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HEALTHCARE PROVIDERS' PERCEPTIONS OF PREGNANT WOMEN

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HEALTHCARE PROVIDERS' PERCEPTIONS OF PREGNANT WOMEN

THESIS

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in Family Sciences in the College of Agriculture, Food and Environment at the University of Kentucky

By

Allison Goderwis

Lexington, Kentucky

Director: Dr. Jason Hans

Lexington, Kentucky

2018

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ABSTRACT OF THESIS

HEALTHCARE PROVIDERS' PERCEPTIONS OF PREGNANT WOMEN

Health care providers' ($N = 421$) implicit perceptions of pregnant women based on age, race or ethnicity, marital status, and socioeconomic status are assessed through a true-experiment design. Ordinal and binary regression analyses revealed that respondents felt more pity for an unmarried than married pregnant woman and more anger toward an unemployed pregnant woman without health insurance compared to a pregnant woman who was employed with health insurance. Male, Asian, and Hispanic respondents were less likely to help the pregnant woman, Black and protestant respondents were more likely to express some degree of anger toward the pregnant woman, and male and protestant respondents assigned more responsibility to the woman for her pregnancy. Additionally, respondents' open-ended suggestions varied based on the pregnant woman's characteristics. Implications and future directions are discussed.

KEYWORDS: Unintended Pregnancy, Stigma, Healthcare, Discrimination, Mixed Methods

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April 27, 2018

HEALTHCARE PROVIDERS' PERCEPTIONS OF
PREGNANT WOMEN

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This research is dedicated to women who
have felt stigmatized or discriminated against throughout
their pregnancies by healthcare providers or
in larger society.

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Chapter One

Introduction

Nearly 4 million births occur each year in the United States (Centers for Disease Control and Prevention [CDC], 2016a). Although the majority of women in the United States plan pregnancy and childbirth, unplanned pregnancies resulting in live birth accounted for 37% of births between 2006 and 2010, and 77% of pregnancies among adolescents were unplanned (Mosher, Jones, & Abma, 2012). High rates of unplanned, non-marital pregnancies to adolescent women, racial minority women, and women of low socioeconomic status (Hamilton, Martin, Osterman, Curtin, & Mathews, 2015) may contribute to stigma toward those in these groups who experience pregnancy and childbirth. Further, stigmatizing attitudes and beliefs about pregnancy based on characteristics of pregnant women may lead to prejudice and discrimination.

Experiences of stigma and discrimination associated with pregnancy are not limited to interactions within larger society; they occur in clinical settings as well. There is evidence suggesting that 18–24% of pregnant women perceive discrimination by healthcare providers during prenatal care or labor and delivery (e.g., Attanasio & Kozhimannil, 2015; De Marco, Thorburn, & Zhao, 2008). Despite research suggesting that some pregnant women perceive discrimination by healthcare providers, there is a dearth of research on healthcare providers' implicit attitudes and perceptions of pregnant women based on their characteristics. Thus, the purpose of the present study is to assess the extent to which healthcare providers' attitudes toward pregnant women differ based on four characteristics: the woman's age, marital status, socioeconomic status, and race or ethnicity. Identifying the presence of stigmatizing attitudes toward pregnant women

among healthcare providers is a starting point for understanding and reducing the likelihood of stigmatizing and discriminatory experiences in health care settings.

Chapter Two

Literature Review

Perceived Discrimination and Stigma

Discrimination is comparable to stigma in that both are associated with prejudice. Stigma involves negative or prejudicial attitudes or beliefs that devalue people who are grouped together based on certain characteristics or experiences (Goffman, 1963) and discrimination involves the unfair treatment of marginalized people due to prejudicial attitudes (Stuber, Meyer, & Link, 2008). Pregnant and parenting adolescents who are dissatisfied with the quality of their care report feeling stigmatized as a result of judgmental remarks and attitudes exhibited by healthcare providers on the basis of age (Peterson et al., 2007; Yardley, 2008). Experiences of stigma from healthcare providers are problematic because trust is diminished and patients are discouraged from seeking assistance (SmithBattle, 2013). For example, adolescent mothers who perceive judgment from healthcare providers report feeling uncomfortable asking questions (Peterson et al., 2007).

Hispanic and non-Hispanic Black women in postpartum care report that social networks (i.e., mothers, sisters, and friends) are more valuable sources of information about contraceptives than healthcare providers (Yee & Simon, 2010). This is problematic because Hispanic and non-Hispanic Black women have the highest rates of unintended births (Mosher et al., 2012). It is especially important that racial minority women feel comfortable (i.e., not stigmatized, judged, or discriminated against) when discussing contraceptive methods with their healthcare providers so each can obtain accurate information from one another and unintended pregnancy can be prevented.

In addition to discouraging patients from seeking help from clinicians in health care settings, perceived discrimination is also linked to negative psychosocial outcomes when experienced in everyday life. Young women between 18 and 20 years of age who feel socially discriminated against experience twice the risk of stress, depressive symptoms, and consecutive unintended pregnancies compared to young women who feel low levels of social discrimination (Hall et al., 2015). Everyday discrimination among non-Hispanic Black and Hispanic adolescents predicts a higher probability of diagnosis of a sexually transmitted infection in the third pregnancy trimester, along with a higher probability of engaging in sexual behavior with a high risk partner (e.g., partner who is HIV positive; Klonoff et al., 2014).

Perception of discrimination is also associated with past adolescent pregnancy and the impact of perceived discrimination on pregnancy risk is independent of socioeconomic status, indicating that there are similar effects for women of different social classes (Hall et al., 2015). Thus, it is imperative that women who are prone to social discrimination—especially those who have experienced adolescent pregnancy—are not faced with discriminatory or stigmatizing attitudes from healthcare providers, who have an obligation to “guard against, counteract, and relieve stigma” for their patients (Cook & Dickens, 2014, p. 92).

Characteristics

The present study will focus on several characteristics—age, marital status, socioeconomic status, and race or ethnicity—associated with heightened risk for experiencing stigma and discrimination among pregnant women. The hypotheses to be tested were formulated based upon the existing literature, as described below.

Age. The mean age at first birth in the United States is 26.4 years of age (CDC, 2016a). This has risen by 1.4 years since 2000 due to a decrease in births among women 20 years of age and younger, and an increase in births among women 30 years of age and older (CDC, 2016b). Although birth rates to women 35–44 years of age have increased since the 1980s, those over 35 years of age are considered older mothers, and mothers 40 years of age and older are faced with increased health risks associated with pregnancy (CDC, 2014). Age is a common characteristic contributing to pregnant women's experiences of stigma and discrimination. For example, 40% of adolescents in a postpartum unit reported feeling stigmatized by their pregnancy (Weimann et al., 2005).

Feelings of stigma and discrimination can stem from experiences with healthcare providers, and pregnant adolescents are more likely than older women to perceive both stigmatized attitudes and discriminatory behaviors by healthcare providers while in their care (De Marco et al., 2008; Peterson et al., 2007). Additionally, women who are 35 years or older are more likely to perceive discriminatory behaviors by healthcare providers during prenatal visits or labor and delivery (De Marco et al., 2008). However, a more recent study failed to find evidence of a relationship between age and perceived discrimination by healthcare providers during labor and delivery hospital stay (Attanasio & Kozhimannil, 2015). Given these inconsistent findings, I will examine attitudes of healthcare providers toward normatively versus nonnormatively-timed pregnancy and expect the following:

H₁: Early (i.e., adolescent) pregnancy is more stigmatized than normatively-timed pregnancy.

