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Factors Associated with Reproductive Autonomy: A Social Ecological Approach

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Factors Associated with Reproductive Autonomy: A Social Ecological Approach

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An abstract of a thesis submitted to the Faculty
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Abstract

Factors Associated with Reproductive Autonomy: A Social Ecological Approach

By: Sarah Auer

Introduction Unintended pregnancy imposes severe physical, mental and economic consequences for young women in the United States. Previous research has demonstrated associations between reproductive autonomy and coercion and increased unintended pregnancy rates. Reproductive autonomy and reproductive coercion are important indicators of women's' control over their reproductive health and subsequent wellbeing.

Objective This study utilizes the Social Ecological Model to explore the multi-level factors associated with high reproductive autonomy and the presence of reproductive coercion in young women living in and around Atlanta, Georgia.

Methods Women between the ages of 15-24 living in the Atlanta area were recruited to participate in the Young Women's Stress Study (YWSS). The YWSS collected information on physical health, risk behaviors, mental health, social and physical environment, sexual health and history, family history, and reproductive health knowledge and attitudes. This study explored the baseline data of the YWSS using bivariate analyses and multivariate regressions to examine what social and cultural variables are associated with reproductive autonomy and reproductive coercion in this population.

Results A multivariate linear regression revealed that for every unit increase in age, there is a .1012 increase in reproductive autonomy scores (B=.1012, 95% CI .0196, .1828, p=.0156). The

logistic regression indicated that participants who had experienced less discrimination were more likely to experience reproductive coercion, with the data revealing that for each unit increase in discrimination (higher score equates to less discrimination), the odds of experiencing reproductive coercion increased by 1.23 (AOR=1.23, 95% CI 1.055, 1.560, p=.01). The results also indicated a significant association between the reproductive coercion outcome and income (p=.04). Participants with an income less than $9,999 are less likely to experience reproductive coercion than women with an income between $10,000 and $19,999 (AOR=.336, 95% CI .119, .954, p=.04). There were no significant differences between participants with an income less than $9,999 and participants with an income greater than $20,000 (p=.63) or participants with an income between $9,999 and $19,999 and participants with an income greater than $20,000 (p=.44).

Conclusion The results indicate that reproductive autonomy scores increase with age while experiencing discrimination and income level are important predictors of reproductive coercion in young women. Future research is needed to understand the durability of the association with age across the life course and the types of discrimination that most impact the presence of reproductive coercion in young women.

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Chapter 1 - Introduction

Unintended Pregnancy in the U.S

According to the United States National Survey of Family Growth between the years 2011-2015, 13.4% of females reported having an unintended or "unwanted" pregnancy in the 5 years prior to data collection (Centers for Disease Control and Prevention [CDC] and the National Center for Health Statistics, 2017). An additional 19.5% reported having a pregnancy that was "mistimed" or "desired" but at a later date (CDC and the National Center for Health Statistics, 2017). While rates of unintended pregnancy appear to be on the decline in the 21st century, data suggests that as recently as 2011, 45% of pregnancies were still "unintended" (Finer & Zolna, 2016). Unintended pregnancy remains an important public health metric because of its associated negative health outcomes for both mother and baby (Finer & Zolna, 2016). The health outcomes associated with unintended pregnancy include low infant birthweight and premature birth alongside greater odds of partaking in risky behaviors during pregnancy (Finer & Zolna, 2016; Cheng, D., Schwarz, E. B., Douglas, E., & Horon, I., 2009). Unintended pregnancy is also an important "benchmark" for measuring reproductive health and the amount of control that women maintain over their reproductive choices and subsequent wellbeing (Finer & Zolna, 2016). While effective contraceptives are an important link to reducing unintended pregnancy in the United States, women must have the 'power' or 'control' to choose and maintain taking effective contraception (Upadhyay, U. D., Dworkin, S. L., Weitz, T. A., & Foster, D. G., 2014). In this way, women must have "reproductive autonomy" over their own health. Upadhyay et al. define 'reproductive autonomy' broadly as a person "having the power to decide about and control matters associated with contraceptive use, pregnancy, and childbearing" (2014). Upadhyay et al. explicitly cite reproductive autonomy as an important means to enhance women's use of effective contraceptives and reduce the rate of unintended pregnancy (2014).

While there are several health implications for the children born out of unintended pregnancies, these pregnancies also impact the health and trajectory of the mother. Data drawn from the Wisconsin Longitudinal Study indicated that women who had a completely unwanted pregnancy and carried to term experienced worse mental health outcomes, including "significant depressive episodes", in the long term (Herd, P., Higgins, J., Sicinski, K., & Merkurieva, I., 2016). A 2009 study utilizing Maryland Pregnancy Risk Assessment Monitoring System (PRAMS) data also found that women who had pregnancies either labeled 'mistimed' or 'unwanted' were nearly twice as likely to experience postpartum depression than their counterparts with planned pregnancies (Cheng et al., 2009).

The data indicate that in 2011, the highest rate of unintended pregnancy occurred in women ages 20-24 (Finer & Zolna, 2016). Curtailing unintended pregnancies in the United States is a priority to ensure the best outcomes for both women and their children. Preventing unintended pregnancy is vital as women continue to experience high maternal morbidity and mortality in the U.S. (Nelson, D. B., Moniz, M. H., & Davis, M. M., 2018; Creanga, A. A., Berg, C. J., Syverson, C., Seed, K., Bruce, F. C., & Callaghan, W. M., 2015; MacDorman, M. F., Declercq, E., Cabral, H., & Morton, C., 2016). Pregnancy is not without risk and the maternal mortality rate has climbed over recent decades, estimated at 21.5 per 100,000 live births in 2014 (Nelson et al., 2018; Creanga et al., 2015; MacDorman et al., 2016). Though not all unintended pregnancies result in live-births, the CDC estimate nearly 700 women die yearly from pregnancy-related illness (National Center for Chronic Disease Prevention and Health Promotion Division of Reproductive Health, 2019).

While the biological impacts on women are profound, unintended pregnancies also impose an economic burden on the United States (Trussell, J., Henry, N., Hassan, F., Prezioso,

A., Law, A., & Filonenko, A., 2013; Sonfield & Kost, 2015). Trussell et al. estimate that there are 3.11 million live births annually that cost roughly $4.6 billion, not accounting for prenatal costs (2013). Not only are unintended pregnancies costly to the country, but low-income women experience them at higher rates than middle and high-income women, resulting in many unintended pregnancies being funded by public providers (Sonfield & Kost, 2015). Sonfield and Kost estimate that in 2010, the government spent $21 billion dollars on unintended pregnancy (2015). These costs are especially pronounced in areas that traditionally teach abstinence and under-fund reproductive health education, such as the southeast regions of the United States (Sonfield & Kost, 2015).

Defining Reproductive Autonomy and Reproductive Coercion

Upadhyay et al. determined that empowerment was defined and influenced by 5 key concepts in a woman's life: self-efficacy, decision-making power, communication ability, "equitable gender role attitudes" and "management of coercion as influences" (2014). Reproductive autonomy is pertinent to women's health due to its juxtaposition with 'reproductive coercion' or "behavior intended to maintain power and control in a relationship related to reproductive health by someone who is, was, or wishes to be involved in an intimate or dating relationship with an adult or adolescent" (American College of Obstetricians and Gynecologists, 2013). Grace and Anderson define reproductive coercion by three major behaviors: "birth control sabotage", "pressure to become pregnant" and "controlling the outcome of a pregnancy" (2018). Examples of these behaviors include: removal of a vaginal ring without a woman's consent, verbally or physically forcing a woman to become pregnant and/or forcing a woman to keep or abort a pregnancy against her wishes (Grace & Anderson, 2018; Nikolajski et

al., 2015). While a lack of reproductive autonomy does not automatically equate to a presence of reproductive coercion, it could be argued that if an individual does not have control over their reproductive choices, they may be reproductively coerced. Grace and Anderson explicitly note that a key aspect of reproductive autonomy is "freedom from reproductive coercion" (2018).

Health Impacts of Reproductive Autonomy and Reproductive Coercion

While reproductive autonomy and reproductive coercion operate on personal, social and cultural levels, they have been found to impact health on a biological level (Silverman & Raj, 2014; Chamberlain & Levenson, 2012; Holliday et al., 2018; Upadhyay et al., 2014). Recent research has hypothesized that reproductive coercion is an active pathway for long studied associations between intimate partner violence (IPV) and poor reproductive outcomes (Silverman et al., 2014; Chamberlain & Levenson, 2012; Grace & Anderson, 2018). Reproductive coercion has also been associated with higher rates of unintended pregnancy, even when not co-occurring with IPV (Miller et al., 2010; Silverman et al., 2014). There are also disparities within race and class of who most experiences reproductive coercion, with minority women and those with lower socioeconomic status experiencing it disproportionately (Gomez, A. M., Fuentes, L., & Allina, A., 2014; Miller et al., 2010; Grace & Anderson, 2018; Holliday et al., 2017; Nikolajski et al., 2015). Holliday et al. learned through qualitative interviews in a larger randomized control trial that Black women experienced reproductive coercion at over double the rate of white women (Holliday et al., 2018). These findings support Finer and Zolna's report that while the rate for unintended pregnancy nationally was 45% in 2011, non-Hispanic Black women and Hispanic women experienced it at much higher rates, closer to 64% and 50% respectively (2016). Nikolajski et al. found that African American women were more likely to

attribute an unintended pregnancy to reproductive coercion and hypothesized that this behavior is more prevalent in this community due to the higher prevalence of mass incarceration and poverty (2015). These disparities demonstrate that reproductive autonomy and reproductive coercion also operate at the intersections of race and class (Miller et al., 2011; Nikolajski et al., 2015).

Theoretical Framework

In constructing the Reproductive Autonomy Scale, Upadhyay et al. cited the "multidimensionality" of reproductive autonomy, emphasizing "a woman's ability to achieve her reproductive intentions is influenced by the relationship she has with her sexual partner and by the culture and context in which she lives" (2014). Because reproductive autonomy does not exist in a vacuum, the Social Ecological Model (SEM) is a suitable theory to explore the association between sociocultural factors and reproductive autonomy. The SEM is a theoretical model that emphasizes points of influence (and subsequently intervention) at various levels in a person's life, including personal, interpersonal, community, organizational and policy (Sallis, J. F., Owen, N., & Fisher, E., 2015). The SEM is a product of many disciplines and the notion that people's behavior is a result of their environment and lived experience (Sallis et al., 2015). Sallis et al. summarize the importance of multi-level intervention, explaining: "behavior change is expected to be maximized when environments and policies support healthful choices, when social norms and social support for healthful choices are strong, and when individuals are motivated and educated to make those choices" (2015).

The SEM fits this work because it acknowledges that many facets of reproductive autonomy and coercion are not about health but about power (Purdy, 2006). In her examination of "medicalization" and its benefits and dangers, Purdy highlights how many issues are

"medicalized" to remove power from the "patient" and reduce autonomy in the name of "health" (2006). She highlights women's "claim that it "reduces political, personal, and social issues to medical problems, thereby giving scientific experts the power to 'solve' them within the constraints of medical practice"" (Purdy, 2006; Sawicki, 1991). An examination of reproductive autonomy must consider larger systems at play that work to "devalue" women's rights and take control (Purdy, 2006). Silverman et al. demonstrates the need for "ongoing and multiple-sector efforts to transform the social norms that maintain men's entitlement to control of women's and girls' bodies and their reproductive health" to improve issues of reproductive coercion (2014). The SEM accounts for these varying systems and creates a more holistic image of the factors involved in determining reproductive autonomy.

Purpose of this study

The purpose of this study is to examine factors on varying strata of the SEM that correlate to reproductive autonomy and reproductive coercion among young women living in or near Atlanta, Georgia. While sociodemographic factors relating to reproductive autonomy have been examined in the literature, there is a gap in understanding what other social and cultural factors are associated with higher levels of reproductive autonomy and reproductive coercion in this population. The literature has mainly focused on married women of reproductive age in international contexts (Nigatu, D., Gebremariam, A., Abera, M., Setegn, T., & Deribe, K., 2014; Princewill, C. W., De Clercq, E., Riecher-Rössler, A., Jegede, A. S., Wangmo, T., & Elger, B. S., 2017; Yaya, S., Uthman, O. A., Ekholuenetale, M., & Bishwajit, G., 2018; Sano, Y., Antabe, R., Atuoye, K. N., Braimah, J. A., Galaa, S. Z., & Luginaah, I., 2018). This work addresses a gap in the literature by focusing on a U.S. context with young women who are in varying types of

romantic relationships. Furthermore, the analysis explores sociocultural factors that have been absent from previous research, including not only young women's experiences but also their perceptions. This work explores women's perceptions of stress, discrimination and their desires for educational attainment. This study aims to answer Holliday et al.'s call for "sociocultural" factors to be examined. (2017). In this way, this work takes a reproductive justice approach that explores reproductive health within the larger context of control and oppression (Ross, 2017). This is necessary as "systemic inequality has always shaped people's decision making around childbearing and parenting, particularly vulnerable women" (Ross, 2017). As Ross so adequately explains, reproductive justice exists at the junction of race, class and gender and reproductive health services must acknowledge that (Ross, 2017). This work ameliorates a methodological gap by exploring issues that pertain to women's reproductive autonomy and coercion but are often thought of as disparate systems (i.e. discrimination and stress).

