were, we undertook a comparison of age of the prenatal interviewed sample to the entire sample of women visiting the

clinic during the same period (from clinic records). This comparative analysis indicates no significant difference between interviewed women and the pool of eligible women (data not shown). Comparing the family planning interviewed sample to overall Department of Health aggregate data on patients by age and race, we find no significant differences by race, and that the interviewed women are significantly younger than all women visiting the family planning clinic. The main difference is that we included a greater proportion of under 20 year olds (21% in our data and 15% in aggregate data) and fewer over forty year olds (5% compared to 9%, respectively). In all other age groups, the proportions are the same in the interviewed sample and the aggregate, eligible sample in the family planning clinic were the same.

The Institutional Review Boards of Tulane University Health Sciences Center, the Centers for Disease Control and Prevention, Charity Hospital, and the Department of Health and Human Services approved the study.

Design

Data were collected monthly from the two sites and archived onto a central computer station. In the qualitative phase of the study, 77 in-depth interviews were completed. These data were analyzed for specific themes related to pregnancy intentions – some which emerged during the course of the interviews and some were identified *a priori*. Several domains were studied including sexual activity, motherhood, contraception, abortion, and relationships; and more details about these domains and emergent themes are described by Kendall et al (2004) (13).

In the second phase of the study, a cross-sectional study design was used. Based on findings from the qualitative phase, a survey instrument was developed. It covered a range of topics including demographics, the classical NSFG questions, experimental measures of dimensions relevant to studying pregnancy intentions obtained from the qualitative study. These measures include perceptions about pregnancy timing, barriers to and attitudes towards contraception, self-efficacy, and partner intentions. Survey instruments were pre-tested by trained interviewers; and revised for language appropriateness, flow and skip patterns. The survey was administered on computer (Questionnaire Development System Software Version 2.) with the presence of an interviewer as facilitator. One interviewer was assigned to each clinic. Both were women of reproductive age, and trained by the study coordinator.

This study focuses on an 8-question index measure of pregnancy intention, which was developed to capture a construct that we call valorization of motherhood (VOM). This construct

was developed based on a theme that embodied positive expectations about motherhood; it was developed to capture motivations prior to conception. The items that make up VOM were intended to measure the degree to which women valued motherhood in two principal areas of their life – personal life and career. To measure VOM, the following a series of statements were read, and women were asked to respond to a statement on a scale from 1 to 5, indicating the extent of agreement, as presented below:

"The following statements have to do with how you view childbearing and motherhood. The scale ranges from 1 to 5 with 1 indicating that you strongly disagree with a statement to 5 indicating that you strongly agree. The higher the number you choose for each statement, the stronger you agree with the statement."

1 - strongly disagree 2 – disagree 3 – don't know 4 – agree 5 – strongly agree

1) A child gives me more of a reason to work towards my career goals.
2) Having a baby makes me feel more acceptable among my friends.
3) Having a baby makes me feel more like an adult.
4) A child gives me more of a reason to complete my education.
5) A child gives me more of a reason to stay away from trouble (excessive parties, drinking, drugs, etc.).
6) Having a baby gives me more attention from my boyfriend/husband.
7) Having a child brings my family closer together.
8) Having a baby makes me feel more responsible.

The following standard questions are used to classify pregnancy intentions:

1) At the time of your pregnancy, did you want to have any children in the future?
    a. Yes
    b. No
2) Did your pregnancy come earlier than wanted, at about the right time or later than you wanted?
    a. Earlier than wanted
    b. At about the right time
    c. Later than wanted

These two simple questions are used as parameters to create the category "unintended". Women respond to these two questions for each of their pregnancies. Pregnancies to women who answer "no" to the first question are classified as unwanted, and therefore unintended. Women who answer "yes" to the first question are then asked the second question. Pregnancies to women who answer "earlier than wanted" to the second question are classified as mistimed, and therefore also unintended. Pregnancies to women who answer "at about the right time" or "later" are classified as intended. Of particular note is that women are not directly asked whether their

pregnancy was intended or not. This conclusion is inferred based on the responses to the two questions.