H₂: Late (e.g., 40-year-old) pregnancy is more stigmatized than normatively-timed pregnancy.

Marital status. Adolescent pregnancy frequently occurs in the context of non-marital relationships. Indeed, compared to older married mothers, adolescent unmarried mothers perceive more negative attitudes and treatment by healthcare providers during postpartum care (Peterson et al., 2007). Also, compared to married women, women who are unmarried perceive a higher degree of discrimination by healthcare providers during labor and delivery regardless of age (De Marco et al., 2008). Similarly, Weimann et al. (2005) reported that the perception of stigma about adolescent pregnancy is associated with being unmarried to the baby's father. Contrary to these findings, as was the case with age, a more recent study failed to find a relationship between marital status and perceived discrimination by healthcare providers during labor and delivery hospital stay (Attanasio and Kozhimannil, 2015). In recent years there has been a vast increase in the frequency of pregnancies among non-adolescent unmarried women (Martin & Brooks-Gunn, 2015), suggesting that attitudes toward the perceived social importance of children being born to married parents may be changing. Nonetheless, given that this newer non-finding has not yet been replicated and the preponderance of evidence has found differences, I hypothesize that:

H₃: Non-marital pregnancy is more stigmatized than pregnancy occurring in the context of a marital relationship.

Socioeconomic status. Type of insurance, household income, and education level are indicative of socioeconomic status. In general, women with low levels of education and women who are unemployed perceive more discrimination in everyday life than

women who are enrolled in college and women who are employed, respectively (Hall et al., 2015). Women with no insurance and women with public insurance are more likely than women with private insurance to report feeling discriminated against by healthcare providers during prenatal visits and labor and delivery (Attanasio & Kozhimannil, 2015; De Marco et al., 2008). Specifically, compared to insured women, uninsured women have a nearly twofold higher risk of perceived discrimination based on insurance status (Attanasio & Kozhimannil, 2015). Similarly, women with annual household incomes of less than \$50,000 perceive a higher degree of discrimination by health care providers than women with annual household incomes of \$50,000 or more (De Marco et al., 2008).

Given these consistent findings, I hypothesize that:

H₄: Pregnancies to women of low socioeconomic status are more stigmatized than pregnancies to women of high socioeconomic status.

Race or ethnicity. Perception of stigma and discrimination in health care settings varies based on race and ethnicity. Compared with Hispanic adolescents, non-Hispanic White adolescents in a postpartum unit reported higher perception of stigma associated with pregnancy (Weimann et al., 2005). There are mixed findings regarding perceived discrimination during labor and delivery, with evidence that non-Hispanic Black and Hispanic women perceive more discrimination than non-Hispanic White women (Attanasio & Kozhimannil, 2015) and that non-Hispanic White women perceive more discrimination than Hispanic women (De Marco et al., 2008). The differences in perceived stigma and discrimination among pregnant women may stem from a mixture of uneven societal expectations regarding the timing of pregnancy and childrearing as well as more generalized racism and classism. Research on similar topics has shown that low-

income Hispanic women and low-income non-Hispanic Black women have a greater likelihood than middle-class non-Hispanic White women of being advised by healthcare providers to avoid pregnancy (Downing, LaVeist, & Bullock, 2007). Additionally, healthcare providers are more likely to recommend intrauterine contraceptives to Hispanic and non-Hispanic Black women of low socioeconomic status compared to non-Hispanic White women of low socioeconomic status (Dehlendorf et al., 2010). Taken together, I hypothesize that:

H₅: Pregnancy of non-Hispanic Black or Hispanic women are more stigmatized than pregnancy of non-Hispanic White women.

Interaction Among Characteristics

Although perception of discrimination and stigma associated with pregnancy based on age, marital status, race, and socioeconomic status are explained as separate constructs, it is important to consider the interaction of these characteristics. Racial or ethnic background and low socioeconomic status are primary risk factors for adolescent pregnancy (CDC, 2016c). Among adolescent females between 15 and 19 years of age, Hispanic and non-Hispanic Black women have the highest birth rates, which more than double the birth rate of non-Hispanic White women of the same age (Hamilton et al., 2015).

Socioeconomic disparities—including limited education, low income, and racial segregation of neighborhoods—contribute to pregnancies and births to adolescent women in the United States (CDC, 2016d). Indeed, unplanned pregnancies and births occur at much higher rates to women of low socioeconomic status, women who are not married, and women who are Hispanic or non-Hispanic Black (Mosher et al., 2012). Additionally,

racial minority families are more likely to live in poverty than White families; compared to White families, the risk of Black families living in poverty is three times higher (APA, n.d.). Taken together, it is apparent that there are multiple factors contributing to birth rates among United States women. Therefore, the interactions among these characteristics with regard to stigma associated with pregnancy will also be examined.

Theoretical Framework

Attribution theory (Weiner, 1993) has been influential in delineating the relation between stigmatizing perceptions and attitudes, and discriminatory actions and behaviors (Weiner, 1995). Attribution theory postulates that there is a “cognitive-emotional process” that begins with belief in either an inner or outer locus of control that justifies the assignment of responsibility for one’s condition, which leads to an emotional response that ultimately inhibits or motivates helping behaviors (Corrigan, 2002, p. 165). Attribution theory has informed studies of stigmatized populations, such as racial minorities (Kluegel, 1990), and specifically Black pregnant adolescents (Katz & McKinney, 2016).

Kluegel’s (1990) study showed that White people attributed Black people’s low socioeconomic status to low motivation (i.e., internal factor, more personal responsibility) rather than less opportunity (i.e., external factor, less personal responsibility). Katz and McKinney’s (2016) study showed that White undergraduates attributed more personal responsibility to a Black adolescent’s pregnancy than to a White adolescent’s pregnancy when, in both cases, her partner purposely sabotaged the contraceptive. I anticipate findings of a similar nature, and will examine the extent to

which attribution theory provides a useful framework for understanding the attitudes revealed in the present study.

Chapter Three

Methodology

Sampling

Women's health specialists. Sampling was conducted in the fall of 2017 and recruitment initially focused on women's healthcare students currently enrolled in nurse-midwifery graduate programs and professionals who are employed through obstetrics and gynecology (OBGYN) residency programs across the United States. Forty-nine institutions were contacted to place open-records requests for e-mail addresses of students in nurse-midwifery graduate programs and OBGYN residency programs. Of the institutions who were contacted, only 4 approved the request and provided the students' or residents' e-mail addresses. Three of the institutions who denied the request for e-mail addresses forwarded the request to specific nurse-midwifery program administrators, who then forwarded the study opportunity to their students. Professionals from six OBGYN residency programs were contacted via resident e-mail addresses provided on the program webpages.

Nursing and medical students. Due to the overwhelming denial of requests for e-mail addresses of nurse-midwifery students and OBGYN residents, additional recruitment was initiated to obtain a sufficient sample size. Thus, nursing and medical students at a large land-grant university in the Southeast United States were targeted. An open-records request was placed and approved, granting access to e-mail addresses for all students and residents enrolled in the nursing and medical schools at this specific university.