As this study is using cross-sectional data from the baseline of a larger longitudinal study, it aims to work towards understanding what is associated with higher or lower reproductive autonomy in young women in an urban environment. Furthermore, this study intends to explore these same predictor variables and their association with reproductive coercion in this population.

In doing so, this paper strives to answer the following questions:

1. What multilevel factors contribute to higher reproductive autonomy in urban, young women in a U.S context?
2. What multilevel factors contribute to a presence of reproductive coercion in urban, young women in a U.S context?

Chapter 2 - Literature Review

This section will explore the current research available on women's reproductive autonomy and reproductive coercion. These topics have been studied throughout the world; therefore, this review will include literature from both domestic and international contexts. The review and study will center on four strata of the SEM: individual, interpersonal, community and policy. This thesis focuses mainly on the reproductive autonomy of people identifying as female. While that is the focus of this work, reproductive autonomy and coercion are not limited to the cisgender or heterosexual community and this research project acknowledges that.

Use of the Social Ecological Model (SEM)

In previous research, the SEM has been utilized to both understand reproductive health broadly and reproductive autonomy and coercion more specifically (Svanemyr, J., Amin, A., Robles, O. J., & Greene, M. E., 2015; Holliday et al., 2017). Holliday et al. examined the cross between reproductive coercion, interpersonal violence and unintended pregnancy through the lens of race and ethnicity (2017). This study involved baseline data from a cluster-randomized control trial that integrated an intervention into family planning clinics in the state of California (Holliday et al., 2017). Holliday et al. focused strongly on the interpersonal relationships aspect of the SEM, finding ultimately that Black women were "significantly more likely" to have an unintended pregnancy when controlling for other sociodemographic variables and experience the highest "lifetime prevalence" of reproductive coercion alongside multiracial women (2017). In this instance, the SEM served to account for the structural components of racism and the way it impacts women's reproductive health (Holliday et al., 2017).

The SEM has also been utilized to explore reproductive health more generally (Svanemyr et al., 2015). Svanemyr et al. explored mechanisms for changing the reproductive landscape for adolescents so that it is more proactive and involves fewer barriers (2015). Svanemyr et al. cites intervention points ranging from education (individual level) to involving adults in the community (community level) to large-scale media campaigns to promote safe sexual behavior for adolescents (societal) (2015). Svanemyr calls this creating an "enabling environment" to not rely solely on access to contraceptives and reproductive health services to change behaviors (2015). These are two examples of studies utilizing the SEM. The following will explore the use of various levels of the SEM to understand reproductive autonomy and reproductive coercion.

Individual -

The first level of the SEM is the 'individual' and focuses on personal thoughts, beliefs and skills (Sallis et al., 2015). This level pertains to women's individual knowledge and beliefs around reproductive decision making. Women's empowerment is an important individual level factor for reproductive autonomy (Patrikar, S. R., Basannar, D. R., & Sharma, M. S., 2014). In a cross-sectional study of married Nigerian women, Corroon et al. assessed women's empowerment through their decision-making power, perspectives on a husband's right to beat his wife and "partner prohibition" or a partner's ability to stop her from participating in an activity (Corroon et al., 2014). Results indicated that women who had "empowered views" on these three topics were more likely to use a "modern family planning" method, such as birth control pills or an IUD (Corroon et al., 2014). In an Ethiopian based study examining similar independent variables, Wado reported that women with greater autonomy made greater use of reproductive services (Wado, 2018). Finally, Yaya et al.'s cross-country study of 32 nations

found that women who had greater decision-making power were more likely to utilize "modern" birth control methods (2018).

Another salient theme on the individual level of the SEM is women's educational attainment. Worldwide women do not have access to thorough schooling and education. The United Nations estimates that "women make up more than two-thirds of the world's 796 million illiterate people" (UN Women, 2019). Nonetheless, education remains an important tool for improving women's reproductive health. Research demonstrates that women with greater education demonstrated higher levels of autonomy (Nigatu et al., 2014; Princewill et al., 2017). Furthermore, women who have higher levels of educational attainment are more likely to use contraceptives to prevent pregnancy (Sano et al., 2018). Princewill et al. discovered that women who had an education were better equipped to choose healthcare providers, make health decisions, control birth spacing and obtain suitable employment (Princewill et al., 2017). Wado's work also illuminated a strong association between higher education and utilizing birth control and antenatal care in married Ethiopian women (Wado, 2017). Education has been cited as an important intervention point and as a tool of empowerment for young women (Sano et al., 2018; Challa et al., 2018; Nigatu et al., 2014; Princewill et al., 2017). While the research is robust on educational attainment and empowerment, it often overlooks the role of educational desires in empowering women. There is a gap in the literature around what a woman desires to achieve and whether that correlates to autonomy in her relationships. By measuring educational desires, this study examines how a woman's goals for the future impact her current experiences around reproductive autonomy and reproductive coercion. Therefore, this study strives to understand if desiring high education is as protective for reproductive autonomy as already having that education.

Interpersonal -

The second level of the SEM is the 'interpersonal' and focuses on the relationships, both romantic and platonic, that a person develops in their personal networks (Sallis et al., 2015). This includes family members, friends, and partners. The interpersonal level focuses on how relationships impact a woman's ability to make reproductive decisions or gain access to services. Research demonstrates that reproductive autonomy is impacted on the interpersonal level through intimate partners, familial situations and the presence of peers (Miller et al., 2010; Miller et al., 2011; Silverman et al., 2014; Holliday et al., 2017; Holliday et al., 2018; Nikolajski et al., 2015; Challa et al., 2017; Nigatu et al., 2014).

On the interpersonal level, reproductive autonomy and coercion have been studied largely in relation to interpersonal violence (Miller et al., 2010; Miller et al., 2011; Silverman et al., 2014; Holliday et al., 2017; Holliday et al., 2018). The CDC define "interpersonal violence" or "intimate partner violence" as "physical, sexual, or psychological harm by a current or former partner or spouse" (National Center for Injury Prevention and Control, Division of Violence Prevention, 2018). The CDC estimates that "1 in 4 women and 1 in 10 men experienced contact sexual violence, physical violence, and/or stalking by an intimate partner and reported an IPV-related impact during their lifetime" (Smith et al., 2018). Silverman et al. cite reproductive coercion as the linking explanation between IPV and unintended pregnancy (2014). Miller et al. and Holliday et al. found that women who experience both reproductive coercion and interpersonal violence (IPV) had greater odds of unintended pregnancy than women who experienced either on its own (Miller et al., 2010; Holliday et al., 2018). Challa et al. noted that sexual partners were a major contributing factor to women's choices, citing that often

reproductive decisions were not within women's purview (Challa et al., 2018). Nikolajski et al. cited women's fears of losing their partner as a significant reason women tolerated "birth control sabotage", even if it resulted in a pregnancy they did not want (Nikolajski et al., 2015).

In a cross-sectional study based in Ethiopia, Nigatu et al. explored women's autonomy as defined by three major facets: control over finances, decision-making power, and extent of freedom of movement (2014). The results indicated that living with extended family, having an educated partner, and being involved in a monogamous marriage were protective for reproductive autonomy (Nigatu et al., 2014). Further research also supports that women who have greater economic dependence and/or are partnered with an educated male are more likely to have greater reproductive autonomy (Cleeve, A., Faxelid, E., Nalwadda, G., & Klingberg-Allvin, M., 2017; Princewill et al., 2017; Yaya et al., 2018). These studies demonstrate how women's' relationships impact their sexual health and can compromise their decision-making ability. Svanemyr et al. highlighted the impact of familial and peer relationships on creating an "enabling" environment for adolescents around sexual and reproductive health (2015). Svanemyr cited involving parents, peers and notable adult mentors as resources for intervention and safer sexual health (2015). While intimate partners are important influences, Svanemyr's study demonstrates that familial and peer relationships also exert significant influence on women's sexual and reproductive health (2015).

Finally, the absence of interpersonal influence is also significant to women's reproductive autonomy (Cleeve et al., 2017). In a qualitative study of post-abortion care in Uganda, Cleeve et al. found that the absence of interpersonal discussion on the fate of pregnancy actually granted women greater reproductive autonomy (2017). Cleeve et al. cited that women who were able to keep their pregnancy a secret both avoided shame and maintained the ability to make whatever

choice was best for them without outside influence (Cleeve et al., 2017). These results display how interpersonal relationships (or lack thereof) can influence women's reproductive health decisions.

Community -

The third level of the SEM is 'community' and involves not only the physical environment that a person inhabits (and its subsequent resources) but the societal "norms" of this environment (Sallis et al., 2015).

A great deal of the research available on reproductive autonomy is set in an African context, as a means to explore the devastatingly high maternal mortality and unintended pregnancy rates in many of the countries on the continent (Nigatu et al., 2014; Cleeve et al., 2017; Pearson, E., Andersen, K. L., Biswas, K., Chowdhury, R., Sherman, S. G., & Decker, M. R., 2017; Princewill et al., 2017; Challa et al., 2018; Frederico, M., Michielsen, K., Arnaldo, C., & Decat, P., 2018; Sano et al., 2018; Yaya et al., 2018). This base of research highlights a gap in studies focused on the U.S. context and supports the use of the SEM as a theoretical framework for this work. Researchers in Ethiopia, Uganda, Nigeria, Ghana, the Democratic Republic of the Congo, and Mozambique cited sociocultural factors as important mediators and/or barriers for women's reproductive autonomy (Nigatu et al., 2014; Cleeve et al., 2017; Princewill et al., 2017; Challa et al., 2018; Frederico et al., 2018; Sano et al., 2018). In a qualitative study based in Uganda, Cleeve et al. examined post-abortion care and found that power imbalance served as a major factor for limiting women's decision making around their bodies and their health (Cleeve et al., 2017). Cleeve et al. cited women's "limited negotiating capacity" regarding when to have sex and whether to use contraception as men maintained the ultimate power in the relationship

(2017). Furthermore, cultural factors shamed women's use of abortion, leading many to secret abortions, less they be labelled "prostitutes and immoral if they continued the pregnancy" (Cleeve et al., 2017). Similarly, Princewill et al. discovered through qualitative interviews with married women in Nigeria that community norms prevented women from attaining an education (2017). Barriers to education are detrimental as research demonstrates that women with more education had higher reproductive autonomy (Princewill et al., 2017). Participants cited "the culture of absolute respect for men as a major hindrance to their reproductive autonomy" as men dictated birth spacing, number of children and necessitated approval for any of their wife's decisions (Princewill et al., 2017). While countries have varying social, cultural and political landscapes, these studies demonstrate the need to examine multiple levels of influence when studying reproductive autonomy.

Though a great deal of research focuses on cultural norms in community that affect reproductive autonomy, this study aims to fill a methodological gap by exploring everyday discrimination in the context of reproductive autonomy and coercion. The Everyday Discrimination measure captures the intersectional nature of women's identities and the impact of all types of discrimination, whether it is gender-based or not.

Policy -

The highest level of the SEM is 'policy' and encompasses formal laws and regulations that govern bodies and actions (Sallis et al., 2015). The literature suggests that influences on this level center around three key components: patriarchal views, policies that limit access to health services and the ability for providers to be able to maintain reproductive health services (Challa et al., 2018; Sano et al., 2018). In exploring the reproductive autonomy of married women in the

Democratic Republic of the Congo, Sano et al. cited "the unique context of prolonged conflict and strong patriarchy where husbands have persistent desire and preference for large family size" (2018). Patriarchy serves to deprive women of reproductive decision making and limit access to services. One of these crucial services is abortion. The ability to choose a safe and accessible abortion is an important facet of reproductive autonomy. According to the Guttmacher Institute, "42% of women of reproductive age live in the 125 countries where abortion is highly restricted (prohibited altogether or allowed only to save a woman's life or protect her health)" (Singh, S., Remez, L., Sedgh, G., Kwok, L., & Onda, T., 2018). Consequently, the Guttmacher Institute estimates that "the more restrictive the legal setting, the higher the proportion of abortions that are least safe – ranging from less than 1% in the least-restrictive countries to 31% in the most-restrictive countries" (Singh et al., 2018). By restricting legal access to abortion, women are forced to undergo illegal and often unsafe methods to end unintended pregnancies (Singh et al., 2018). Abortion is an important healthcare service for unintended pregnancy, as "56% of unintended pregnancies end in induced abortion" worldwide (Singh et al., 2018). These policies also impact the number of providers who are physically available to provide such services without repercussion (Frederico et al., 2018).