Statistical analysis

To minimize recall and cohort bias, the analysis was limited to women 13 to 24 years of age. All statistical analyses were performed using SPSS (Windows 10.0). First, stratifying by clinic, each separate VOM item mean was cross-tabulated by pregnancy experience. Pregnancy experience was defined as never pregnant vs. ever pregnant (had 1 or more pregnancies) in the family planning sample, and currently pregnant for the first time vs. had 1 or more pregnancies in the prenatal sample. Student t-tests were performed to study statistical differences of each VOM item mean according to pregnancy experience within each clinic group.

Second, exploratory factor analysis was performed to investigate multi-dimensionality. Specifically, factor analysis was used to examine clusters or groupings of the 8 items developed to capture VOM, how strongly each item belonged to each grouping, and the number of dimensions needed to explain the relations among variables. Principal Axis Factoring in SPSS 10.0 was selected to compute factor scores, which are standardized. Axis factoring assumes that each item has unique variance; an attempt is made to factor only common variance among all eight items (14). Factor scores are preferable to basic counts of the indices because they take into consideration the correlation of each item to the factor (i.e. they are weighted). Factor scores are essentially estimates of the scores subjects would have received on each of the factors had they been measured directly (14). To simplify interpretation, an oblique PROMAX rotation was performed on the original solution. This rotation allowed for maximum spread of variance among factors and for correlation between factors (14).

Third, based on the results of the exploratory factor analysis, ANOVA was used to assess bivariate associations between the factor scores and a 3-category variable called pregnancy experience (never pregnant, currently pregnant for the first time, currently pregnant with 2nd or higher order pregnancy); and between the composite raw score and the 3-category pregnancy experience variable among all women in the sample. The composite raw score were computed by summing the scores for each item of the index. For the complete 8-item index of VOM, a composite score ranges from 8-40. Analysis is presented for both the composite raw score and factor scores to assess differential results.

To assess whether the NSFG intention categories are associated with VOM, the analysis was limited to women reporting on their first adolescent pregnancy (under the age of 20). This sub-group was chosen to control for age at first sex and birth order. ANOVA is used to assess bivariate associations between factor scores and the composite raw score and the traditional 3-category standard classification (intended, mistimed, unwanted).

RESULTS

Socio-demographic characteristics

A total of 351 women from the family planning clinic and 432 women from the prenatal clinic, 13 to 24 years of age, will be analyzed in this study. All women in this sub-sample were African-American (data not shown). Table 1 provides socio-demographic information on these women stratifying by clinic. The mean age is similar in both clinics (20.1). The prenatal sample had a significantly lower mean age at first sex (15.6 vs. 16.1). There was no significant difference in mean age at first pregnancy (17.7). In terms of the socioeconomic background of women in the sample, significantly higher proportions of the prenatal sample had not completed high school (23.6 vs. 5.4) at the time of survey, reported that their mothers had no college education (65.6 vs. 53.6), and reported not knowing their father's educational level (29.9 vs. 19.4) in comparison to the family planning sample. Detailed information on income was not collected. In general these women can be considered as low-income given that they were recruited from publicly funded clinics.

Descriptive analysis of the VOM items

Table 2 presents the overall raw means scores of each VOM item, and the scores according to pregnancy experience in each clinic. Overall, women tended to agree with the items 1 (Having a child gives me more of a reason to work towards my career goals.), 4 (A child give me more of a reason to complete my education.), 5 (A child give me more of a reasons to stay away from trouble.) and 8 (Having a baby makes me feel more responsible.) demonstrated by their mean scores above 3.0; and tended to disagree with items 3 (Having a baby makes me feel more like an adult.), 2 (Having a child brings my family close together.), 7 (Having a baby makes me fell more acceptable among my friends.) and 6 (Having a baby gives me more attention from my boyfriend/husband.) demonstrated by their mean score below 3. However, it is important to note that among these items, item 3 (Having a baby makes me feel more like an adult) and item 7

(Having a child brings my family close together) have mean scores close to 3.0 (2.6 and 2.7, respectively).