Recruitment procedures. Overall, 3,031 healthcare students or residents were contacted via e-mail for participation in the study. Recruitment e-mails were sent in three stages. An initial e-mail was sent to the eligible participants explaining the study and inviting them to complete the survey (see Appendix A). As suggested by Fan and Yan (2010), a reminder e-mail was sent two days following the initial e-mail (see Appendix B), and a final contact was made one week after the initial invitation (see Appendix C). All e-mails notified potential respondents of the opportunity to be randomly selected to receive one of many \$5 Amazon gift cards for participating the study. Of the total number of respondents, 62.3% elected to enter into the drawing; thus, 38.0% of respondents who entered the drawing were randomly awarded gift cards.

Sample characteristics. These procedures resulted in a sample of 421 respondents who were between 18 and 56 years of age ($M = 25.63$, $SD = 6.53$). The majority of the respondents were nursing students (39.9%), followed by medical students (21.4%), OBGYN residents (5.2%), and nurse–midwifery students (3.8%). Nearly one-third of respondents (31.4%) selected the “other” option, most commonly identifying themselves as registered nurses, physicians, and nurse practitioner students. The majority of respondents had received a bachelor’s degree or higher (59.2%), were female (80.0%), heterosexual (91.1%), and White (82.2%). Many identified with a protestant religious denomination (42.4%), followed by catholic (25.9%), agnostic (13.6%), and atheist (8.5%). A majority of respondents reported having a family member or friend who had experienced an unintended pregnancy (57.8%) and 12.5% of respondents reported having experienced an unintended pregnancy themselves.

Measures

Attribution. The Attribution Questionnaire (AQ; Corrigan, Markowitz, Watson, Rowan, & Kubiak, 2003) is designed to measure mental health stigma, but was slightly modified to assess pregnancy stigma (see Appendix D). For example, “I would think that it were Harry’s own fault that he is in the present condition” is presented as “I would think that it were María/Aaliyah/Sarah’s own fault that she is pregnant.” The original 21-item questionnaire consists of seven subscales, measuring the following constructs: familiarity with mental illness, personal responsibility beliefs, pity, anger, fear, likelihood of helping, and coercion–segregation. However, the modified questionnaire includes 9 items comprising three of the seven original subscales (beliefs about personal responsibility, pity, and anger) as well as 1 item from the helping subscale; the other subscales and items were excluded due to lack of relevance to the present study. The response options are on a 9-point scale and are ordered from *not at all/not likely* (1) to *very much/very likely* (9). Mean scores are calculated for each subscale; higher scores for the personal responsibility and anger subscales indicate greater stigma, whereas lower scores for pity and helping subscales indicate greater stigma. Internal consistency (Chronbach’s alpha) for the original subscales are as follows: personal responsibility ($\alpha = .70$), pity ($\alpha = .74$), anger ($\alpha = .89$), and helping behavior ($\alpha = .88$).

Design & Procedures

Factorial vignettes integrate components of both experimental and survey designs in that participants are randomly assigned to read and respond to one among multiple versions of a vignette that differ from one another by the manipulation of key variables to see whether those changes tend to elicit different responses across the experimental

groups (Alexander & Becker, 1978; Ganong & Coleman, 2006). Expanded vignette surveys do not contain randomly manipulated variables but use multiple segments of a vignette to either reveal additional information about the depicted situation or to develop the story further (Ganong & Coleman, 2006). Multiple-segment factorial vignettes are hybrids of factorial and expanded vignettes by randomly manipulating variables within a vignette over multiple segments (Ganong & Coleman, 2006). A multiple-segment factorial vignette provides a rigorous method for testing the hypotheses raised above.

In the present study, a two-segment factorial vignette was used to evaluate attitudes toward pregnant women based on the random manipulation of four independent variables embedded in the vignette: the pregnant woman's age, race or ethnicity, marital status, and socioeconomic status. Following each segment, respondents had the opportunity to respond to the modified AQ items.

Segment 1. The first segment described a woman who has just found out that she is pregnant. Her age (18, 26, or 40 years) and race or ethnicity (Hispanic, Black, or White) were randomly manipulated. Race or ethnicity was explicitly stated in the vignette and implicitly reinforced through the use of racially-distinct names. Specifically, the first segment of the vignette was presented as follows (randomly manipulated variables are italicized):

María/Aaliyah/Sarah is a *18/26/40*-year-old *Hispanic/Black/White* woman who came into the clinic for her women's health exam. She explains to you, her healthcare provider, that she is concerned because she has not had a menstrual cycle for several months. Upon gathering more information from María/Aaliyah/Sarah, you decide to give her a pregnancy test because she is

currently sexually active. The results of the pregnancy test are positive.

María/Aaliyah/Sarah was not expecting to be pregnant at this time and she is visibly distraught about the results.

After reading this vignette, respondents were asked to explain what they would tell María/Aaliyah/Sarah. Respondents were then asked to respond to the modified AQ items to assess personal responsibility, pity, anger, and helping behaviors. These items were presented in random order to each respondent to avoid ordering effects.

Segment 2. After responding to those items, the vignette continued by offering additional information about the vignette character through random manipulation of marital status and socioeconomic status. Socioeconomic status was identified by revealing the vignette character's employment status, type of insurance, and her ability to provide financially for her baby. Specifically, the second vignette segment was presented as follows:

Upon further discussion, *María/Aaliyah/Sarah* explains that she is *married/not married* to the father of the baby. However/Further, *she is unemployed with no health insurance and therefore does not believe/employed with health insurance and therefore believes* that she will be able to provide financially for the baby if she chooses to keep it.

After reading the second segment, respondents were asked to explain what else they would tell María/Aaliyah/Sarah based on the additional information they were provided. Then, respondents were asked to again complete the modified AQ items to assess personal responsibility, pity, anger, and helping behaviors in random order.

Upon completing the vignette and its corresponding items, respondents were asked to provide information about their own personal characteristics. Specifically, respondents were asked to provide their personal experience with unintended pregnancy (i.e., family member, friend, self, none), professional status (i.e., nurse–midwifery student, OBGYN resident, nursing student, medical student), years of health care experience, age, gender identity, sexual orientation, race or ethnicity, education level achieved, relationship status, and religious preference.

Analytical Approach

Quantitative analyses. Ordinal logistic regression analyses were conducted to assess responses for beliefs about personal responsibility, pity, anger, and helping. Due to heavy polarization of responses on the anger dimension (most respondents indicated that they would not be angry at all), the responses were dichotomized into a binary variable of *not at all angry to some degree of anger* and a binary logistic regression analysis was conducted. Predictor variables included the randomly manipulated vignette variables as well as several respondent characteristics (i.e., experience with unintended pregnancy, gender identity, race and ethnicity, professional status, and religious affiliation). In all models, the vignette variables were entered first, then two-way interaction effects among those variables were tested using a forward stepwise procedure, and respondent characteristics were then entered into the models.

Qualitative analyses. The open-ended responses indicating what respondents would tell the patient depicted in the vignette were inductively coded. Specifically, a primary coder categorized responses into mutually exclusive codes; the unit of analysis was a thought phrase, so each response could be categorized into multiple codes ($M =$

3.00 codes per response). A codebook was created to provide a clear description of each code and to ensure that consistency was achieved throughout the coding process. A second researcher used the codebook and independently coded one-third of the responses to assess interrater reliability. This process resulted in a moderate degree of agreement for the first vignette segment ($\kappa = .75$) and strong agreement for the second vignette segment ($\kappa = .85$; McHugh, 2012).