In 2015, the United Nations General Assembly released the 2030 Sustainable Development Goals – a worldwide campaign to improve life and reduce disparities (United Nations Development Programme, 2019). Two of the Sustainable Development Goals are intended to improve the health and wellness of women. These goals are (3) Good Health and Wellbeing and (5) Gender Equality (United Nations Development Programme, 2019). A target of the Good Health and Wellbeing Sustainable Development Goal is to "reduce the global maternal mortality ratio to less than 70 per 100,000 live births" by the year 2030 (United Nations

Development Programme, 2019). The Gender Equality Sustainable Development Goal aims to achieve the following: “adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels” (United Nations Development Programme, 2019). The Sustainable Development Goals are one example of international policies that impact the resources allocated to women’s health and subsequently the environment in which women live and make health choices.

As stated previously, much of the research on reproductive autonomy and coercion occurs in an African context (Nigatu et al., 2014; Cleeve et al., 2017; Pearson et al., 2017; Princewill et al., 2017; Challa et al., 2018; Frederico et al., 2018; Sano et al., 2018; Yaya et al., 2018). While many cultural and social phenomenon span across country borders, health policy in the United States is unique in a variety of ways. This study aims to explore the implications of health insurance access and use of public assistance on women’s reproductive autonomy and experience of coercion in the United States. Access to health insurance (and subsequently to healthcare services) may facilitate a young woman’s ability to maintain control over her reproductive health. At the same time, if a young woman obtains health insurance through her parents, that autonomy could be hindered despite having access to providers. Therefore, this study explores the complexity of health policy in the United States and its intersection with reproductive autonomy and coercion in young women living in an urban context.

Criticisms of Reproductive Autonomy

There are criticisms of measuring reproductive autonomy. A major critique is the inability to determine causality as many reproductive autonomy studies are unable to establish temporality (Miller et al., 2010). Miller et al. cites this discrepancy in examining the link

between interpersonal violence and reproductive coercion and establishing which appeared first in a participant's life (2010). Furthermore, the reproductive autonomy measure asks the participant to reply even if they are not currently involved in a sexual or romantic relationship. If they are not, the instructions ask participants to think of a recent partner or treat the question as a hypothetical situation. This inhibits the ability to ascertain whether a participant currently feels reproductively autonomous, did in the past or just thinks they would in that particular situation.

Additionally, from an ethical standpoint, Gomez et al. highlights the potential harm of over-promoting products intended to enhance reproductive autonomy (2014). Gomez et al. cite the promotion of long acting reversible contraceptives (LARC) methods to "high risk populations" and stripping them of autonomy as opposed to granting it (2014). Gomez et al. emphasize that "optimal control" means different things to different people and some methods that are prescribed as enhancing reproductive autonomy (i.e. intrauterine devices) may not feel that way for everyone (2014). Gomez et al.'s cautions highlight that reproductive autonomy is ultimately about a woman's control over her body and her choices and that doesn't manifest the same way for everyone (2014).

Despite these potential limitations, the reproductive autonomy scale still serves to provide valuable information in the context of this survey as there doesn't appear to be research that supports that reproductive autonomy is reliant on a sexual or romantic relationship and that it drastically changes across relationships. Regardless of relationship status, this measure gathers women's perceptions of their reproductive autonomy and understanding these perceptions is equally as important as documenting lived experiences. Furthermore, it is vital to explore reproductive autonomy and coercion in young women as it may ultimately enhance or reduce reproductive health risks later in life. This measure is further bolstered in this survey by other

measures that explore similar constructs, including relationship autonomy and intimate partner violence. This survey allows for a holistic perspective of the participant and an understanding of reproductive autonomy and its connection to an array of emotional, social and political factors in young women's' lives.

Chapter 3 – Methods

Study Design

This study was a secondary analysis of the Young Women's Stress Study (YWSS) led by principal investigator Dr. Kelli Stidham Hall at Emory University. The Young Women's Stress Study (YWSS) was a longitudinal study examining stress and reproductive health in young women living in and around Atlanta, Georgia. The study consisted of one in-person baseline survey, 10 online monthly surveys and one in-person survey at the 1-year mark. This work utilizes only the baseline survey data.

A range of recruitment procedures were employed for this study. Passive recruitment occurred through the posting of flyers in places such as libraries, health clinics and other organizations in the community. Active recruitment took place in social spaces, such as malls in Atlanta. Finally, snowball sampling occurred as participants who completed the baseline were encouraged to refer people in their own social networks to the survey. 200 women were recruited and 199 participants were ultimately enrolled and completed the baseline survey. Participants were incentivized with a $50 electronic gift card each for the baseline and 1-year survey and a $10 electronic gift card for every completion of two monthly online surveys. The baseline survey and 1-year survey were both conducted in person by a research team member in a convenient location for the participant. The following biometric measurements were taken at baseline: hair and blood sample, height, weight, waist circumference and blood pressure. Only height, weight, blood pressure and waist circumference were taken at the 1-year survey. The monthly surveys were self-administered online. This study was approved by the Emory University Institutional Review Board (IRB) and written consent was gathered by all participants over 18 years old, with

assent gathered from parents or guardians for minors. All survey results were securely stored on the REDcap data manager.

Procedures

To be included in the study, participants had to (1) self-identify as female, (2) speak English, (3) be between the ages of 15-24 years old, (4) live within 20 miles of Atlanta, (5) have routine access to the internet via phone, tablet or computer, and (6) have gotten their period before. Participants were excluded from the study if they were pregnant at the time of enrollment or had a history of primary amenorrhea, ovarian disease or reproductive cancers.

Measures

The YWSS collected information on variables including physical health, risk behaviors, mental health, social and physical environment, sexual health and history, family history, and reproductive health knowledge and attitudes.

The two main outcomes assessed for this study were reproductive autonomy and reproductive coercion. Reproductive autonomy was assessed utilizing Upadhyay et al.'s Reproductive Autonomy Scale which is a 14-item scale with three main constructs: (1) decision-making, (2) communication and (3) freedom from coercion (2014). Decision-making was evaluated with 4 questions about who has the "final say" on certain circumstances between the participant and a current or prior romantic partner (Upadhyay et al., 2014). Examples of these questions include, "Who has the most say about whether you use a method to prevent pregnancy?" and "Who has the most say about when you have a baby in your life?" (Upadhyay et al., 2014). The answers were (1) My sexual partner (or someone else for example a parent or mother in-law/father in-law), (2) Both me and my sexual partner (or someone else for example a partner or mother in-law/father in-law) equally, or (3) Me (Upadhyay et al., 2014).

Communication was evaluated with 5 statements around a participant's confidence in their ability to discuss reproductive health related topics with their partner (Upadhyay et al., 2014). Examples of these statements include, "It is easy to talk about sex with my partner" and "My partner would support me if I wanted to use a method to prevent pregnancy" (Upadhyay et al., 2014). The answers were on a Likert scale ranging from (1) Strongly Disagree to (4) Strongly Agree (Upadhyay et al., 2014). Freedom from coercion was evaluated with 5 statements about whether a participant's sexual partner has interfered with their ability or decisions to use reproductive health tools such as contraceptives (Upadhyay et al., 2014). Examples of these statements include, "My partner has messed with or made it difficult to use a method to prevent pregnancy when I wanted to use one" and "If I wanted to use a method to prevent pregnancy my partner would stop me" (Upadhyay et al., 2014). The answers were on a Likert scale with options ranging from (1) Strongly Disagree to (4) Strongly Agree (Upadhyay et al., 2014). For all questions, 'Not applicable' was coded to 0, 'Don't Know' to 88 and 'Refused' to 99. To score this scale, all 3 subareas are summed. Higher scores indicate higher reproductive autonomy whereas lower scores indicate lower reproductive autonomy (Upadhyay et al., 2014). The 'freedom from coercion' subscale was reverse coded to aid in the validity of analysis (Upadhyay et al., 2014).

The second outcome assessed for this study was reproductive coercion. Reproductive coercion was assessed with a 6-item scale and focused specifically on pregnancy coercion (McCauley et al., 2017). Examples of the questions were "Has someone you were dating or going out with said he would leave you if you did not get pregnant?" and "Has someone you were dating or going out with said he would have a baby with someone else if you didn't get pregnant?" (McCauley et al., 2017). The answers were a dichotomous (1) Yes or (2) No

(McCauley et al., 2017). To score this scale, an answer of (1) Yes to any of the six questions scored the participant as positive for experiencing reproductive coercion (Miller et al., 2010).

Hypothesized Correlates to Reproductive Autonomy and Reproductive Coercion

Personal

Twelve personal level factors were identified as possible correlates to reproductive autonomy and reproductive coercion. These factors included: educational desires, religious importance, depression, resilience appraisal, perceived stress, utilization of healthcare, contraceptive history, experiences with pregnancy, experiences with abortion, age, race, and education.

Educational Desires A participant's educational desires was measured by asking participants "How far would you like to go in school?" The answers ranged from (1) Graduate from high school to (6) Graduate from a graduate degree program.

Religious Importance Religious importance was assessed by asking participants "How important is religion in your life?" with possible answers on a Likert scale ranging from (1) Not at all important to (5) Extremely important. For analysis, this scale was coded to a dichotomous variable – 0 for "Not at all important" and 1 for "Somewhat important" and above.

Depression To assess experiences of depression, the survey included the Patient Health Questionaire-9 (PHQ-9) which includes 9 questions on the presence of depression over the last 2 weeks (Spitzer, Kroenke, & Williams, n.d.). Examples of questions include: "Over the last two weeks, how often have you been bothered by any of the following problems: Little interest or pleasure in doing things" with Likert scale answers ranging from (0) Not at all to (3) Nearly every day (Spitzer et al., n.d). The answers are then summed to create a final depression score

ranging from 0 to 27 (Martin, A., Rief, W., Klaiberg, A., & Braehler, E., 2006). A higher score indicates more severe depression in the participant (Martin et al., 2006; Spitzer et al., n.d.). Scores between 5-10 are considered mild depression, between 10-15 moderate depression and scores 15 and above are considered severe depression (Spitzer et al., n.d.).

Resilience Appraisal Resilience was assessed with a 12-item scale that presented participants with a statement and asked them how strongly they agree or disagree with it. The Resilience Appraisal scale is composed of 3 subscales: social support, emotion coping and situation coping (Johnson, J., Gooding, P.A., Wood, A. M., & Tarrier, N., 2010). An example statement on this scale is: "If faced with a setback, I could probably find a way around the problem" with answers ranging from (1) Strongly Disagree to (5) Strongly Agree (Johnson et al., 2010). The answers are then summed to create a final score ranging from 12 to 60. The higher the score, the more resilient the participant is presumed to be (Johnson et al., 2010).

Perceived Stress The survey utilized a revised version of the Perceived Stress Scale which is a 13-item scale asking about the participants' feelings during the last month (Cohen, S., Kamarck, T., & Mermelstein, R., 1994). Examples of questions from this scale include: "In the last month, how often have you been upset because of something that happened unexpectedly?" and "In the last month, how often have you felt confident about your ability to handle your personal problems?" (Cohen et al., 1994). Answers ranged from (1) Never to (5) Very Often (Cohen et al., 1994). The questions are summed to create a final score ranging from 14 to 70 (Cohen et al., 1994).

Healthcare Utilization Healthcare utilization was measured by asking participants, "Have you seen a health care provider or received medical care in the last 3 years?" The answers were a dichotomous (1) Yes and (2) No.

Contraceptive History Contraceptive history was measured by asking, “Have you used birth control in the last year?” The answers were a dichotomous (1) Yes or (2) No.

Pregnancy Experiences Pregnancy experiences were assessed by asking participants, “Have you ever become pregnant?” The answers were a dichotomous (1) Yes or (2) No.

Abortion Experiences Abortion experiences were assessed by asking how a participant’s previous pregnancy ended. The answers ranged from (1) Miscarriage, (2) Stillbirth, (3) Abortion, (4) Ectopic or tubal pregnancy, (5) Live birth by Cesarean section, or (6) Live birth by vaginal delivery. If a participant answered (3) Abortion, they were coded as having experiences with abortion.

Age Age was assessed as a continuous variable by asking the participant, “How old are you?” Age was measured in years.

Race Race was assessed by asking the participant, “How do you usually describe yourself?” The answers included (1) White, (2) Black or African American, (3) Asian or Pacific Islander, (4) American Indian, Alaskan Native or Native Hawaiian, (5) Biracial or multiracial, (6) Other (please specify) or (7) Prefer not to answer.

Education Education was assessed by asking the participant, ““What is the highest grade of school or year of college you have completed?” with answers ranging from (1) 8th grade or less to (11) Beyond a college degree.

Interpersonal

Four interpersonal level factors were identified as potential correlates to reproductive autonomy and coercion. These factors include: social support, relationship autonomy, intimate partner violence, and emotional abuse.

Social Support Social support was assessed with an 18-item subset of the Child and Adolescent Social Support Scale (Malecki & Demaray, 2002). This subset assessed a participant's perceived social support from family, friends and social media followers (Malecki & Demaray, 2002). The scale included statements such as, "My social media friends and followers understand my feelings" with Likert-scale answers ranging from (1) Strongly Agree to (5) Strongly Disagree (Malecki & Demaray, 2002). The answers are summed to form a final score ranging from 18 to 90 (Malecki & Demaray, 2002). A higher score indicates greater social support (Malecki & Demaray, 2002).