Table 2 also compares the mean scores of the VOM items among different pregnancy experience groups, stratified by clinic. In the family planning clinic, specifically, ever pregnant women (had 1 or more pregnancies) reported higher scores on every item, with the exception of the last item (Having a baby gives me more attention from my boyfriend/ husband.). A striking pattern observed is that in general, ever pregnant women in the family planning clinic had similar mean scores on every item when compared to women in the prenatal clinic. Further, means scores did not differ considerably according to pregnancy group among women in the prenatal clinic. In the prenatal clinic, only means for item 5 (A child give me more of a reasons to stay away from trouble.) differed significantly according to pregnancy experience.

Factor analysis of VOM

In Table 3, the initial and rotated factor solutions are presented. The first factor in this analysis has an Eigenvalue of 3.24 and explains 40.5% of the variance. The second factor has an Eigenvalue of 1.30 and explains 16.2% of the variance. In the initial solution, items 1, 3, 4, 5, 7 and 8 appear to load highest on the first factor. Items 2 and 6 seem to load equally on both factors. In the rotated solution, the variance is further distributed among the two factors, and the factor loadings increase in magnitude and become more extreme. Table 3 illustrates that in the rotated solution, items 1, 4, 5 and 8 load highest on the first factor. Items 2, 3, 6 and 7 load highest on the second factor.

This series of factor analyses of the eight questions used to capture valorization of motherhood suggest the presence of two latent constructs. Based on the rotated solution, the first factor is captured by the following items:

- A child gives me more of a reason to work towards my career goals.
- Having a baby makes me feel more like an adult.
- A child gives me more of a reason to stay away from trouble (excessive parties, drinking, drugs, etc.).
- Having a baby makes me feel more responsible.

The latent construct captured by factor 1 is interpreted as the perception that motherhood is a life event that signals greater responsibility in women's career and professional life. Agreement with items that make up this construct suggest that women value motherhood because it signals

greater responsibility and motivates them to work towards their goals, complete their education, stay away from trouble; all of these themes are consistent with findings from the qualitative phase of the study (13).

Based on the rotated solution, the second factor is captured by the following items:

- Having a baby makes me feel more acceptable among my friends.
- Having a baby makes me feel more like an adult.
- Having a baby gives me more attention from my boyfriend/husband.
- Having a child brings my family closer together.

The second latent construct is interpreted as women's perception of motherhood as a socialization process. Agreement with items that make up this construct suggests that women value motherhood because it gives them greater social stability, and an opportunity to assert adulthood in the form of gaining acceptance among friends, improving relationship with partner, bringing the family closer together; all of these themes are consistent with findings from the qualitative phase of the study as well (13).

Based on these results, ANOVA analysis was conducted separately for the two different constructs.

ANOVA analysis of VOM raw and factor scores according to pregnancy experience

Table 4 presents ANOVA results for the two separate factors and pregnancy experience groups. With regard to VOM-career, the data in this table show that factor scores are highest for women who had 1 or more pregnancies (.21), moderate for women currently pregnant for the first time (.13), and lowest for women who were never pregnant (-.74). The confidence intervals for the factor scores for the two latter categories suggest that they are not significantly different. The global F test shows a strong and significant association between the VOM-career score and women's pregnancy experience ($p<.001$), suggesting that women who perceive motherhood as signaling greater responsibility with regard to career are more likely to have experienced a pregnancy.

With regard to VOM-social, the factor score is lowest for women who were never pregnant (-.53), moderate for women with 1 or more pregnancies (.13) and slightly higher for first time pregnant women (.16). Global F-test and the confidence intervals for these factor scores suggest an association between VOM-social and pregnancy experience, suggesting that

women who view motherhood as a way of attaining greater social stability are more likely to experience a pregnancy.

Observation of the raw score for VOM supports these findings. Examining the composite raw score, the differences between the group of women who had 1 or more pregnancies and those who are currently pregnant for the first time are rather small. Analysis of the confidence intervals for these two composite raw scores suggest that they are not significantly different. However, the composite raw score is significantly lower for women who were never pregnant, compared to the other two groups (20 vs. 27).