Chapter Four

Results

Descriptive Statistics

Descriptive statistics for both segments revealed that respondents tended to report a high likelihood of helping the pregnant woman ($M_1 = 8.42$, $SD_1 = 0.99$; $M_2 = 8.42$, $SD_2 = 0.99$), a low degree of anger toward the pregnant woman ($M_1 = 1.78$, $SD_1 = 1.12$; $M_2 = 1.68$, $SD_2 = 1.21$), moderate to high feelings of pity for the pregnant woman ($M_1 = 6.47$, $SD_1 = 1.36$; $M_2 = 6.18$, $SD_2 = 1.72$), and a moderate likelihood of assigning responsibility to the woman for her pregnancy ($M_1 = 5.50$, $SD_1 = 1.52$; $M_2 = 5.71$, $SD_2 = 1.70$). Means did not differ considerably between healthcare professionals specializing in women's health care (i.e., nurse-midwifery students and OBGYN residents) and more general healthcare professionals (e.g., nursing students or medical students).

How Likely Are Respondents to Help?

The results of the ordinal logistic regression analyses predicting the amount of help the respondent would provide for the pregnant woman are displayed in Table 1. The analyses revealed that, after learning of the pregnant woman's age and racial or ethnic background in the first vignette segment, there were differences of amount of help that respondents would provide based on their own gender identity, racial identity, and professional specialization. Specifically, respondents were less likely to help the pregnant woman if they identified as male than female ($OR = 0.61$, $p = .045$), as Asian than White

(OR = 0.26, $p = .002$), and as general healthcare providers than women's health specialists (OR = 0.25, $p = .006$).

After learning of the woman's marital status and socioeconomic status in the second vignette segment, respondents who read about a married pregnant woman were less likely to provide help than were those who read about an unmarried pregnant woman (OR = 0.46, $p = .032$). Additionally, respondents who identified as Hispanic were less likely to provide help to the pregnant woman than were respondents who identified as White (OR = 0.31, $p = .018$). Consistent with the first vignette segment, males, Asians, and general healthcare providers remained less likely to help than were their respective counterparts. An interaction effect revealed that respondents who read about a Black pregnant woman were less likely to help than were those who read about a White pregnant woman when the patient was presented as unmarried. Another interaction effect indicated that respondents who read about a White pregnant woman were less likely to help than were those who read about a Black pregnant woman when she was presented as being employed and with health insurance (i.e., not low socioeconomic status), but there was no difference in likelihood of helping the patient based on race when she was presented as being unemployed and without health insurance (i.e., low socioeconomic status).

How Much Pity Do Respondents Feel?

The results of the ordinal logistic regression analyses of the amount of pity the respondent would feel toward the pregnant woman across both vignette segments is displayed in Table 2. After learning of the pregnant woman's age and racial or ethnic background in the first vignette segment, no statistical differences in pity felt for the

pregnant woman emerged. However, after learning of the pregnant woman's marital status and socioeconomic status in the next vignette segment, respondents who read about an unmarried pregnant woman reported feeling more pity than did those who read about a married pregnant woman (OR = 0.36, $p < .001$), and respondents who identified as general healthcare providers reported feeling less pity toward the pregnant woman than did respondents who identified as women's health specialists (OR = 0.53, $p = .041$). An interaction emerged regarding the amount of pity reported based on marital status and socioeconomic status. Specifically, among the pregnant women who were presented as being of low socioeconomic status, respondents were more likely to have pity if they read about a married pregnant woman. Conversely, among the pregnant women who were not presented as being of low socioeconomic status, respondents had more pity if they read about an unmarried than married pregnant woman.

How Responsible is the Woman for Her Pregnancy?

The results of the ordinal logistic regression analyses predicting the amount of responsibility the respondent would assign to the woman for her pregnancy across both vignette segments is displayed in Table 3. The analyses revealed that there were differences in perceptions of responsibility based on respondent characteristics. After learning of the pregnant woman's age and racial or ethnic background in the first vignette segment, males reported assigning more responsibility to the woman for her pregnancy than females (OR = 1.29, $p = .048$) as well as those who reported having a friend or family member who had experienced an unintended pregnancy compared to respondents who had no experience with unintended pregnancy (OR = 1.34, $p = .011$). Additionally,

respondents who identified as Asian assigned less responsibility to the pregnant woman than did respondents who identified as White (OR = 0.51, $p = .004$).

After gaining information about the pregnant woman's marital status and socioeconomic status in the second vignette segment, there was no longer a statistical difference in the amount of responsibility assigned by respondents who identified as Asian compared to respondents who identified as White. However, those who reported having a friend or family member who had experienced an unintended pregnancy continued to assign more responsibility to the woman for her pregnancy than those who had no experience with unintended pregnancy (OR = 1.57, $p = .023$). Additionally, male respondents continued to assign more responsibility to the pregnant woman than did female respondents (OR = 1.71, $p = .014$). Finally, respondents who identified as protestant assigned more responsibility to the pregnant woman than did those who identified as atheists (OR = 2.39, $p = .009$).

How Much Anger Is Expressed?

Results of the binary logistic regression analysis predicting the amount of anger the respondent would feel toward the pregnant woman is displayed in Table 4. After learning of the woman's age and racial or ethnic background in the first vignette segment, respondents who identified as protestant were significantly more likely to report feeling angry with the woman than respondents who identified as atheist (OR = 2.34, $p = .045$). After learning of the pregnant woman's marital status and socioeconomic status, respondents were more likely to report feeling angry toward a pregnant woman who was of low socioeconomic status compared to those who were not of low socioeconomic status (OR = 2.07, $p = .001$). Additionally, respondents who identified as Black were

more likely to report being angry with the pregnant woman than did respondents who identified as White (OR = 2.91, $p = .046$).

What Do Respondents Suggest?

After each vignette segment, respondents were asked to explain what they would tell the pregnant woman in these circumstances. Table 5 presents the most common responses for each segment. After learning of the woman's age and race or ethnicity in the first vignette segment, the most common responses were: (a) *discuss options*, (b) *provide support and understanding*, (c) *discuss resources for support* (i.e., social support, financial support), (d) *ask about thoughts and feelings*, and (e) *encourage the patient to take time to process*. After learning of the pregnant woman's marital status and socioeconomic status in the second vignette segment, nearly half of respondents stated that they would *discuss resources for support*; the next most common responses were (a) *discuss adoption*, (b) *discuss carrying the pregnancy to term*, and (c) *discuss options*. Although the majority of the open-ended responses did not differ considerably based on the woman's individual characteristics, there were some notable comparisons.

Among respondents who read about a 26-year-old pregnant woman, 25.2% stated they would *ask about thoughts and feelings*, whereas only 18.1% of respondents who read about a 40-year-old pregnant woman stated that they would do the same. Additionally, 15.2% of respondents who read about a 40-year-old pregnant woman stated that they would *gather more information*, compared to only 7.6% of respondents who read about an 18-year-old pregnant woman. Of respondents who read about a married woman, 18.7% stated they would discuss adoption compared to only 12.3% of respondents who read about an unmarried woman. On the contrary, very small

differences emerged regarding the percentage of respondents who reported that they would *discuss termination* or *discuss carrying the pregnancy to term*; Percentages were only 1.6% and 0.8% higher, respectively, for those who read about an unmarried woman compared to a married woman.