Relationship Autonomy Relationship autonomy utilized 6 questions including "Does your partner ever threaten you with violence?" and "Do you and this partner fight or have any arguments?" with dichotomous (1) Yes or (2) No answers (Barber, J. S., Kusunoki, Y., & Gatny, H. H., 2011). The answers are summed to form a final score ranging from 6 to 12. A higher score indicates greater relationship autonomy (Barber et al., 2011).

Intimate Partner Violence (IPV) Intimate Partner Violence was assessed with 3 questions. The first question was "Have you ever been physically forced to have sexual intercourse when you did not want to?" with dichotomous (1) Yes or (2) No answers. The following two questions were: "During the past year, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon)" and "During the past year, how many times did someone you were dating or going out with force you to do sexual things that you did not want to do? (Count such things as kissing, touching, or being physically forced to have sexual intercourse.)" The answers ranged from (1) I did not date or go out with anyone

during the past 12 months to (6) 6 or more times. An answer of (1) Yes or an answer above “0 times” was coded as having experienced Intimate Partner Violence in the last year.

Emotional Abuse Emotional abuse was assessed using a condensed version of the Multidimensional Emotional Abuse Scale (MDEAS) (Murphy & Hoover, 2001). This version had 14 questions, including the Intimidation/Dominance and Denigration subscales (Murphy & Hoover, 2001). These subscales utilized questions to assess whether a participant had experienced demeaning or controlling behavior from a partner in the last 4 months (Murphy & Hoover, 2001). Examples of these questions included, “In the past four months how often did your partner call you ugly?” and “In the past four months how often did your partner threaten to hit you?” (Murphy & Hoover, 2001). The answers ranged from (1) Not in the past four months but it did happen before to (7) More than 20 times. An answer other than "This never happened before” to any of the questions was coded as having experienced emotional abuse in the last 4 months.

Community

Two community level factors were identified as potential correlates for reproductive autonomy and coercion. These factors were everyday discrimination and sexual activity stigma.

Everyday Discrimination To assess participant’s experiences with discrimination the survey included a 5-point scale adaptation of the Everyday Discrimination Scale (Kershaw et al., 2016). This scale included questions such as “In your day-to-day life how often have any of the following things happened to you? You are treated with less courtesy or respect than other people” and “You receive poorer service than other people at restaurants or stores.” (Kershaw et al., 2016). The answers ranged from (1) Almost Every Day to (6) Never. The answers were

summed to create a final score ranging from 5 to 25. A lower score indicates a greater frequency of discrimination (Kershaw et al., 2016).

Sexual Activity Stigma To measure participant's experiences of stigma surrounding sexual activity, the survey included a 13-point scale with questions such as, "Please indicate whether or not you personally experienced the following related to having sex as a young woman: I did not tell my parents that I had sex" and "I did not tell my friends that I had sex." The answers were a dichotomous (1) Yes and (2) No. An answer of (1) Yes to any of the questions were coded as having experienced sexual activity stigma.

Policy

Finally, two factors were identified as possible correlates to reproductive autonomy and coercion. These factors are public assistance usage and insurance coverage.

Current public assistance Participants were asked whether they were currently receiving any public assistance, including: WIC (Women, Infants and Children Program), Cash welfare – Temporary Assistance for Needy Families (TANF), Food Stamps – Supplemental Nutritional Assistance Program (SNAP), or any other public assistance. Participants were asked to check all that apply. If a participant checked any of the above, they were coded as having public assistance currently.

Insurance coverage Participants were asked if they currently had insurance coverage and where they obtained insurance. If a participant checked any of the insurance options, they were coded as having insurance coverage.

Analysis Plan

The goal of this analysis is twofold: understand what factors correlate to higher or lower reproductive autonomy and (2) what factors correlate to the presence of reproductive coercion. Due to the sample size of this study, these analyses are exploratory and recognize the influence of sample size on statistical power. This analysis utilizes SAS 9.4 statistical software. Missing variables were coded as ".", answers of "Don't Know" were coded as "88" and "Refused" as "99". 95% confidence intervals were utilized for all analyses. Basic demographic variables were analyzed to understand the distribution of the sample. These variables included age, race, income, and education status. These analyses resulted in basic descriptive statistics for this sample. The hypothesized predictor variables were first measured with the continuous reproductive autonomy variable. Bivariate analyses were utilized to assess whether a linear relationship existed between the hypothesized variables and reproductive autonomy. This study employed Pearson's correlations for the continuous independent variables (age, depression, resilience appraisal, perceived stress, social support, discrimination, and relationship autonomy),one sample t-tests for the categorical independent variables (religious importance, healthcare utilization, contraceptive history, pregnancy experiences, abortion experiences, intimate partner violence, emotional abuse, sexual activity stigma, public assistance and insurance coverage) and a one-way ANOVA for categorical variables with more than two levels (educational desires, race, income, education). A conservative alpha of $p<.20$ was utilized in order to explore predictor variables further in a multivariate model. Variables with an established linear relationship ($p<.20$) were then included in a multivariate linear regression to measure the association with reproductive autonomy. The reproductive autonomy scale was standardized for the purpose of interpretation. Nominal and ordinal predictors were dummy coded for this

analysis. A significant association in the linear regression was established if $p<.05$. The R^2 was reported to explore the influence of the significant predictor variables on the reproductive autonomy outcome.

Secondarily, the analyses explored the same set of hypothesized variables against the dichotomous reproductive coercion variable. This study utilized bivariate analyses- Chi-Square and Fisher's Exact tests for the categorical independent variables (age, religious importance, healthcare utilization, contraceptive history, pregnancy experiences, abortion experiences, intimate partner violence, emotional abuse, sexual activity stigma, public assistance and insurance coverage) and one sample t-tests for the continuous independent variables (depression, resilience appraisal, perceived stress, social support, relationship autonomy, and discrimination). A one-way ANOVA was utilized for predictor variables with more than two levels (education, race, income, educational desires). A conservative alpha of $p<.20$ was utilized in order to explore predictor variables further in a multivariate model. Variables with an established linear relationship ($p<.20$) were then included in a multivariate logistic regression to measure the association with the presence of reproductive coercion. A significant association in the logistic regression was established if $p<.05$.

Chapter 4 - Manuscript Version

Introduction

According to the United States National Survey of Family Growth between the years 2011-2015, 13.4% of females reported having an unintended or "unwanted" pregnancy in the 5 years prior to data collection (Centers for Disease Control and Prevention [CDC] and the National Center for Health Statistics, 2017). An additional 19.5% reported having a pregnancy

that was “mistimed” or “desired” but at a later date (CDC and the National Center for Health Statistics, 2017). While rates of unintended pregnancy appear to be on the decline in the 21st century, data suggests that as recently as 2011, 45% of pregnancies were still “unintended” (Finer & Zolna, 2016). Unintended pregnancy remains an important public health metric because of its associated negative health outcomes for both mother and baby, including low infant birthweight, premature birth and greater odds of partaking in risky behaviors during pregnancy (Finer & Zolna, 2016; Cheng, Schwarz, Douglas, & Horon, 2009). Unintended pregnancies also impose an economic burden on the United States (Trussell et al., 2013; Sonfield & Kost, 2015). Trussell et al. estimate that annually there are 3.11 million live births that cost the nation roughly $4.6 billion, not accounting for prenatal costs (2013).

Unintended pregnancy is an important indicator not only of reproductive health but of reproductive autonomy, or the amount of control that women maintain over their reproductive choices and subsequent wellbeing (Finer & Zolna, 2016). Upadhyay et al. define ‘reproductive autonomy’ broadly as a person “having the power to decide about and control matters associated with contraceptive use, pregnancy, and childbearing” (2014). Upadhyay et al. cite reproductive autonomy as an important means to enhance women’s use of effective contraceptives and reduce the rate of unintended pregnancy (2014). Reproductive autonomy is pertinent to women’s health due to its juxtaposition with ‘reproductive coercion’ or “behavior intended to maintain power and control in a relationship related to reproductive health by someone who is, was, or wishes to be involved in an intimate or dating relationship with an adult or adolescent” (American College of Obstetricians and Gynecologists, 2013). Grace and Anderson define reproductive coercion by three major behaviors: “birth control sabotage”, “pressure to become pregnant” and “controlling the outcome of a pregnancy” (2018).

While reproductive autonomy as a construct may operate on personal, social and cultural levels, they have been found to impact health on a biological level (Silverman & Raj, 2014; Chamberlain & Levenson, 2012; Holliday et al., 2018; Upadhyay et al., 2014). Recent research has hypothesized that reproductive coercion is an active pathway for long studied associations between intimate partner violence (IPV) and poor reproductive outcomes (Silverman et al., 2014; Chamberlain & Levenson, 2012; Grace & Anderson, 2018). Reproductive coercion has also been associated with higher rates of unintended pregnancy, even when not co-occurring with IPV (Miller et al., 2010; Silverman et al., 2014). There are disparities within race and class of who most experiences reproductive coercion, with minority women and those with lower socioeconomic status experiencing it disproportionately (Gomez, Fuentes, & Allina, 2014; Miller et al., 2010; Grace & Anderson, 2018; Holliday et al., 2017; Nikolajski et al., 2015). These disparities demonstrate that reproductive autonomy and reproductive coercion also operate at the intersections of race and class (Miller et al., 2011; Nikolajski et al., 2015).

Previous research has cited psychosocial factors on varying levels of the SEM that impact reproductive autonomy and coercion in women worldwide. Women's empowerment and educational attainment are both important individual level factors for reproductive autonomy (Patrikar, S. R., Basannar, D. R., & Sharma, M. S., 2014; Sano et al., 2018; Wado, 2017, Princewill et al., 2017)). In a cross-sectional study of married Nigerian women, results indicated that women who had "empowered views" on decision-making power, a husband's right to beat his wife and "partner prohibition" were more likely to use a "modern family planning" method, such as birth control pills or an IUD (Corroon et al., 2014). Princewill et al. discovered that women who had an education were better equipped to choose healthcare providers, make health decisions, control birth spacing and obtain suitable employment (Princewill et al., 2017). On the

interpersonal level, prior research has also demonstrated that a partner's education, monogamous marriage, economic dependence and living with extended family are protective for reproductive autonomy (Nigatu et al., 2014; Cleeve, A., Faxelid, E., Nalwadda, G., & Klingberg-Allvin, M., 2017; Princewill et al., 2017; Yaya et al., 2018).

On the community level of the SEM, researchers have cited sociocultural factors as important mediators and/or barriers for women's reproductive autonomy (Nigatu et al., 2014; Cleeve et al., 2017; Princewill et al., 2017; Challa et al., 2018; Frederico et al., 2018; Sano et al., 2018). In a qualitative study based in Uganda, Cleeve et al. examined post-abortion care and found that power imbalance served as a major factor for limiting women's decision making around their bodies and their health (Cleeve et al., 2017). Cleeve et al. cited women's "limited negotiating capacity" regarding when to have sex and whether to use contraception as men maintained the ultimate power in the relationship (Cleeve et al., 2017). The literature on the policy level suggests that influences on this level center around three key components: patriarchal views, policies that limit access to health services and the ability for providers to be able to maintain reproductive health services (Challa et al., 2018; Sano et al., 2018). In exploring the reproductive autonomy of married women in the Democratic Republic of the Congo, Sano et al. cited "the unique context of prolonged conflict and strong patriarchy where husbands have persistent desire and preference for large family size" (2018). Patriarchy serves to deprive women of reproductive decision making and limit access to services. One of these crucial services is abortion. The ability to choose a safe and accessible abortion is an important facet of reproductive autonomy. By restricting legal access to abortion, women are forced to undergo illegal and often unsafe methods to end unintended pregnancies (Singh et al., 2018). Abortion is

an important healthcare service for unintended pregnancy, as “56% of unintended pregnancies end in induced abortion” worldwide (Singh et al., 2018).

There are a number of gaps in the literature on reproductive autonomy and coercion. While sociodemographic factors relating to reproductive autonomy have been examined in the literature, there is a gap in understanding what other social and cultural factors are associated with higher levels of reproductive autonomy and reproductive coercion in this population. The literature has mainly focused on married women of reproductive age in international contexts (Nigatu, D., Gebremariam, A., Abera, M., Setegn, T., & Deribe, K., 2014; Princewill, C. W., De Clercq, E., Riecher-Rössler, A., Jegede, A. S., Wangmo, T., & Elger, B. S., 2017; Yaya, S., Uthman, O. A., Ekholuenetale, M., & Bishwajit, G., 2018; Sano, Y., Antabe, R., Atuoye, K. N., Braimah, J. A., Galaa, S. Z., & Luginaah, I., 2018). While the research is robust on educational attainment and empowerment, it often overlooks the role of educational desires in empowering women. There is a gap in the literature around what a woman desires to achieve and whether that correlates to autonomy in her relationships. Finally, while many cultural and social phenomenon span across country borders, health policy in the United States is unique in a variety of ways. Access to health insurance (and subsequently to healthcare services) may facilitate a young woman’s ability to maintain control over her reproductive health.