ANOVA analysis of VOM raw and factor scores according to NSFG intention groups

Table 5 presents ANOVA results for the two separate factors according to the NSFG intention groups among women reporting on an adolescent pregnancy. With regard to VOM-career, the data in this table show that factor scores are highest for women reporting a mistimed pregnancy. Surprisingly, scores for women reporting an intended pregnancy and those reporting an unwanted pregnancy are similar. The global F-test suggests no overall significant association between NSFG intention groups and VOM-career. These findings suggest that women's perceptions of motherhood as signaling greater responsibility in career have no relation to their report of pregnancy intentionality, as measured by the NSFG questions.

With regard to the VOM-social, factor scores among women reporting an intended pregnancy are considerably lower than those among women reporting both a mistimed and unwanted pregnancy. Further, factor scores are not considerably different among women reporting a mistimed pregnancy compared to women reporting an unwanted pregnancy. Global F-test suggests no significant association between factor scores for VOM-social and NSFG intention groups. These findings suggest that women's perceptions of motherhood, as a way attaining greater social stability, has no relation to their report of pregnancy intentionality.

Observation of the raw score for VOM supports these findings. Examining the composite VOM raw score, there are no considerable differences among the three NSFG intention groups. Global F-test suggests no significant association.

DISCUSSION

The results provide evidence of a strong and positive relationship between women's valorization of motherhood and their risk of becoming pregnant, suggesting that this construct might be an

important dimension of women's motivation to become pregnant. Further, the analysis provides no evidence of a statistical association between the NSFG intention categories and women's valorization of motherhood, suggesting that the classical categories of unwanted, mistimed, and intended are not sensitive to this construct, and therefore not capturing a possible dimension of women's motivation to become pregnant.

Beyond defining a relevant dimension of women's childbearing behavior, which few of the past studies have done, this study also relates it to pregnancy intentions. Only Stanford et al. (2000) defined dimensions of pregnancy intentions, and related them to the NSFG categories. Stanford et al. (2000) identified five dimensions – preconception desire for pregnancy, steps taken to prepare for pregnancy, fertility behavior, postconception desire for pregnancy, adaptation to pregnancy – and found that none were exclusively associated with, or fit into, the NSFG categories (5). Similarly, this present study finds that among young women reporting on their first adolescent pregnancy, there is no statistical difference, in terms of scores on valorization of motherhood, between those who reported intended, mistimed and unwanted adolescent pregnancies. While both the Stanford et al. (2000) study and this present study suggest that the measurement of pregnancy intentions need to be reconsidered, there is also evidence that suggests that the concept of "intending" a pregnancy needs to be reconsidered.

According to several qualitative studies that were designed to explore the meaning of pregnancy intentions, controversy exists over whether planning is a culturally bound construct. For example, Moos, Peterson & Melvin (1997), who conducted focus groups with 18 African-American and White women in North Carolina, argue that planning might not have meaning in lower-income groups (9). Based on 47 in-depth interviews with an ethnically diverse sample of women in London, Barrett & Wellings (2003) conclude that a "planned" pregnancy had to meet four criteria: intending to become pregnant, stopping contraception, partner agreement, and reaching the right time in terms of lifestyle/life stage. Given these criteria, they find that planning and intending are not terms that women use spontaneously irrespective of their socioeconomic and ethnic background; they question whether planning a pregnancy has the same utility in different cultural settings (15).

The sentiments captured with this VOM index are similar to those expressed by Black, urban youth throughout the U.S. In a recent 2004 report released by the National Campaign to Prevent Teen Pregnancy, based on focus groups with Black, urban youth in 10 U.S. cities,

pregnancy was perceived as a more realistic option than idealized goals of college and marriage. According to one teen participant:

> "Becoming a teen parent seems more realistic than abstaining from sex, getting married, or having a successful future." (16)