Among respondents who read about a pregnant woman of low socioeconomic status, 36.9% would *provide support and understanding*, and 17.6% indicated they would *ask about thoughts and feelings*. Comparatively, 42.7% and 25.1% of respondents, respectively, who read about a pregnant woman who was not of low socioeconomic status stated they would do the same. Among respondents who read about a Black pregnant woman, 24.5% reported that they would *encourage the patient to take time to process* and 17.0% indicated that they would *educate* the patient. Comparatively, only 14.9% of respondents who read about a Hispanic pregnant woman indicated that they would *encourage the patient to take time to process* and 11.2% stated they would *educate* the patient.

Table 1

Ordinal Logistic Regression Predicting Amount of Help Respondent Would Provide

Predictor	Segment 1					Segment 2				
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI
IV1: 18 years of age ^(26 years)	-0.01	0.26	.958	0.99	[0.59, 1.65]	-0.08	0.27	.756	0.92	[0.54, 1.56]
IV1: 40 years of age ^(26 years)	-0.41	0.26	.117	0.67	[0.40, 1.11]	-0.46	0.27	.087	0.63	[0.38, 1.07]
IV2: Hispanic ^(White, non-Hispanic)	0.29	0.26	.271	1.34	[0.80, 2.24]	0.34	0.47	.469	1.40	[0.56, 3.51]
IV2: Black, non-Hispanic ^(White, non-Hispanic)	0.35	0.26	.178	1.41	[0.85, 2.33]	0.22	0.47	.644	1.24	[0.49, 3.14]
IV3: Married ^(unmarried)						-0.79	0.37	.032	0.46	[0.22, 0.93]
IV4: Low SES ^(not low SES)						0.11	0.36	.753	1.12	[0.55, 2.27]
Interactions										
Black, non-Hispanic x marital status						1.56	0.52	.003	4.77	[1.71, 13.29]
Black, non-Hispanic x SES						-1.10	0.53	.039	0.33	[0.12, 0.95]
Respondent characteristics										
Respondent had unplanned pregnancy ^(no experience)	-0.19	0.35	.584	0.25	[0.42, 1.63]	-0.23	0.35	.516	0.80	[0.40, 1.58]
Friend/ family had unplanned pregnancy ^(no experience)	0.17	0.24	.488	0.83	[0.74, 1.88]	0.24	0.24	.331	1.27	[0.79, 2.04]
Gender identity ^(female)	-0.50	0.25	.045	0.61	[0.37, 0.99]	-0.57	0.26	.026	0.57	[0.34, 0.94]
Asian ^(White, non-Hispanic)	-1.34	0.44	.002	0.26	[0.11, 0.61]	-1.38	0.44	.002	0.25	[0.11, 0.60]
Black, non-Hispanic ^(White, non-Hispanic)	-0.47	0.50	.355	0.63	[0.23, 1.68]	-0.61	0.51	.231	0.54	[0.20, 1.47]
Hispanic ^(White, non-Hispanic)	-0.81	0.47	.086	0.44	[0.18, 1.12]	-1.16	0.49	.018	0.31	[0.12, 0.82]
General health providers ^(nurse-midwife, OBGYN)	-1.40	0.51	.006	0.25	[0.09, 0.67]	-1.48	0.52	.005	0.23	[0.08, 0.64]
Catholic ^(atheist)	-0.32	0.42	.446	0.72	[0.32, 1.66]	-0.34	0.44	.440	0.71	[0.30, 1.68]
Protestant ^(atheist)	-0.19	0.41	.649	0.83	[0.37, 1.85]	-0.13	0.42	.749	0.87	[0.38, 1.99]
Agnostic ^(atheist)	0.29	0.49	.549	1.34	[0.51, 3.50]	0.37	0.50	.457	1.45	[0.54, 3.89]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 2

Ordinal Logistic Regression Predicting Amount of Pity Respondent Would Feel

Predictor	Segment 1					Segment 2				
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI	<i>B</i>	<i>SE</i>	<i>P</i>	<i>OR</i>	95% CI
IV1: 18 years of age ^(26 years)	0.13	0.12	.292	1.14	[0.89, 1.46]	0.17	0.36	.633	1.19	[0.59, 2.41]
IV1: 40 years of age ^(26 years)	-0.10	0.13	.421	0.90	[0.70, 1.16]	-0.54	0.38	.154	0.58	[0.28, 1.23]
IV2: Hispanic ^(White, non-Hispanic)	0.07	0.13	.593	1.07	[0.83, 1.35]	-0.09	0.38	.815	0.91	[0.43, 1.94]
IV2: Black, non-Hispanic ^(White, non-Hispanic)	0.05	0.12	.665	1.06	[0.83, 1.35]	-0.29	0.36	.416	0.75	[0.37, 1.51]
IV3: Married ^(unmarried)						-1.03	0.26	.000	0.36	[0.22, 0.59]
IV4: Low SES ^(not low SES)						0.07	0.24	.786	1.07	[0.66, 1.73]
Interactions										
Marital status x SES						1.02	0.35	.004	2.78	[1.39, 5.53]
Respondent characteristics										
Respondent had unplanned pregnancy ^(no experience)	-0.06	0.17	.735	0.94	[0.67, 1.32]	-0.30	0.30	.311	0.74	[0.41, 1.32]
Friend/family had unplanned pregnancy ^(no experience)	0.03	0.12	.822	1.03	[0.82, 1.29]	0.29	0.20	.145	1.34	[0.90, 1.98]
Gender identity ^(female)	-0.04	0.13	.755	0.96	[0.75, 1.23]	-0.12	0.22	.584	0.89	[0.58, 1.36]
Asian ^(White, non-Hispanic)	-0.09	0.23	.709	0.92	[0.58, 1.45]	-0.12	0.40	.770	0.89	[0.40, 1.96]
Black, non-Hispanic ^(White, non-Hispanic)	-0.35	0.25	.163	0.70	[0.43, 1.15]	-0.38	0.44	.386	0.68	[0.29, 1.61]
Hispanic ^(White, non-Hispanic)	0.04	0.25	.887	1.04	[0.64, 1.68]	0.26	0.42	.540	1.30	[0.56, 2.98]
General Health Providers ^(nurse-midwife, OBGYN)	-0.28	0.18	.121	0.75	[0.53, 1.08]	-0.64	0.31	.041	0.53	[0.28, 0.97]
Catholic ^(atheist)	-0.38	0.21	.069	0.69	[0.46, 1.03]	-0.41	0.35	.244	0.67	[0.34, 1.32]
Protestant ^(atheist)	-0.30	0.20	.127	0.74	[0.50, 1.09]	-0.29	0.33	.380	0.75	[0.39, 1.43]
Agnostic ^(atheist)	-0.16	0.23	.496	0.85	[0.54, 1.34]	0.07	0.39	.866	1.07	[0.50, 2.30]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 3

Ordinal Logistic Regression Predicting Amount of Responsibility Respondent Would Attribute