There are a number of methodological gaps in the literature on these topics. First, there is not always uniform use of scales to define constructs such as empowerment and autonomy (Corroon et al., 2014; Nigatu et al., 2014). This limits the ability to compare the results across distinct populations. Secondly, the majority of previous studies are cross-sectional in design, therefore restricting the opportunity to establish causality. Finally, the literature is lacking in

theory-based research and interventions that focuses on numerous strata of the SEM and incorporates the diverse array of influences in young women's reproductive lives.

Research Purpose and Aims

The purpose of this study is to examine sociocultural factors that correlate to reproductive autonomy and reproductive coercion in young women living in or near Atlanta, Georgia. The Social Ecological Model (SEM) is a theoretical model that emphasizes points of influence at various levels in a person's life, including personal, interpersonal, community, organizational and policy (Sallis, Owen, & Fisher, 2015). This study utilizes the Social Ecological Model as a framework to explore the various sociocultural factors impacting the reproductive health of young women. While sociodemographic factors relating to reproductive autonomy have been examined in the literature, there is a gap in understanding what other social and cultural factors are associated with higher levels of reproductive autonomy and reproductive coercion in this population.

This work addresses a gap in the literature by focusing on a U.S. context with young women who are in varying types of romantic relationships. Furthermore, the analysis explores sociocultural factors that have been absent from previous research, including not only young women's experiences but also their perceptions. This work explores women's perceptions of stress, discrimination and their desires for educational attainment. This study aims to answer Holliday et al.'s call for "sociocultural" factors to be examined. (Holliday et al., 2017). In this way, this work takes a reproductive justice approach that explores reproductive health within the larger context of control and oppression (Ross, 2017). This is necessary as "systemic inequality has always shaped people's decision making around childbearing and parenting, particularly

vulnerable women" (Ross, 2017). As Ross so adequately explains, reproductive justice exists at the junction of race, class and gender and reproductive health services must acknowledge that (Ross, 2017). This work ameliorates a methodological gap by exploring issues that pertain to women's reproductive autonomy and coercion but are often thought of as disparate systems (i.e. discrimination and stress) and utilizing standardized scales for measuring reproductive autonomy (Upadhyay et al., 2014).

By measuring educational desires, this study examines how a woman's goals for the future impact her current experiences around reproductive autonomy and reproductive coercion. Therefore, this study strives to understand if desiring high education is as protective for reproductive autonomy as already having that education. Though a great deal of research focuses on cultural norms in community that affect reproductive autonomy, this study aims to fill a methodological gap by exploring everyday discrimination in the context of reproductive autonomy and coercion. The Everyday Discrimination measure captures the intersectional nature of women's identities and the impact of all types of discrimination, whether it is gender-based or not. This study aims to explore the implications of health insurance access and use of public assistance on women's reproductive autonomy and experience of coercion in the United States. At the same time, if a young woman obtains health insurance through her parents, that autonomy could be hindered despite having access to providers. Therefore, this study explores the complexity of health policy in the United States and its intersection with reproductive autonomy and coercion in young women living in an urban context.

Materials and Methods

Participants

This study was a secondary analysis of the Young Women's Stress Study (YWSS) (PI Hall). YWSS was a longitudinal study examining stress and reproductive health among 200 young women ages 15-24 years living in and around Atlanta, Georgia. The longitudinal study design entailed an in-person in-depth interviewer administered survey at baseline and at one year follow up period, with monthly brief, web-based self-administered surveys for 12 months. This secondary analysis utilizes the baseline data.

To be included in the YWSS, participants had to (1) self-identify as female, (2) speak English, (3) be between the ages of 15-24 years old, (4) live within 20 miles of Atlanta, (5) have routine access to the internet via phone, tablet or computer, and (6) have gotten their period before. Participants were excluded from the study if they were pregnant at the time of enrollment or had a history of primary amenorrhea, ovarian disease or reproductive cancers.

Participants were incentivized with a $50 electronic gift card for the baseline and 1-year interview and a $10 electronic gift card for every completion of two monthly online surveys. All participants provided written consent, with assent gathered from parents or guardians for minors <18 years of age. This study was approved by the Emory University Institutional Review Board (IRB).

Data Collection and Measurement

The YWSS collected information on variables including physical health, risk behaviors, mental health, social and physical environment, sexual health and history, family history, and reproductive health knowledge and attitudes. The first portion of the survey included a

comprehensive, 1.5-hour in-person, baseline survey followed by a 1-hour survey at 1 year, with 15-minute abbreviated versions monthly in-between. The survey was administered to participants verbally by a research team member.

A series of biometric measurements were taken at baseline and the 1-year survey. At the baseline survey, team members collected hair and blood samples, height, weight, waist circumference and blood pressure. Blood pressure was taken 3 times consecutively with an electric blood pressure cuff. Height, weight and waist circumference were taken manually with a measuring tape. Only height, weight, blood pressure and waist circumference were taken at the 1-year survey.

Hypothesized Predictor Variables

Twenty-one multi-level variables were hypothesized to be associated with reproductive autonomy and coercion in this sample. This included 7 continuous variables that assessed age, depression, resilience appraisal, perceived stress, social support, relationship autonomy, and discrimination as well as 14 categorical variables: educational desires, religious importance, healthcare utilization, contraceptive history, pregnancy experiences, abortion experiences, intimate partner violence, emotional abuse, sexual activity stigma, public assistance, insurance coverage, race, education and income (Table 1).

Outcome Variables

The outcome variables of interest were reproductive autonomy and reproductive coercion. Reproductive autonomy was assessed utilizing Upadhyay et al.'s Reproductive Autonomy Scale which is a 14-item scale with three main constructs: (1) decision-making, (2) communication and (3) freedom from coercion (2014). Decision-making was evaluated with 4

questions about who has the "final say" on certain circumstances regarding reproductive health (Upadhyay et al., 2014). Communication was evaluated with 5 statements around a participant's confidence in their ability to discuss reproductive health topics with their partner (Upadhyay et al., 2014). Freedom from coercion was evaluated with 5 statements about whether a participant's sexual partner has interfered with their ability or decisions to use reproductive health tools such as contraceptives (Upadhyay et al., 2014). The answers were on a Likert scale with options ranging from (1) Strongly Disagree to (4) Strongly Agree (Upadhyay et al., 2014). To score this scale, all 3 subareas are summed. Higher scores indicate higher reproductive autonomy whereas lower scores indicate lower reproductive autonomy (Upadhyay et al., 2014). The 'freedom from coercion' subscale was reverse coded to aid in the validity of analysis (Upadhyay et al., 2014).

Reproductive coercion was assessed with a 6-item scale and focused specifically on pregnancy coercion (McCauley et al., 2007). Examples of the questions were "Has someone you were dating or going out with said he would leave you if you did not get pregnant?" and "Has someone you were dating or going out with said he would have a baby with someone else if you didn't get pregnant?". The answers were a dichotomous (1) Yes or (2) No. To score this scale, an answer of (1) Yes to any of the six questions scored the participant as positive for experiencing reproductive coercion (Miller et al., 2010).

Statistical Analysis

The goal of this analysis is twofold: understand what factors correlate to higher or lower reproductive autonomy and (2) what factors correlate to the presence of reproductive coercion. Due to the sample size of this study, these analyses are exploratory and recognize the influence of sample size on statistical power. This analysis utilizes SAS 9.4 statistical software. Missing variables were coded as ".", answers of "Don't Know" were coded as "88" and "Refused" as

"99". 95% confidence intervals were utilized for all analyses. Basic demographic variables were analyzed to understand the distribution of the sample. These variables included age, race, income, and education status. These analyses resulted in basic descriptive statistics for this sample. The hypothesized predictor variables were first measured with the continuous reproductive autonomy variable. Bivariate analyses were utilized to assess whether a linear relationship existed between the hypothesized variables and reproductive autonomy. This study employed Pearson's correlations for the continuous independent variables (age, depression, resilience appraisal, perceived stress, social support, discrimination, and relationship autonomy), one sample t-tests for the categorical independent variables (religious importance, healthcare utilization, contraceptive history, pregnancy experiences, abortion experiences, intimate partner violence, emotional abuse, sexual activity stigma, public assistance and insurance coverage) and a one-way ANOVA for categorical variables with more than two levels (educational desires, race, income, education). A conservative alpha of $p<.20$ was utilized in order to explore predictor variables further in a multivariate model. Variables with an established linear relationship ($p<.20$) were then included in a multivariate linear regression to measure the association with reproductive autonomy. The reproductive autonomy scale was standardized for the purpose of interpretation. Nominal and ordinal predictors were dummy coded for this analysis. A significant association in the linear regression was established if $p<.05$. The R^2 was reported to explore the influence of the significant predictor variables on the reproductive autonomy outcome.

Secondarily, the analyses explored the same set of hypothesized variables against the dichotomous reproductive coercion variable. This study utilized bivariate analyses- Chi-Square and Fisher's Exact tests for the categorical independent variables (age, religious importance, healthcare utilization, contraceptive history, pregnancy experiences, abortion experiences,

intimate partner violence, emotional abuse, sexual activity stigma, public assistance and insurance coverage) and one sample t-tests for the continuous independent variables (depression, resilience appraisal, perceived stress, social support, relationship autonomy, and discrimination). A one-way ANOVA was utilized for predictor variables with more than two levels (education, race, income, educational desires). A conservative alpha of $p<.20$ was utilized in order to explore predictor variables further in a multivariate model. Variables with an established linear relationship ($p<.20$) were then included in a multivariate logistic regression to measure the association with the presence of reproductive coercion. A significant association in the logistic regression was established if $p<.05$. The results were also stratified by race (Black or African American vs. White) and by age (15-19 years and 20-24 years) for both outcomes. Finally, a one-sample t-test was utilized to explore the relationship between the two outcome variables: reproductive autonomy and reproductive coercion.

Results

Characteristics of this sample

Of the 199 participants that completed the Young Women's Stress Study survey, 109 indicated they were in a relationship at the time of the survey and had had sexual contact in their lifetime. This resulted in a final sample of 109 participants for this analysis. The mean age of this sample was 21.13 (S.D. 2.48) years old, with 28.18% participants identifying as White, 36.36% as Black or African American, 13.64% as Hispanic or Latino and 9.09% as Asian or Pacific Islander, American Indian or Native Hawaiian. The majority of participants had completed some college (40.91%), with 25.45% having completed through 12th grade or less and 26.36% completing a degree beyond college. Finally, 56.88% of participants reported making less than

$10,000 a year in personal income, with 19.27% making between $10,000 and $19,999 and 23.85% reporting an income of $20,000 or higher in the last year (Table 2).

Bivariate Associations

Bivariate analyses revealed three variables that met the threshold ($p<.20$) for inclusion in the multivariate linear regression with reproductive autonomy. These variables were age ($p=.0352$), discrimination ($p=.1519$), abortion experience ($p=.1264$), and public assistance usage ($p=.0134$) (Table 3, 4, 5). The results of a Pearson correlation suggested that as discrimination experiences increase, reproductive autonomy decreases ($r = -.144$, $p = .1591$) and as age increases, reproductive autonomy increases ($r = .211$, $p =.0352$). A one-sample t-test indicated that those who have had experiences with abortion reported a lower reproductive autonomy score (mean=29.2, S.D=6.65) than those who had never experienced an abortion (mean=33.5, S.D=6.06) ($t = 1.54$, $df = 98$, $p=.1264$). A one-sample t-test also indicated that those who currently use public assistance have a higher reproductive autonomy score (mean=35.11, S.D=2.13) than those who don't use public assistance (mean=32.86, S.D=6.67) ($t=-2.52$, $df=89.46$, $p=.0134$).

The same predictor variables were implemented in a bivariate analysis with the reproductive coercion outcome. Bivariate analyses revealed 7 variables that met the threshold for inclusion in the multivariate logistic regression. These variables were perceived stress ($p=.14$), having experienced pregnancy ($p=.0017$), public assistance ($p=.13$), discrimination ($p=.02$), race ($p=.0471$), income ($p=.0791$) and social support ($p=.11$) (Table 6, 7). The results of a one-sample t-test demonstrated higher perceived stress scores for participants who had experienced reproductive coercion (mean=42.27, S.D=4.64) compared to those who had not experienced

reproductive coercion (mean=40.67, S.D=3.73, p=.14). Participants who had experienced reproductive coercion had significantly lower discrimination scores (mean=21, S.D=3.88) compared to those who had not experienced reproductive coercion (mean=23.48, S.D=3.63, p=.02). Finally, participants who had experienced reproductive coercion had higher social support scores (mean=43.93, S.D=12.70) than those who not experienced reproductive coercion (mean=39.20, S.D=9.87, p=.11). The results of a Fisher's Exact test determined associations between having experienced pregnancy (p=.0017) and reproductive coercion and using public assistance (p=.13) and reproductive coercion. The results indicated that women who had experienced a prior pregnancy (35%) had higher rates of reproductive coercion than women who had never been pregnant before (7.5%; p=.0017). The analysis also indicated that women who used public assistance had higher rates of reproductive coercion (28%) than women who did not use public assistance (11%; p=.13).