This present study suggests that childbearing is not only more realistic, but possibly more meaningful to young women. In a context such as New Orleans, where almost one-third of the population live in poverty (17), a desire to assert adulthood, family stability and greater intimacy with partners, as reflected in the VOM items, are possibly more powerful motivations than unrealistic pregnancy timing goals that prescribe the sequence of educational achievement, career fulfillment, and then family formation – features that might dictate the utility of fertility planning (13). These findings are not new and have been articulated before in the early literature on adolescent childbearing (12, 18, 19), which challenged conventional notions of women's reproductive life course. Elijah Anderson's ethnographic work in inner-city Philadelphia suggests that as urban poverty persists, its "wretchedness becomes neutralized, and the conventional family life of love, marriage and career loses its force" (18). In this context, early pregnancy is a consequence of young women's quest to fulfill normal developmental and emotional tasks, such as the search for identity and love (18). Linda Burton's work in a poor Northeastern suburb characterizes an accelerated family timetable dictated by perceptions of early mortality and the low probability of marriage, giving rise to normative early childbearing patterns (19). Similarly, Geronimus argues that early childbearing is a collective strategy in response to the rapid deterioration of poor Black women's health. She claims that "poor women may attempt to fulfill their multiple roles and obligations in a sequence that fits the realities of a different social circumstance and health-risk profile than those familiar to many researchers and policy analysts" (20). All three researchers claim that there are unfamiliar social norms that might make adolescent childbearing, traditionally considered as non-normative, adaptive in certain contexts. Similarly, the evidence in this study suggests that young women in this New Orleans population have certain positive expectations about pregnancy that might make it desirable, even though it may be traditionally classified as unintended.

Methodological considerations

There are some limitations to this study that have to be considered. Power was limited because the sample size was small. Further, the sample was clinic-based and homogeneous with regard

to racial/ethnic and socioeconomic groups. While this study was designed to develop a measure that was specific to poor, inner-city women, there is no doubt that this study would benefit by replicating data collection and analysis among other groups of women of different socio-demographic characteristics. If exploratory factor analysis results can be replicated, then confirmatory factor analysis would serve to validate the findings.

Another caveat is related to the cross-sectional study design that makes it difficult to attribute causality. With the current data, it is possible that having a baby causes women to develop the VOM attitudes measured; and therefore the causal relationship is contrary to that hypothesized. The experience of raising a child (or being pregnant) might influence the way women respond to the VOM items. Therefore, the higher VOM scores among the groups of women experiencing a pregnancy might be a consequence of the pregnancy or motherhood itself. The potential for this type of recall bias is perhaps minimal according to data in Table 2. This table illustrates that the women currently pregnant for the first time, in the prenatal clinic, had higher VOM scores than the women that were never pregnant in the family planning clinic, and had similar scores to women with one or more pregnancies. Yet, the former group, who was interviewed during their first prenatal screening visit, still has not experienced motherhood, and therefore the potential for recall bias in their response to the VOM items is expected to be smaller.

In light of these limitations, the overarching strength of this study is its theoretical basis. The VOM items that were developed were based on an earlier qualitative study (13), and are themes that resonate with poor, young Black women featured in other studies as discussed above (16, 18, 19, 20). Related literature provides evidence to support that young women included in this study already possess positive attitudes towards motherhood without the experience of motherhood itself, and that these attitudes influence their pregnancy outcomes

Implications for measurement

For the past half-century, the indicator unintended pregnancy has been used to drive reproductive health policies and programs in the United States and abroad (11, 21); and is currently used in several U.S. population-based surveys (22, 23). In this New Orleans sample, 73% of first pregnancies occurring before the age of 20 were classified as unintended. In Louisiana, slightly more than half of live births to all women of childbearing age are classified as unintended (24), which is very high in comparison to the national average of 31% (1).

Why do women in New Orleans seem to be having so many unintended pregnancies? Are we possibly overestimating unintended pregnancy prevalence? If so, should we be focusing our efforts at developing a better measure of pregnancy intentions? Some studies suggest that the answer is no. Retrospective reports of pregnancy intentions correlate well with emotions that might correspond to women's intentions at the time of pregnancy such as happiness about the pregnancy (25, 26). Further, evidence from longitudinal studies suggests that certain measures of fertility intentions appear to be reliable at the aggregate level (27, 28) i.e. the proportion of unintended pregnancies remains stable from initial interview to re-interview. Yet, according to Bankole & Westoff (1998), retrospective reports of pregnancy intentions become more positive with time (change from unintended to intended), which leaves for discussion which time point is most appropriate for measurement.