Predictor	Segment 1					Segment 2				
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI
IV1: 18 years of age ^(26 years)	-0.10	0.12	.434	0.91	[0.71, 1.16]	-0.19	0.21	.378	0.83	[0.55, 1.26]
IV1: 40 years of age ^(26 years)	-0.09	0.13	.488	0.92	[0.71, 1.17]	0.03	0.22	.875	1.03	[0.68, 1.58]
IV2: Hispanic ^(White, non-Hispanic)	-0.08	0.13	.508	0.92	[0.72, 1.18]	0.12	0.22	.579	1.13	[0.74, 1.73]
IV2: Black, non-Hispanic ^(White, non-Hispanic)	-0.11	0.12	.372	0.90	[0.70, 1.14]	0.07	0.21	.741	1.07	[0.71, 1.62]
IV3: Married ^(unmarried)						0.02	0.17	.889	1.02	[0.73, 1.44]
IV4: Low SES ^(not low SES)						-0.05	0.17	.773	0.95	[0.68, 1.34]
Respondent characteristics										
Respondent had unplanned pregnancy ^(no experience)	0.02	0.17	.909	1.02	[0.73, 1.43]	-0.13	0.30	.661	0.88	[0.49, 1.57]
Friend/family had unplanned pregnancy ^(no experience)	0.29	0.12	.011	1.34	[1.07, 1.68]	0.45	0.20	.023	1.57	[1.07, 2.32]
Gender identity ^(female)	0.25	0.13	.048	1.29	[1.00, 1.66]	0.54	0.22	.014	1.71	[1.11, 2.62]
Asian ^(White, non-Hispanic)	-0.67	0.23	.004	0.51	[0.33, 0.81]	-0.44	0.40	.271	0.65	[0.30, 1.41]
Black, non-Hispanic ^(White, non-Hispanic)	0.08	0.25	.742	1.09	[0.66, 1.79]	0.28	0.43	.521	1.32	[0.56, 3.09]
Hispanic ^(White, non-Hispanic)	0.20	0.25	.422	1.22	[0.75, 1.98]	0.53	0.42	.211	1.70	[0.74, 3.88]
General health providers ^(nurse-midwife, OBGYN)	0.23	0.18	.201	1.25	[0.89, 1.78]	0.56	0.31	.069	1.74	[0.96, 3.17]
Catholic ^(atheist)	0.12	0.20	.565	1.12	[0.75, 1.67]	0.56	0.35	.109	1.75	[0.88, 3.48]
Protestant ^(atheist)	0.17	0.19	.371	1.19	[0.81, 1.74]	0.87	0.34	.009	2.39	[1.24, 4.61]
Agnostic ^(atheist)	-0.21	0.23	.359	0.81	[0.52, 1.27]	0.62	0.39	.114	1.86	[0.86, 3.99]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 4

Binary Logistic Regression Predicting Amount of Anger Respondent Would Feel

Predictor	Segment 1					Segment 2				
	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI	<i>B</i>	<i>SE</i>	<i>p</i>	<i>OR</i>	95% CI
IV1: 18 years of age ^(26 years)	-0.16	0.25	.524	0.85	[0.52, 1.39]	-0.15	0.26	.554	0.86	[0.52, 1.43]
IV1: 40 years of age ^(26 years)	-0.35	0.27	.167	0.70	[0.43, 1.16]	0.00	0.26	.995	1.00	[0.60, 1.68]
IV2: Hispanic ^(White, non-Hispanic)	0.19	0.26	.469	1.20	[0.73, 1.99]	0.03	0.27	.926	1.03	[0.61, 2.13]
IV2: Black, non-Hispanic ^(White, non-Hispanic)	0.02	0.25	.924	1.02	[0.63, 1.68]	0.10	0.26	.703	1.12	[0.66, 1.84]
IV3: Married ^(unmarried)						-0.19	0.21	.367	0.83	[0.54, 1.25]
IV4: Low SES ^(not low SES)						0.73	0.22	.001	2.07	[1.35, 3.15]
Respondent characteristics										
Respondent had unplanned pregnancy ^(no experience)	-0.48	0.35	.173	0.62	[0.31, 1.23]	-0.54	0.37	.147	0.58	[0.28, 1.21]
Friend/family had unplanned pregnancy ^(no experience)	-0.39	0.23	.092	0.68	[0.43, 1.07]	0.02	0.24	.934	1.02	[0.64, 1.63]
Gender identity ^(female)	0.21	0.26	.417	1.24	[0.74, 2.06]	0.36	0.27	.179	1.43	[0.85, 2.40]
Asian ^(White, non-Hispanic)	-0.48	0.47	.313	0.62	[0.25, 1.57]	-0.24	0.49	.622	0.79	[0.30, 2.06]
Black, non-Hispanic ^(White, non-Hispanic)	0.79	0.54	.142	2.21	[0.77, 6.37]	1.07	0.54	.046	2.91	[1.02, 8.33]
Hispanic ^(White, non-Hispanic)	0.08	0.49	.867	1.09	[0.42, 2.84]	0.99	0.51	.054	2.69	[0.99, 7.34]
General health providers ^(nurse-midwife, OBGYN)	-0.30	0.36	.405	0.74	[0.36, 1.51]	0.22	0.38	.575	1.24	[0.59, 2.63]
Catholic ^(atheist)	0.41	0.42	.325	1.51	[0.67, 3.43]	-0.54	0.42	.196	0.58	[0.26, 1.32]
Protestant ^(atheist)	0.84	0.42	.045	2.34	[1.02, 5.27]	-0.05	0.42	.900	0.95	[0.42, 2.14]
Agnostic ^(atheist)	0.07	0.47	.887	1.07	[0.43, 2.68]	-0.70	0.48	.142	0.50	[0.20, 1.26]

Note. Reference category in parentheses. CI = confidence interval for odds ratio (*OR*).

Table 5
Open-ended Responses (N = 421)

	Segment 1		Segment 2	
	<i>n</i>	%	<i>n</i>	%
Discuss options	207	49.2	65	15.4
Support and understanding	167	39.7	49	11.6
Resources for support	113	26.8	195	46.3
Thoughts and feelings	89	21.1	11	2.6
Encourage patient to process	87	20.7	21	5.0
Suggest further medical care	79	18.8	35	8.3
Discuss termination	72	17.1	47	11.2
Discuss adoption	65	15.4	82	19.5
Carry pregnancy to term	58	13.8	74	17.6
Educate	57	13.5	55	13.1
Gather more information	50	11.9	30	7.1
Explain results	39	9.3	1	0.2
Ask about support system	31	7.4	27	6.4
Discuss/consult with close others	31	7.4	4	1.0
Answer questions	30	7.1	10	2.4
Positivity about pregnancy	17	4.0	30	7.1
Ask about baby's father	16	3.8	51	12.1
High-risk	11	2.6	2	0.5
Unbiased communication	10	2.4	3	0.7
Make her own decisions	4	1.0	40	9.5

Chapter Five

Discussion and Conclusion

The purpose of the present study was to understand health care providers' perceptions of pregnant women based on age, marital status, race or ethnicity, and socioeconomic status using a true-experiment design. Notable differences were observed in open-ended responses to the pregnant woman based on her characteristics, and statistical differences emerged in the amount of pity, anger, likelihood of helping, and responsibility assigned to the pregnant woman based on the pregnant woman's characteristics as well as the respondents' characteristics. However, none of the empirically-supported hypotheses were fully supported by these data.