Due to small sample size, the stratified results were exploratory. Among 15-19 year old participants (N=29), the results of the bivariate analyses revealed that 6 predictor variables met the $p < .20$ threshold for inclusion in the multivariate model with the reproductive autonomy outcome. These variables included: relationship autonomy (p=.18), religious importance (p=.09), pregnancy experience (p=.04), intimate partner violence (p=.20), public assistance usage (p=.04) and race (p=.01) (Table 10, 11, 12). In this sample, 3 variables were ineligible for bivariate analyses with the reproductive autonomy outcome because there was no diversity in participant's answers. These variables included: healthcare utilization, abortion experience and emotional abuse. All participants in this sample of 15-19 year olds indicated that they had seen a healthcare provider in the last 3 years, had no experience with abortion and had experienced emotional abuse in the last 4 months. Therefore, bivariate analyses were not possible because the predictor

variables did not have two levels of data. Among 20-24 year old participants (N=81), the results of the bivariate analyses revealed that 4 predictor variables met the $p < .20$ threshold for inclusion in the multivariate model with the reproductive autonomy outcome. These variables included: discrimination (p=11), relationship autonomy (p=.07), abortion experience (p=01) and public assistance usage (p=.16) (Table 10, 11).

Among 15-19 year old participants, the bivariate analyses demonstrated that 2 predictor variables met the $p < .20$ threshold for inclusion in the multivariate model with the reproductive coercion outcome. These variables included depression (p=.18) and perceived stress (p=.02) (Table 13). Among 20-24 year old participants, the results of the bivariate analyses revealed that 7 variables met the $p < .20$ threshold for inclusion in the multivariate models with the reproductive coercion outcome. These variables included: resilience appraisal (p=.20), social support (p=.10), discrimination (p=.03), pregnancy experience (p=.0065), public assistance usage (p=.11), race (p=.09) and income (p=.20) (Table 13, 14).

Among Black or African American participants (N=40), the results of the bivariate analyses revealed that 3 predictor variables met the $p < .20$ threshold for inclusion in the multivariate model with the reproductive autonomy outcome. These variables included: age (p=.16), pregnancy experience (p=.07) and insurance coverage (p=.16) (Table 19, 20). Among White participants (N=31), the results of the bivariate analyses revealed that 2 predictor variables met the $p < .20$ threshold for inclusion in the multivariate model with the reproductive autonomy outcome. These variables included intimate partner violence (IPV) (p=.07) and education (p=.01) (Table 20, 21). In this sample of White participants, 5 variables were ineligible for bivariate analyses with the reproductive autonomy outcome because there was no diversity in participant's answers. These variables included: healthcare utilization, contraceptive history, abortion

experience, emotional abuse, and insurance coverage. All White participants in this sample indicated that they had seen a healthcare provider in the last 3 years, had used contraceptive methods, had no experience with abortion, had experienced emotional abuse in the last 4 months and currently had insurance coverage. Therefore, bivariate analyses were not possible because the predictor variables did not have two levels of data.

Among Black or African American participants, the results of the bivariate analyses revealed that 1 predictor variable met the $p < .20$ threshold for inclusion in the multivariate model with the reproductive coercion outcome. A Fisher's Exact test demonstrated an association between income and reproductive coercion among this sample ($p=.11$) (Table 23). Among White participants, the results of the bivariate analyses revealed that 6 variables met the $p < .20$ threshold for inclusion in the multivariate model with the reproductive coercion outcome. These variables included: resilience appraisal ($p=.07$), discrimination ($p=.04$), pregnancy experience ($p=.0074$), intimate partner violence ($p=.08$), public assistance usage ($p=.0025$) and education ($p=.08$) (Table 22, 23).

A one-sample t-test was conducted with the full sample to explore the relationship between the two outcome variables: reproductive autonomy and reproductive coercion. The results indicated higher reproductive autonomy scores (mean=36.38) among participants who had experienced reproductive coercion compared to those who had not experienced reproductive coercion (mean=33.04, $p=.05$).

Multivariate Associations

Variables that met the threshold ($p<.20$) in bivariate analyses were then implemented into regression models for reproductive autonomy and reproductive coercion, respectively. An association was deemed significant in the regression models if $p<.05$. The multivariate linear

regression included discrimination, abortion experience, public assistance and age with the continuous reproductive autonomy outcome. The results found significant associations between reproductive autonomy and age (p=.0156). The linear regression revealed that for every unit increase in age, there is a .1012 increase in reproductive autonomy scores (B=.1012, 95% CI .0196, .1828, p=.0156). The r^2 for this model was .11 indicating that approximately 11% of the variance in reproductive autonomy scores can be attributed to age. The results indicated no significant associations between the reproductive autonomy outcome variable and discrimination (p=.15), abortion experience (p=.12) or public assistance (p=.15) (Table 8).

The multivariate logistic regression included having experienced pregnancy, public assistance, discrimination, social support, perceived stress, race and income. The results found significant associations between the reproductive coercion outcome and discrimination (p=.01). The logistic regression indicated that participants who had experienced less discrimination were more likely to experience reproductive coercion, with the data revealing that for each unit increase in discrimination (according to the Everyday Discrimination scale, the higher the discrimination score, the fewer the discrimination experiences), the odds of experiencing reproductive coercion increased by 1.23 (AOR=1.23, 95% CI 1.055, 1.560, p=.01). The results also indicated a significant association between the reproductive coercion outcome and income (p=.04). Participants with an income less than $9,999 are less likely to experience reproductive coercion than women with an income between $10,000 and $19,999 (AOR=.336, 95% CI .119, .954, p=.04). There were no significant differences between participants with an income less than $9,999 and participants with an income greater than $20,000 (p=.63) or participants with an income between $9,999 and $19,999 and participants with an income greater than $20,000 (p=.44). No significant results were found between the reproductive coercion outcome and

pregnancy experience (p=.09), public assistance (p=.26), perceived stress (p=.18) social support (p=.08), or race (p=.43) in this model (Table 9).

Among 15-19 year old participants, the multivariate linear regression with the reproductive autonomy outcome included relationship autonomy, religious importance, pregnancy experience, intimate partner violence (IPV), public assistance usage and race. None of the predictor variables proved significant in this multivariate model (Table 15). Among 20-24 year old participants, the multivariate linear regression with the reproductive autonomy outcome included discrimination, relationship autonomy, abortion experience and public assistance usage (Table 16). The results indicated significant associations between abortion experience and reproductive autonomy (p=.0197). The linear regression revealed that experience with abortion was a significant predictor of reproductive autonomy (B=-1.03891, 95% CI –1.90632, -.17151, p=.0197) indicating that those who had experience with abortion had a mean reproductive autonomy score that is 1.04 points lower than those who never experienced an abortion.

Among 15-19 year old participants, the multivariate logistic regression with the reproductive coercion outcome included depression and perceived stress. Neither of these predictor variables proved significant in this multivariate model (Table 17). Among 20-24 year old participants, the multivariate logistic regression with the reproductive coercion outcome included resilience appraisal, social support, discrimination, pregnancy experience, public assistance usage, race and income. None of these predictor variables proved significant in this multivariate model (Table 18).

Among Black or African American participants, the multivariate linear regression with the reproductive autonomy outcome included age, pregnancy experience, and insurance coverage. None of these predictor variables proved significant in the multivariate model (Table

24). Among White participants, the multivariate linear regression with the reproductive autonomy outcome included intimate partner violence (IPV) and education. Neither of these predictor variables proved significant in the multivariate model (Table 25).

As only one variable met the $p < .20$ threshold during bivariate analyses with the reproductive coercion outcome, it was not possible to conduct a multivariate logistic regression with reproductive coercion among Black or African American participants. The small sample size of White participants impeded the ability to conduct the multivariate logistic regression with accurate results and is therefore not included here.

Discussion

The goal of this study was to examine the factors on various levels of the Social Ecological Model that were significantly associated with reproductive autonomy and reproductive coercion in young women living in and around metro Atlanta, Georgia. The results of the multivariate analysis indicated that experience with discrimination and income level are both significantly associated with reproductive coercion in this population. Age was found to be significantly associated with reproductive autonomy in this population.

The logistic regression indicated that participants who had experienced less discrimination were more likely to experience reproductive coercion, with the data revealing that for each unit increase in discrimination (according to the Everyday Discrimination scale, the higher the score, the fewer discrimination experiences), the odds of experiencing reproductive coercion increased by 1.28 (AOR=1.28, 95% CI 1.055, 1.560, p=.01). These results are contradictory to the bivariate results which indicated that participants who had experienced reproductive coercion had significantly lower discrimination scores (equating to a greater frequency of discrimination) (mean=21, S.D=3.88) compared to those who had not experienced reproductive coercion (mean=23.48, S.D=3.63, p=.02). To explore this relationship further, the reproductive coercion scale was also treated as continuous and run in a Pearson correlation with discrimination. These results indicated that as reproductive coercion increased, discrimination scores decreased (indicating a greater frequency of discrimination) (r=-.14, p=.16). Therefore, the bivariate results are consistent both when reproductive coercion is treated as continuous or dichotomous. Further research is needed to explore why the relationship between discrimination and reproductive coercion may have changed between bivariate and multivariate results. This research should include an exploration of how the threshold of symptoms for reproductive

coercion may have different results compared to incremental increases in scores, which are less likely to be clinically relevant.

Discrimination operates on the community level of the Social Ecological Model. These results support previous research that discrimination impacts women's reproductive health (Cleeve et al., 2017; Holliday et al., 2017). Cleeve et al. examined post-abortion care in Uganda and found that power imbalance served as a major factor for limiting women's decision making around their bodies and their health (Cleeve et al., 2017). Cleeve et al. cited women's "limited negotiating capacity" regarding when to have sex and whether to use contraception as men maintained the ultimate power in the relationship (2017). This study adds to the base of research because it captures more than just gender-based discrimination, expanding to discrimination based on race and cultural background. This supports Holliday et al.'s work which determined that women of color were more likely to experience reproductive coercion and intimate partner violence than their white counterparts (2017). These results emphasize the intersectionality of women's lives and how reproductive health must be considered within the larger spheres of a person's identity. This is especially important in the context of the United States where women of color are three times more likely to die from pregnancy or childbirth (CDC, 2019).

The logistic regression also indicated that participants with an income less than $9,999 are .664 times less likely to experience reproductive coercion than participants who have an income between $10,000 and $19,999 (AOR=.336, 95% CI .119, .954, p=.04). This contradicts previous research that women with lower socioeconomic status experience reproductive coercion more than women in higher socioeconomic strata (Northridge, J.L., Silver, E.J., Talib, H.J. & S.M. Coupey, 2017). However, previous work has explored a wider range of incomes and this sample was limited, with the majority of participants making less than $9,999 a year (Northridge

et al., 2017). Furthermore, this variable did not account for parental income or any other sources of financial support in a participant's life. It is possible that participants cited low incomes because they were being adequately financially supported by parents or guardians. Further research is needed to examine income in a more comprehensive way that accounts for various avenues of financial income or support.

The multivariate linear regression indicated that age was significantly associated with reproductive autonomy (p=.01). The results revealed that for every unit increase in age, reproductive autonomy increased by .1012 (B = .1012, 95% CI .0196, .1828, p=.0156). These results may suggest that as women get older and more established in their lives, they maintain higher reproductive autonomy in their relationships. Additionally, the United States healthcare system imposes a large number of restrictions on women's access to reproductive health services when they are minors (Guttmacher, 2019). A number of states require minors to obtain parental consent in order to obtain certain reproductive health services (Guttmacher, 2019). As women age into adults, they may gain greater autonomy as they gain better access to reproductive health resources. These results are important as there is not currently a plethora of literature exploring the relationship between age and reproductive autonomy. However, this study captured a wide age range (15-24 year olds) that spans a variety of developmental periods. This is important to acknowledge as research demonstrates women's sexual health and risk behaviors are different across the lifespan (Sales, J. M., Brown, J. L., DiClemente, R. J., Davis, T. L., Kottke, M. J., & Rose, E. S., 2012). Sales et al. determined that sexual risk behaviors were very different even across "younger" (14-17) and "older" (18-20) adolescents, with riskier behaviors occurring more frequently in older adolescents, but higher rates of sexually transmitted diseases (STDs) in younger adolescents (2012). While this study undertook exploratory analysis of age groups,

future research is needed to explore a larger sample with a wider range of ages to explore the durability of the relationship between age and reproductive autonomy.

Finally, the results of a one-sample t-test demonstrated a significant relationship (p=.05) between the outcome variables, reproductive autonomy and reproductive coercion. Despite having different scale items, the results indicated higher reproductive autonomy scores (mean=36.38) among participants who had experienced reproductive coercion compared to those who had not experienced reproductive coercion (mean=33.04, p=.05). These results are surprising and may indicate that a lack of reproductive autonomy does not equate to the presence of reproductive coercion and vice versa. Greater research is needed to examine the relationship between these two scales and the overlap of these constructs in young women's reproductive lives.