While reliable and perhaps valid at the aggregate level, other observations highlight the potential for misclassification using the NSFG intention categories. Trussell et al. (1999) find that among women who report an unintended pregnancy (that was a contraceptive failure) over 40% report being happy or very happy about it, based on data from the 1995 NSFG (3). Similarly, using clinic-based data, Sable & Libbus (2000) found that almost half of the women, who were visiting a clinic for a pregnancy test and reported that their pregnancy would be unintended, also reported being somewhat or very happy about the pregnancy (29). Authors of these studies attribute these observations to women's ambivalence about pregnancy (3, 29). We argue that it is unclear is whether this observation is evidence of womens' ambivalence about pregnancy or simply of imprecise measurement.

As many researchers have noted, planning a pregnancy is different than wanting a pregnancy, and that both dimensions are influenced by different factors (3, 5, 8). By extension, an unintended pregnancy is not necessarily an unwanted pregnancy. However, these terms are often confused, in part, because the latter is actually part of the definition of the former. If pregnancy intendedness is indeed a multidimensional construct, then the measure needs to reflect that (be more precise); alternatively, we, as researchers, need to be more precise about what we are trying to measure – is it whether the pregnancy was planned or whether it was wanted or both? Perhaps the problem lies in how we have come to conceptualize intendedness.

This present study highlights the limitations of using the classical intention measure as an indication of a woman's motivations at the time of conception. During the qualitative phase of

this New Orleans study, a 17-year old young woman, who was never pregnant, expressed the following when asked about reasons for having a baby:

> "You feel like you are not loved, you are insecure about yourself and you think a baby will change that."

A 20-year old woman expressed the following about her first child who was 4 months at the time of the interview:

> "My life is more meaningful now. I'm not trying to get the guy anymore, wasting my time. Now I'm trying to get through my classes. I'm more focused. I've got to support the baby."

These sentiments are captured in the content of the VOM items. Agreement with the items suggests that motherhood signals an opportunity to bring greater meaning into a young woman's life. Both young mothers and their peers, who never experienced motherhood, express these sentiments, which are possible contributions to the high levels of unintended pregnancy observed in this New Orleans community and possibly other urban, Black communities. However, these sentiments are typically not measured in population-based surveys, and more importantly not reflected in the classical pregnancy intention measure.

There is growing evidence that point to the increasing need for more exploratory research to understand the unmeasured social context in which fertility decisions are made as well as creative approaches to precisely measure them. Failure to do so might stifle efforts at developing policies and programs that seek to better address all women's health needs.

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Table 1. Background characteristics of women in prenatal and family planning clinics; and chi-square & student t significance test results across clinic groups among women 13-24 years old (N=783).‡

Variable	Clinic		Total
	Family Planning	Prenatal	
Age (mean)	20.1	20.1	20.1
Age at first sex (mean)*	16.0	15.6	15.8
Had pregnancy under 20**			
Yes	45.6	77.7	63.3
No	54.4	22.3	36.7
Education**			
Still in h.s.	19.7	17.8	18.6
Incomplete h.s.	5.4	23.6	15.5
Complete h.s./GED	25.6	28.5	27.2
Some college	45.6	29.6	36.8
Complete college	3.7	.5	1.9
Mother had adolescent pregnancy			
No	38.2	30.6	34.0
Yes	54.7	59.5	57.3
Dk/nr	7.1	10.0	8.7
Mother had some college education**			
No	53.6	65.7	60.3
Yes	44.2	26.2	34.2
Dk/nr/dk mom	2.3	8.1	5.5
Father had some college education*			
No	58.1	52.8	55.2
Yes	22.5	17.4	19.7
Dk/nr/dk dad	19.4	29.9	25.2
Total N	**351**	**432**	**783**

‡ Some percentage totals are slightly less/greater than 100 due to missing data and rounding.
** $p<0.005$, * $p<0.05$

Table 2. Valorization of motherhood (VOM) item means with range of 1 to 5, indicating degree of agreement; and student t-test results across pregnancy groups among women 24 years of age and younger (N=783).