Responses to the Attribution Questionnaire

Respondents who read about a pregnant woman of low socioeconomic status exhibited a higher likelihood of expressing some degree of anger toward the woman than were respondents who read about a pregnant woman who was not of low socioeconomic status. It is possible that some feelings of anger were reported because it is common for women of low socioeconomic status to make poor health choices while pregnant (e.g., smoking) and to be somewhat unprepared to care for the infant postpartum (Larson, 2007). Although the likelihood of helping did not vary by race for a woman of low socioeconomic status, respondents who read about a pregnant woman who was employed with health insurance reported a greater likelihood of helping a Black woman than a White woman. Thus, the hypothesis that pregnancies of Black women are more stigmatized than pregnancies of White women (H_5) was not supported by these data. This finding is consistent with a recent study reporting that privately insured pregnant women

were less likely than uninsured pregnant women to report discrimination by health care providers based on race (Attanasio & Kozhimannil, 2015), which in essence suggests that, among pregnant women, socioeconomic status may be a better predictor of stigma and discrimination than race.

Respondents reported less pity (indicating more stigma) for an unmarried than married pregnant woman when unemployed and without health insurance, but more pity for an unmarried woman than a married woman when employed with health insurance. Therefore, the hypothesis that non-marital pregnancy is more stigmatized (H₃) was supported only when the woman is of low socioeconomic status. This is not surprising given that children of single mothers have a heightened risk of disadvantage due to diminished family resources and a lesser degree of psychosocial support (McLanahan & Percheski, 2008). Simply stated, the financial inability of an unmarried woman to support a child may exacerbate the perceived disadvantage of single motherhood and result in a higher degree of stigma associated with her pregnancy (which would not apply to a woman with financial resources).

Furthermore, when considering responses to unmarried pregnant women based on race, respondents who read about a White woman reported a higher likelihood of helping than did those who read about a Black woman, indicating less stigma associated with pregnancy of an unmarried White woman. Thus, the hypothesis that pregnancies to Black women are more stigmatized than pregnancies to White women is partially supported (H₅), but only among unmarried women. This may be explained by the fact that Black women have a higher rate of non-marital births and are less likely to report use of contraceptives than are White women (Kim & Raley, 2014).

Finally, the absence of meaningful differences in the degree of pity, anger, helping, and responsibility attributed to the pregnant woman based on age supports recent research reporting that no difference was found in perceived discrimination by health care providers based on the pregnant woman's age (Attanasio & Kozhimannil, 2015). However, although these data fail to support the hypothesis that early pregnancy is more stigmatized than normatively-timed pregnancy (H_1), the definition of "early" in this study (i.e., 18 years of age) was selected based on social demographics in the United States (and to avoid confounding issues with legal minors) but may not be viewed as clinically abnormal for pregnancy from a medical perspective. For example, young adolescent pregnancy has been defined as pregnancy to females 12–15 years of age (Scholl et al., 1992). Therefore, further research is needed to distinguish adolescent experiences and healthcare provider perceptions of young pregnant adolescents (e.g., 12–15) versus older pregnant adolescents (e.g., 16–18 years of age).

Open-Ended Responses

Open-ended responses to pregnant women of differing ages revealed that respondents who read about an 18-year-old pregnant woman were notably less likely to indicate that they would *gather more information* from the pregnant woman than were those who read about a 40-year-old pregnant woman. The attitudes expressed by respondents regarding the need to engage in more inquisitive conversations with older women about their circumstances is consistent with research suggesting that adolescent

mothers perceive differential content and quality of communication with postpartum nurses compared to older mothers (Peterson et al., 2007).

Considering open-ended responses by race and ethnicity, a lower percentage of respondents who read about a Hispanic pregnant woman stated that they would *encourage the patient to take time to process* the news of being pregnant compared to those who read about a Black or White pregnant woman. Although respondents read that the woman was distressed by the results of the pregnancy test, Hartnett (2012) reported that Hispanic women tend to be happier about an unintended pregnancy than do Black or White women, suggesting that cultural assumptions may influence the ways in which health care providers respond to pregnant women of different racial or ethnic backgrounds. Simply put, respondents may tend to assume that Hispanic women are less in need of time to process the news because they generally have relatively positive responses to unintended pregnancies. However, the potential influence of racial or ethnic biases should not be minimized.

Additionally, a higher percentage of respondents who read about a Black pregnant woman indicated they would *educate* the woman about pregnancy compared to those who read about a White or Hispanic woman. Although this could indicate that health care providers are making assumptions about the pregnant woman's level of knowledge about pregnancy, this could also be related to the large disparity in health outcomes by race or ethnicity. For example, Black women have a heightened risk of maternal death than do White or Hispanic women (ACOG, 2015). Thus, those who read about a Black pregnant woman being more likely than others to report that they would *educate* the pregnant

woman may in part be out of concern for her well-being, but as with the difference in responses to Hispanic women, racial or ethnic biases may also be a factor.

Differences in open-ended responses based on marital status alone indicated that, compared to respondents who read about an unmarried pregnant woman, a higher percentage of respondents who read about a married pregnant woman stated that they would *discuss adoption* with her. Although respondents who stated that they would *discuss possible options* frequently proceeded to list *adoption, termination, and carrying pregnancy to term* as possible options, there were no meaningful differences in percentages of respondents who stated that they would *discuss termination* or *discuss carrying pregnancy to term* with a married versus unmarried pregnant woman. This difference may be explained, to some extent, by past research reporting that only 6% of infants relinquished for adoption were born to currently married mothers, compared to 94% who were born to currently unmarried mothers (Stolley, 1993). Thus, health care providers may unconsciously assume that unmarried women are already more likely to consider adoption, whereas married women may need to be reminded that adoption can still be an option.

Finally, respondents who read about a woman employed with health insurance were more likely to state they would *provide support and understanding* for the pregnant woman and *ask about thoughts and feelings* than were respondents who read about a woman who was unemployed and without health insurance. Both of these responses imply that the respondent desired to convey a supportive, compassionate, and empathetic attitude toward the distressed pregnant woman in the vignette. That this occurred less often with women of low socioeconomic status is consistent with recent research

indicating that uninsured women perceive a higher degree of discrimination by health care providers than do those who are privately insured (Attanasio & Kozhimannil, 2015), and suggests that (more) sensitivity training for working with low income women may be needed in health care settings.

Impact of Respondent Characteristics

Statistical differences were found on each of the four subscales of the AQ based on respondent characteristics. Several differences emerged when considering the race or ethnicity of the respondent. Compared to Whites, Asians had a lower likelihood of helping the woman despite attributing less responsibility to the patient before learning of her marital status and socioeconomic status. Asians are often absent from research on pregnancy—perhaps in part because only 7% of births in the United States are to Asian women (Martin, Hamilton, Osterman, Driscoll, & Mathews, 2017) —so little is known about how Asians in the United States tend to perceive pregnancy, and especially unintended pregnancy. However, unmarried women comprise only 16.4% of pregnancies to Asian women in the United States (compared to the national average of 40.3%; Martin et al., 2017), so Asians may not have a great deal of experience with pregnancy in this context.

No notable differences in pity felt or likelihood of helping emerged when comparing Catholics, protestants, and agnostics to atheists following the first vignette segment, which aligns with recent research reporting that the ability to empathize is similar across religions as well with as those who identify as atheist (Lindeman & Lipsanen, 2016). However, after learning of the pregnant woman’s marital status and socioeconomic status in the second vignette segment, protestants assigned more

responsibility to the pregnant woman, perhaps because premarital sex is considered immoral in this faith tradition (Peterson & Donnenwerth, 1997). Although premarital sex is also deemed immoral in the Catholic faith tradition, recent research indicated that adherence to this belief was nearly nonexistent among Catholics in emerging adulthood (Smith, Longest, Hill, & Christoffersen, 2014), which possibly explains the lack of differences in attitudes toward pregnant women among Catholic and atheist respondents.