Overall, these results support the theory of the Social Ecological Model and the concept that women are influenced by more than individual-level decisions when it pertains to reproductive health. While age and income are both individual level factors, discrimination operates on a community level and involves complicated structures of power and oppression. The majority of findings in this analysis were null. The null findings may be attributed to the small sample size and the restriction of this sample to only participants who are currently in a relationship.

These findings present important implications for the field of sexual and reproductive health. The relationship between age and reproductive autonomy highlights the need for targeted health education and empowerment when females are adolescents. These results highlight that timing matters and that women may need these messages earlier than they are currently receiving them. Furthermore, future research is needed on why age matters to reproductive autonomy.

Some potential reasons may include an increased feeling of agency as women age or a more established lifestyle that lends itself to greater autonomy. As mentioned previously, this sample included only women between the ages of 15-24. Future research should explore whether this relationship extends across the life-course or is unique to this demographic.

The relationship between reproductive coercion and discrimination demonstrates that preventing reproductive coercion is a larger issue than providing birth control methods that sexual partners cannot control (i.e. LARCs) and that oppressive experiences may have a compounding effect on women's wellbeing. In this way, it is vital that health education and health services acknowledge the mental health implications of these experiences and the effects on women's control over their reproductive lives. Health education needs to take an intersectional approach and acknowledge the broader experiences of marginalized groups (including people of color, transgender men and women, etc.) in the United States. Future research is needed to explore what types of discrimination have the most impact on reproductive coercion as targeted interventions are important for counteracting this intersectional problem.

Limitations

There are a number of limitations that should be considered when exploring the results of this study. First, the sample size is small and limits the statistical power of the analyses. These results are therefore exploratory and these outcomes should be examined in a larger sample in the future. Secondly, this study is a cross-sectional analysis of the baseline results of a larger longitudinal study. Being cross-sectional, it is not possible to establish causality. It is impossible to know whether the predictor variables or the outcome appeared first in the participant's life. Thirdly, this sample size was restricted to those who are currently in a relationship to comply with the skip logic of the survey and ensure that all participants were asked the reproductive

autonomy and reproductive coercion questions. However, reproductive autonomy and coercion are not experiences limited to those who are in a relationship. Therefore, these results are limited to that population and may not be generalizable to people not in a romantic relationship. Furthermore, despite efforts during recruitment, this is a selective sample that is biased towards participants with higher levels of education. Finally, it is not possible to ascertain if the pregnancy experiences of participants were unintended or not. Whether a pregnancy is intended or unintended may change the effects of reproductive coercion and therefore, alter the results.

Conclusion

This study aimed to explore the multi-level factors associated with reproductive autonomy and reproductive coercion in young women living in and around Atlanta, Georgia. The results indicated that factors on the individual and community levels of the Social Ecological Model proved significantly associated with these two constructs. A multivariate linear regression indicated that age was significantly associated with reproductive autonomy and a multivariate logistic regression demonstrated that both income and experiences of discrimination were associated with the presence of reproductive coercion in this population. These results support the need for an intersectional, multi-level framework when exploring the predictors of reproductive autonomy and coercion in young women.

Chapter 5 – Public Health Implications

The findings of this analysis present important implications for the field of sexual and reproductive health. The relationship between age and reproductive autonomy highlights the need for targeted health education and empowerment for adolescent females. These results

demonstrate the importance of timing and that women may need these messages earlier than they are currently receiving them. While the CDC report that nearly 96% of females receive formal sex education before the age of 18, there is no uniform curriculum for sex education and many states do not mandate evidence-based education (Martinez, Abma & Copen, 2010; CDC, n.d.). Additionally, many states teach abstinence-only programs that actually reinforce harmful stereotypes (Bay-Cheng, 2003). In speaking to the continuance of these programs, Jesseca Boyer for the Guttmacher Institute acknowledges that "although abstinence-only proponents may not intend it, by stigmatizing sex outside of marriage, they also stigmatize survivors of sexual assault and coercion" (Boyer, 2018). Therefore, in many ways, it is not that young women are not receiving sexual education but that they are not receiving adequate sexual education that speaks to their personal agency (Bay-Cheng, 2003). Future research is also needed on why age matters to reproductive autonomy. Some potential reasons may include an increased feeling of agency as women age or a more established lifestyle that lends itself to greater autonomy. This aligns with previous research that found by controlling the timing of pregnancy, women are better able to pursue educational and employment opportunities (Sonfield, Hasstedt, Kavanaugh, & Anderson, 2013). As mentioned previously, this sample included only women between the ages of 15-24. Future studies should explore whether this relationship extends across the life-course or is unique to this demographic. By understanding the predictors of reproductive autonomy, we may be better equipped to effectively tackle issues of unintended pregnancy in young women.

The relationship between reproductive coercion and discrimination demonstrates that preventing reproductive coercion is a larger issue than providing birth control methods that sexual partners cannot control (i.e. LARCs). These results also may indicate that oppressive experiences may have a compounding effect on women's wellbeing. In this way, it is vital that

health education and health services acknowledge the mental health implications of these experiences and the effects on women's control over their reproductive lives. Health education needs to take an intersectional approach and acknowledge the broader experiences of marginalized groups (including people of color, transgender men and women, etc.) in the United States. Future research is needed to explore what types of discrimination have the most impact on reproductive coercion as targeted interventions are important for counteracting this intersectional problem.

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Appendix I.

Table 1. Hypothesized Variables

Variable Name	Type	Example Question	Answers	Scoring
Personal				
Educational Desires	Cat.	"How far would you like to go in school?"	Graduate from high school to (6) Graduate from a graduate degree program	--
Religious Importance	Cat.	"How important is religion in your life?"	Likert scale; (1) Not at all important to (5) Extremely Important.	For analysis, this scale was coded to a dichotomous variable – 0 for "Not at all important" and 1 for "Somewhat important" and above.
Depression	Cont.	"Over the last two weeks, how often have you been bothered by any of the following problems: Little interest or pleasure in doing things?"	Likert scale; (0) Not at all to (3) Nearly every day	Answers are summed (range: 0 to 27)
Resilience Appraisal	Cont.	"If faced with a setback, I could probably find a way around the problem"	Likert scale; (1) Strongly Disagree to (5) Strongly Agree	Answers are summed (range: 12 to 60)
Perceived Stress	Cont.	"In the last month, how often have you been upset because of something that happened unexpectedly?"	Likert scale; (1) Never to (5) Very Often	Answers are summed (range: 14 to 70)
Healthcare Utilization	Cat.	"Have you seen a health care provider or received medical care in the last 3 years?"	(1) Yes or (2) No	--
Contraceptive History	Cat.	"Have you used birth control in the last year?"	(1) Yes or (2) No	--
Pregnancy Experiences	Cat.	"Have you ever become pregnant?"	(1) Yes or (2) No	--
Abortion Experiences	Cat.	Abortion experiences were assessed by asking how a participant's previous pregnancy ended.	Miscarriage, (2) Stillbirth, (3) Abortion, (4) Ectopic or tubal pregnancy, (5) Live birth by cesarean section, or (6) Live birth by vaginal delivery	If a participant answered (3) Abortion, they were coded as having experiences with abortion.
Age	Cont.	"How old are you?"	--	--
Race	Cat.	"How do you usually describe yourself?"	(1) White	--

Variable Name	Type	Example Question	Answers	Scoring
			(2) Black/African American (3) Hispanic or Latino (4) Asian or Pacific Islander (5) American Indian, Alaskan Native or Native Hawaiian (6) Biracial or multiracial (7) Other (specify)	
Education	Cat.	"What is the highest grade of school or year of college you have completed?"	(1) 8th grade or less to (11) Beyond a college degree	--
Income	Cat.	"Not including money from parents, guardians, or other relatives, what was your own total income in the past year?"	Answers ranged from (1) Under $1,000 to (16) $25,000 or more	Income was stratified by (0) Less than $9,999, (1) $10,000 - $19,999 and (2) $20,000 or more
Interpersonal				
Social Support	Cont.	"My social media friends and followers understand my feelings"	Likert scale; (1) Strongly Agree to (5) Strongly Disagree	Answers are summed (range: 18 to 90)
Relationship Autonomy	Cat.	"Does your partner ever threaten you with violence?"	Yes or (2) No	Answers are summed (range: 6 to 12)
Intimate Partner Violence	Cat.	During the past year, how many times did someone you were dating or going out with physically hurt you on purpose? (Count such things as being hit, slammed into something, or injured with an object or weapon)"	Likert scale; (1) I did not date or go out with anyone during the past 12 months to (6) 6 or more times.	An answer of (1) Yes or an answer above "0 times" was coded as having experienced Intimate Partner Violence in the last year.
Emotional Abuse	Cat.	"In the past four months how often did your partner call you ugly?" and "In the past four months how often did your partner threaten to hit you?"	Likert scale; (1) Not in the past four months but it did happen before to (7) More than 20 times	An answer other than "This never happened before" to any of the questions was coded as having experienced emotional abuse in the last 4 months.
Community				
Discrimination	Cont.	"In your day-to-day life how often have any of the following things happened to you? You are	Likert scale; (1) Almost Every Day to (6) Never	Answers are summed (range: 5 to 25)

Variable Name	Type	Example Question	Answers	Scoring
		treated with less courtesy or respect than other people"		
Sexual Activity Stigma	Cat.	Please indicate whether or not you personally experienced the following related to having sex as a young woman: I did not tell my parents that I had sex"	Yes or (2) No	An answer of (1) Yes to any of the questions were coded as having experienced sexual activity stigma.
Policy				
Public Assistance	Cat.	Participants were asked whether they were currently receiving any public assistance, including WIC, TANF, SNAP, or any other public assistance.	Participants were asked to check all that apply	If a participant checked any items, they were coded as having public assistance currently.
Insurance Coverage	Cat.	If a participant checked any of the above, they were coded as having public assistance currently.		--
Cont. = Continuous Cat. = Categorical				

Table 2. Characteristics of the Sample

Characteristic	Mean ± SE n weighted (%)
Age	21.13 (2.48)
Sex	
Male	
Female	109 (100%)
Race	
White	31 (28.18%)
Black or African American	40 (36.36%)
Hispanic or Latino	15 (13.64%)
Asian or Pacific Islander	10 (9.09%)
American Indian, Alaskan Native or Native Hawaiian	1 (.91%)
Biracial or multiracial	12 (10.91%)
Other	1 (.91%)
Education	
12th grade or less	28 (25.45%)
Some college	45 (40.91%)
4 years of college	29 (26.36%)
Beyond a college degree	

Ungraded/ other	
Income	
$9,999 or less	62 (56.88%)
$10,000 - $19,999	21 (19.27%)
$20,000 or more	26 (23.85%)

Table 3. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy, Pearson Correlation

Variables	Mean (S.D)	P-Value	Pearson's R
Age	21.127 (2.48)	**.0352***	.2109
Depression	7.57 (5.45)	.4333	.0801
Resilience Appraisal	22.41 (6.72)	0.8433	-.0201
Perceived Stress	40.76 (3.94)	0.6769	.0424
Social Support	40.01 (10.30)	0.6799	.0426
Discrimination	23.14 (3.71)	**0.1591***	-.1441
Relationship Autonomy	11.75 (1.15)	0.3622	-.0966
*Threshold for inclusion in multivariate model $p < .20$			

Table 4. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy, T-test

Variables	Mean (S.D)	P-Value	T-Value
Religious Importance		.9881	-.01
More than somewhat important	33.29 (6.31)		
Not at all important	33.27 (5.57)		
Healthcare Utilization		.6949	-.39
Seen a health provider in the last 3 years	33.24 (6.22)		
Have not seen a health provider in last 3 years	34.67 (1.53)		
Contraceptive History		.3663	.99
Ever used contraception	33.67 (4.97)		
Never used contraception	27.33 (15.59)		
Pregnancy Experience		.3344	-.97
Been pregnant in their lifetime	34.32 (4.42)		

Variables	Mean (S.D)	P-Value	T-Value
Never been pregnant	27.33 (15.59)		
Abortion Experiences		**.1264***	1.54
Previous pregnancy ended in abortion	29.20 (6.65)		
Previous pregnancy did not end in abortion	33.51 (6.06)		
Intimate Partner Violence (IPV)		.4282	-.80
Experienced IPV in the last year	33.97 (3.75)		
Did not experience IPV in the last year	32.94 (7.05)		
Emotional Abuse		.7822	.28
Experienced emotional abuse in the last 4 months	33.28 (6.19)		
Did not experience emotional abuse in the last 4 months	35.00 (--)		
Sexual Activity Stigma		.9725	-.03
Experienced sexual activity stigma	33.30 (6.37)		
Never experienced sexual activity stigma	33.22 (2.91)		
Public Assistance		**.0134***	-2.52
Currently receiving public assistance	35.11 (2.13)		
Not currently receiving public assistance	32.86 (6.67)		
Insurance Coverage		.6012	-.52
Currently have insurance	33.37 (6.30)		
Currently do not have insurance	32.00 (3.22)		