	Family Planning		Prenatal		
	Never pregnant	Had 1 or more pregnancies	Currently pregnant for first time	Had 1 or more pregnancies	Total
1. A child gives me more of a reason to work towards my career goals.	3.4	4.5**	4.3	4.5	4.2
2. Having a baby makes me feel more acceptable among my friends.	1.6	1.8*	2.1	2.0	1.9
3. Having a baby makes me feel more like an adult.	1.9	2.8**	2.6	2.8	2.6
4. A child gives me more of a reason to complete my education.	3.1	4.4**	4.3	4.4	4.1
5. A child gives me more of a reason to stay away from trouble (excessive parties, drinking, drugs, etc.).	3.6	4.5**	4.3	4.6*	4.3
6. Having a baby gives me more attention from my boyfriend/husband.	1.6	1.6	2.4	2.3	2.0
7. Having a child brings my family closer together.	2.0	3.0**	2.8	3.0	2.7
8. Having a baby makes me feel more responsible.	2.9	4.1**	4.0	4.1	3.9
Total N	160	191	173	259	783

* $p<0.05$, ** $p<0.005$

Table 3. Factor analysis: initial and rotated solutions for VOM index among women 24 years of age and younger (n=783).

Item	Initial solution		Rotated solution	
	Factor 1	Factor 2	Factor 1	Factor 2
1. A child gives me more of a reason to work towards my career goals.	.498	-.193	.531	.004
2. Having a baby makes me feel more acceptable among my friends.	.334	.356	-.098	.532
3. Having a baby makes me feel more like an adult.	.590	.346	.092	.631
4. A child gives me more of a reason to complete my education.	.791	-.457	.986	-.158
5. A child gives me more of a reason to stay away from trouble (excessive parties, drinking, drugs, etc.).	.644	-.231	.671	.026
6. Having a baby gives me more attention from my boyfriend/husband.	.475	.425	-.064	.668
7. Having a child brings my family closer together.	.556	.180	.224	.436
8. Having a baby makes me feel more responsible.	.667	-.028	.497	.256

Eigenvalues: 3.24 (explains 40.5% of variance), 1.30 (explains 16.2% of variance)

Table 4. ANOVA results for factor and raw mean scores according to pregnancy experience among all women in sample (N=783).

Indicator	Sample size	Mean estimate	95% confidence interval	Global F	p value
VOM – career (factor)					
Never pregnant	157	-.742	-.930, -.555	73.17	.00
Currently pregnant w/ first	173	.127	.009, .245		
Had 1 or more pregnancies	448	.211	.142, .281		
VOM – social (factor)					
Never pregnant	157	-.528	-.647, -.409	41.88	.00
Currently pregnant w/ first	173	.156	.029, .283		
Had 1 or more pregnancies	448	.125	.049, .201		
VOM (raw)					
Never pregnant	157	19.94	18.69 21.19	73.66	.00
Currently pregnant w/ first	173	26.93	25.95 27.91		
Had 1 or more pregnancies	448	27.25	26.67 27.83		

Table 5. ANOVA results for factor & raw mean scores according to NSFG intention groups among women experiencing adolescent pregnancy (N=494).

Indicator	Sample size	Mean estimate	95% confidence interval	Global F	p value
VOM – career (factor)					
Unwanted	130	.181	.048, .314	.45	.64
Mistimed	263	.239	.151, .327		
Ok time	100	.172	.028, .315		
VOM – social (factor)					
Unwanted	130	.117	-.030, .264	.71	.49
Mistimed	263	.180	.082, .278		
Ok time	100	.073	-.078, .225		
VOM (raw)					
Unwanted	130	27.01	25.89 28.13	.76	.47
Mistimed	263	27.61	26.87 28.35		
Ok time	100	26.85	25.70 28.00		