Finally, compared to respondents who had no experience with unintended pregnancy, those who reported having a friend or family member who experienced an unintended pregnancy assigned more responsibility to the pregnant woman, as did males (who also reported a lesser likelihood of helping). Several factors may have influenced these responses. First, given the widespread availability and effectiveness of female contraceptives, and despite the availability and effectiveness of condoms for preventing pregnancy, the majority of the responsibility for preventing pregnancy is ascribed to women (Persaud-Sharma et al., 2017). Second, past research indicated that women who experienced unintended pregnancy reported feeling pressure from family and friends to get pregnant (even outside of the context of marriage), as well as pressure from male partners to have unprotected sex (Moos, Petersen, Meadows, Melvin, & Spitz, 1997).

Strengths, Limitations, and Future Directions

The present study is one of the first to examine healthcare providers' implicit attitudes, perceptions, and biases toward pregnant woman based on the pregnant woman's characteristics using a true-experiment design. This is meaningful because the literature on stigma and pregnancy has been comprised solely of women's reports of *perceived* stigma and discrimination by healthcare providers, and not healthcare

providers' own perceptions of these women. However, as is always the case, this study had several limitations. First, although true-experiment designs have a high degree of internal validity, respondents read about and responded to a hypothetical pregnant woman and the external validity is therefore suspect. Said another way, it cannot be assumed that actual responses would be the same if faced with similar circumstances in a real-life health care setting. Second, only 9% of the sample identified as nurse-midwifery students or OBGYN residents. Thus, more research is needed specifically on women's health specialists' perceptions of pregnant women, given research indicating that women feel stigmatized and discriminated against specifically in women's health care settings. Finally, a pregnancy to an 18-year-old may not have been considered an "early" pregnancy by healthcare providers, and thus more research is needed to understand how younger adolescents are perceived compared to older adolescents who have reached the age of majority (i.e., legal adulthood).

Conclusion

A true-experiment design to assess healthcare providers' perceptions of pregnant women based on her age, marital status, race or ethnicity, and socioeconomic status failed to find complete support for any of the empirically-derived hypotheses. Thus, more research is needed to address the many unresolved questions in this body of literature. Answers to those questions would clarify where the disconnect lies in women's perceptions of, and healthcare providers' attitudes and behaviors toward pregnant women, and consequentially could inform interventions aimed at reducing the likelihood of stigmatizing or discriminatory experiences among pregnant women in health care settings.

Appendix A

Informed Consent

This study is designed to understand health care providers' beliefs about pregnant women. You are being invited to this study because you are involved in women's reproductive healthcare. Your response is highly valued and will contribute to a larger body of research that has educational, clinical, or policy implications.

You will be asked to read a short story and respond to the questions that follow. You will also be given the opportunity to provide demographic information. The survey will take about 10 minutes to complete.

While you may not benefit personally from taking part in the study, the potential benefit of this research is to inform the practice of women's health care of implicit attitudes and biases held by those in the profession. Findings may contribute to the practice of women's health care and education of those in the field. You should not take part in the study if you are under the age of 18 or if you are neither a health care provider nor a student in training to work in women's reproductive health care. It is a possibility that you may experience mild psychological or social distress associated with the study questions.

Your responses to the survey are confidential, which means any identifying information will not appear on any research documents, or be used in presentations or publications. The research team will not know that any information you provided came from you. The "anonymous link" feature on Qualtrics will be used to ensure that no identifying information is automatically collected from you by clicking on the link to participate in the study. Additionally, the "anonymous response" feature will also be utilized to prevent Qualtrics from recording your IP address. If you desire to provide your e-mail address for the purpose of entering into the drawing for the study incentive, you will be directed to a separate survey website to provide your e-mail address. Due to the utilization of a separate survey site for collection of e-mail addresses, your survey responses will not be linked to your identity in any way.

Data will be stored on a secure, password-protected server for a minimum of six years. Survey responses will be stored separately from any identifying information. Only the PI and the faculty advisor will have access to the study data. Your information will be combined with information from other people taking part in the study. When we write about the study to share it with other researchers, we will write about the combined information we have gathered. You will not be personally identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private. Please be aware, while we make every effort to safeguard your data once received from the online survey/data gathering company, given the nature of online surveys, as with anything involving the Internet, we can never guarantee the confidentiality of the data while still on the survey/data gathering company's servers, or while en route to either them or us. It is also possible the raw data

collected for research purposes may be used for marketing or reporting purposes by the survey/data gathering company after the research is concluded, depending on the company's Terms of Service and Privacy policies.

If you choose, at the end of the study you can be directed to a separate survey to provide your e-mail address to be entered into a drawing to win a \$5 Amazon gift card. 100 respondents will be randomly drawn to receive a gift card, which is approximately a 10% chance of being drawn. Please note that if you choose to provide your e-mail address, your identity will not remain completely anonymous. However, survey responses will be stored separately from any identifying information. We hope to receive completed questionnaires from about 1,000 respondents in total. Of course, you have a choice about whether or not to participate, but if you do begin to participate then you may skip questions or discontinue at any time.

If you have questions about this study, please contact Dr. Jason Hans at Jason.Hans@uky.edu. If you have complaints, suggestions, or questions about your rights as a research volunteer, please contact the staff in the University of Kentucky Office of Research Integrity at 859-257-9428 or toll-free at 1-866-400-9428.

Respectfully,
Allison Goderwis, principal investigator
Dr. Jason Hans, faculty advisor
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Appendix B

Modified Attribution Questionnaire

Instructions: Please respond to each of the following questions/statements on a sliding scale of *not at all/not likely* (1) to *very much/very likely* (9).

Scoring: Scores for each construct are summed and divided by the number of items for each construct.

Personal Responsibility Beliefs	
I would think that it is <i>María/Aaliyah/Sarah</i> 's own fault that she is pregnant.	1 = <i>no, not at all</i> ; 9 = <i>yes, absolutely</i>
How controllable, do you think, is the cause of <i>María/Aaliyah/Sarah</i> 's pregnancy?	1 = <i>not at all under personal control</i> ; 9 = <i>completely under personal control</i>
How responsible, do you think, is <i>María/Aaliyah/Sarah</i> for her pregnancy?	1 = <i>not at all responsible</i> ; 9 = <i>very much responsible</i>
Pity	
I would feel pity for <i>María/Aaliyah/Sarah</i> .	1 = <i>none at all</i> ; 9 = <i>very much</i>
How much sympathy would you feel for <i>María/Aaliyah/Sarah</i> ?	1 = <i>none at all</i> ; 9 = <i>very much</i>
How much concern would you feel for <i>María/Aaliyah/Sarah</i> ?	1 = <i>none at all</i> ; 9 = <i>very much</i>
Anger	
I would feel aggravated by <i>María/Aaliyah/Sarah</i> .	1 = <i>not at all</i> ; 9 = <i>very much</i>
How angry would you feel at <i>María/Aaliyah/Sarah</i> ?	1 = <i>not at all</i> ; 9 = <i>very much</i>
How irritated would you feel by <i>María/Aaliyah/Sarah</i> ?	1 = <i>not at all</i> ; 9 = <i>very much</i>
Helping Behaviors	
How certain would you feel that you would help <i>María/Aaliyah/Sarah</i> ?	1 = <i>not at all certain</i> ; 9 = <i>absolutely certain</i>

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