*Threshold for inclusion in regression model $p < .20$

Table 5. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy, ANOVA

Variables	Mean	P-Value	F Value
Race		.5606	.82
White	32.55		
Black or African American	34.79		
Hispanic or Latino	32.85		

Variables	Mean	P-Value	F Value
Asian or Pacific Islander	30.78		
American Indian, Alaskan Native or Native Hawaiian	35.00		
Biracial or multiracial	32.00		
Other	36.00		
Education		.5184	.91
8th grade or less	32.00		
9th grade	25.00		
10th grade	32.00		
11th grade	36.00		
12th grade	32.77		
One year of college	32.56		
Two years of college	34.14		
Vocational training	34.30		
Three years of college	35.63		
Four years of college	33.28		
Beyond a college degree	35.63		
Income		.3131	1.18
$9,999 or less	32.75		
$10,000 - $19,999	35.15		
$20,000 or more	32.92		
Educational Desires		.9195	.37
Graduate from high school	31.67		
Graduate from a two-year community college	32.00		
Earn a specialized certificate from a vocational or trade school	29.67		
Attend a 4-year college	35.50		
Graduate from a 4-year college	34.55		
Graduate from a graduate degree program	33.03		
Do something else	33.50		

*Threshold for inclusion in regression model $p < .20$

Table 6. Bivariate Analysis for Predictor Variables and Reproductive Coercion, T-test

Variables	Reproductive Coercion Mean (S.D)	No Reproductive Coercion Mean (S.D)	P-Value	T-Value
Depression	8.87 (4.84)	7.39 (5.59)	0.3391	-.96
Resilience Appraisal	25.20 (10.64)	21.81 (5.88)	0.25	-1.20
Perceived Stress	42.27 (4.64)	40.67 (3.73)	**0.14***	-1.48
Social Support	43.93 (12.70)	39.20 (9.87)	**0.11***	-1.60
Relationship Autonomy	11.38 (1.56)	11.79 (1.09)	0.24	1.18
Discrimination	21.00 (3.88)	23.48 (3.63)	**.02***	2.36
*Threshold for inclusion in regression model p < .20				

Table 7. Bivariate Analysis for Predictor Variables and Reproductive Coercion, Fisher's Exact

Variables	No Reproductive Coercion N %	Reproductive Coercion N %	P-Value
Religious Importance			0.29
Not at all important	19 (95.00%)	1 (5.0%)	
More than somewhat important	72 (83.72%)	14 (16.28%)	
Healthcare Utilization			0.37
Seen a health provider in the last 3 years	88 (86.27%)	14 (13.73%)	
Have not seen a health provider in last 3 years	2 (66.67%)	1 (33.33%)	
Contraceptive History			1.0
Ever used contraception	85 (86.73%)	13 (13.27%)	
Never used contraception	6 (85.71%)	1 (14.29%)	
Pregnancy Experience			**0.0017***
Been pregnant in their lifetime	17 (65.38%)	9 (34.62%)	
Never been pregnant	74 (92.50%)	6 (7.50%)	

Variables	No Reproductive Coercion N %	Reproductive Coercion N %	P-Value
Abortion Experience			.54
Previous pregnancy ended in abortion	4 (80.00%)	1 (20.00%)	
Previous pregnancy did not end in abortion	87 (86.14%)	14 (13.86%)	
Intimate Partner Violence (IPV)			.77
Experienced IPV in the last year	31 (83.78%)	6 (16.22%)	
Did not experience IPV in the last year	60 (86.96%)	9 (13.04%)	
Emotional Abuse			1.0
Experienced emotional abuse in the last 4 months	89 (85.58%)	15 (14.42%)	
Did not experience emotional abuse in the last 4 months	1 (100%)	0	
Sexual Activity Stigma			1.0
Experienced sexual activity stigma	84 (85.71%)	14 (14.29%)	
Never experienced sexual activity stigma	7 (87.50%)	1 (12.50%)	
Public Assistance Usage			.13*
Currently receiving public assistance	13 (72.22%)	5 (27.78%)	
Not currently receiving public assistance	78 (88.64%)	10 (11.36%)	
Insurance Coverage			1.0
Currently have insurance	84 (85.71%)	14 (14.29%)	
Currently do not have insurance	6 (100%)	0	
Educational Desires			.6276
Graduate from high school	2 (100%)	0	
Graduate from a two-year community college	1 (100%)	0	
Earn a specialized certificate from a vocational or trade school	3 (100%)	0	

Variables	No Reproductive Coercion N %	Reproductive Coercion N %	P-Value
Attend a 4-year college	1 (50%)	1 (50%)	
Graduate from a 4-year college	18 (78.26%)	5 (21.74%)	
Graduate from a graduate degree program	62 (87.32%)	9 (12.86%)	
Do something else	3 (100%)	0	
Race			**.0471***
White	27 (93.10%)	2 (6.90%)	
Black or African American	30 (78.95%)	8 (21.05%)	
Hispanic or Latino	15 (100%)	0	
Asian or Pacific Islander	9 (90%)	1 (10%)	
American Indian, Alaskan Native or Native Hawaiian	0	1 (100%)	
Biracial or multiracial	9 (75%)	3 (25%)	
Other	1 (100%)	0	
Education			.6889
8th grade or less	1 (100%)	0	
9th grade	3 (100%)	0	
10th grade	3 (100%)	0	
11th grade	2 (66.67%)	1 (33.33%)	
12th grade	13 (81.25%)	3 (18.75%)	
One year of college	14 (77.78%)	4 (22.22%)	
Two years of college	12 (80%)	3 (20%)	
Three years of college	11 (100%)	0	
Four years of college	26 (89.66%)	3 (10.34%)	
Beyond a college degree	6 (85.71%)	1 (14.29%)	

Variables	No Reproductive Coercion N %	Reproductive Coercion N %	P-Value
Income			**.0791***
$9,999 or less	54 (91.53%)	5 (8.47%)	
$10,000 - $19,999	15 (71.43%)	6 (28.57%)	
$20,000 or more	21 (84%)	4 (16%)	
Age			.3442
15-19 years old	26 (92.86%)	2 (7.14%)	
20-24 years old	65 (83.33%)	13 (16.67%)	
*Threshold for inclusion in regression model p < .20			

Table 8. Results of Linear Regression for Reproductive Autonomy, p<.05

Independent Variable	Beta	Confidence Interval	P-value
Discrimination	-.0357	-.0890, .0176	.1870
Abortion Experience	-.7085	-1.602, .185	.1188
Public Assistance	.4144	-.0923, .9212	.1078
Age	.1012	.0196, .1828	**.0156***

Table 9. Results of Logistic Regression for Reproductive Coercion, p<.05

Independent Variable	Adjusted Odds Ratio	Confidence Interval	P-value
Pregnancy Experience	4.115	.792, 21.391	.0926
Public Assistance	3.317	.414, 26.562	.2587
Perceived Stress	.881	.732, 1.060	.1799
Social Support	.941	.878, 1.008	.0831
Discrimination	1.283	1.055, 1.560	**.0124***
Race	.841	.547, 1.292	.4295
Income	.336	.119, .954	**.0404***

Appendix II.

Table 10. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy by Age Group, Pearson Correlation

	Aged 15-19			Aged 20-24		
Variables	**Mean (S.D)**	**P-Value**	**Pearson's R**	**Mean (S.D)**	**P-Value**	**Pearson's R**
Depression	8.86 (6.42)	.26	.2349	7.10 (5.00)	.89	.0165
Resilience Appraisal	24.41 (7.10)	.99	-0.00046	21.69 (6.47)	.77	.0347
Perceived Stress	39.90 (3.57)	.77	-0.06248	41.08 (4.05)	.59	.0631
Social Support	42.82 (8.99)	.24	.24907	38.67 (10.46)	.63	.0585
Discrimination	22.74 (3.02)	.45	-0.16742	23.28 (3.92)	**.11***	-.1884
Relationship Autonomy	12.08 (.97)	**.18***	.2990	11.64 (1.19)	**.07***	-.2216
*Threshold for inclusion in multivariate model $p < .20$						

Table 11. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy by Age Group, T-test

	Aged 15-19			Aged 20-24		
Variables	**Mean (S.D)**	**P-Value**	**T-Value**	**Mean (S.D)**	**P-Value**	**T-Value**
Religious Importance						
More than somewhat important	30.10 (10.13)	**.0948***	1.74	34.40 (3.84)	.37	-.91
Not at all important	34.40 (2.19)			32.94 (6.25)		
Healthcare Utilization						
Seen a health provider in the last 3 years				34.04 (4.58)	.82	-.73
Have not seen a health provider in last 3 years				34.67 (1.53)		

	Aged 15-19			Aged 20-24		
Variables	**Mean (S.D)**	**P-Value**	**T-Value**	**Mean (S.D)**	**P-Value**	**T-Value**
Contraceptive History						
Ever used contraception	32.77 (6.40)	.26	1.52	33.94 (4.46)	.25	-1.15
Never used contraception	17.67 (17.04)			37.00 (6.08)		
Pregnancy Experience						
Been pregnant in their lifetime	35.33 (1.53)	**.0378***	-2.21	34.18 (4.69)	.89	-.14
Never been pregnant	30.36 (9.69)			34.02 (4.46)		
Abortion Experiences						
Previous pregnancy ended in abortion				29.20 (6.65)	**.0112***	2.60
Previous pregnancy did not end in abortion				34.41 (4.15)		
Intimate Partner Violence (IPV)						
Experienced IPV in the last year	33.63 (3.81)	**.20***	-1.33	34.08 (3.79)	.99	-.01
Did not experience IPV in the last year	29.71 (10.77)			34.06 (4.46)		
Emotional Abuse						
Experienced emotional abuse in the last 4 months				34.07 (4.55)	.84	.20
Did not experience emotional abuse in the last 4 months				35.00 (--)		
Sexual Activity Stigma						
Experienced sexual activity stigma	31.09 (9.82)	.85	-.19	34.00 (4.67)	.27	1.13
Never experienced sexual activity stigma	30.00 (2.65)			34.83 (1.17)		

	Aged 15-19			Aged 20-24		
Variables	**Mean (S.D)**	**P-Value**	**T-Value**	**Mean (S.D)**	**P-Value**	**T-Value**
Public Assistance						
Currently receiving public assistance	35.40 (2.97)	**.04***	-2.14	35.00 (1.88)	**.16***	-1.43
Not currently receiving public assistance	29.85 (9.96)			33.85 (4.89)		
Insurance Coverage						
Currently have insurance	30.91 (9.82)	.90	-.13	34.13 (4.56)	.63	-.49
Currently do not have insurance	30.00 (2.83)			33.00 (3.27)		
*Threshold for inclusion in regression model p < .20						

Table 12. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy by Age group, ANOVA

	Aged 15-19			Aged 20-24		
Variables	**Mean**	**P-Value**	**F Value**	**Mean**	**P-Value**	**F Value**
Race		**.01***	3.90		.50	.88
White	31.14			33.00		
Black or African American	33.00			35.19		
Hispanic or Latino	33.25			32.67		
Asian or Pacific Islander	-0.00			34.63		
American Indian, Alaskan Native or Native Hawaiian	--			35.00		
Biracial or multiracial	31.20			33.00		

	Aged 15-19			Aged 20-24		
Variables	**Mean**	**P-Value**	**F Value**	**Mean**	**P-Value**	**F Value**
Other	36.00			--		
Education		.76	.59		.56	.81
8th grade or less	32.00			--		
9th grade	25.00			--		
10th grade	32.00			--		
11th grade	37.50			33.00		
12th grade	32.75			32.78		
One year of college	26.50			36.20		
Two years of college	34.40			34.00		
Vocational training	--			--		
Three years of college	34.00			34.33		
Four years of college	--			33.28		
Beyond a college degree	--			35.63		
Income		.66	.19		.23	1.49
$9,999 or less	30.79			34.26		
$10,000 - $19,999	--			35.15		
$20,000 or more	35.00			32.83		
Educational Desires		.81	.40		.50	.90

	Aged 15-19			Aged 20-24		
Variables	**Mean**	**P-Value**	**F Value**	**Mean**	**P-Value**	**F Value**
Graduate from high school	31.00			33.00		
Graduate from a two-year community college	32.00			--		
Earn a specialized certificate from a vocational or trade school	35.00			27.00		
Attend a 4-year college	--			35.50		
Graduate from a 4-year college	34.67			34.50		
Graduate from a graduate degree program	29.13			34.18		
Do something else	--			33.50		
*Threshold for inclusion in regression model p < .20						

Table 13. Bivariate Analysis for Predictor Variables and Reproductive Coercion by Age group, T-test

	Aged 15-19				Aged 20-24			
Variables	**Reproductive Coercion** Mean (S.D)	**No Reproductive Coercion** Mean (S.D)	**P-Value**	**T-Value**	**Reproductive Coercion** Mean (S.D)	**No Reproductive Coercion** Mean (S.D)	**P-Value**	**T-Value**
Depression	15.0 (1.41)	8.42 (6.55)	**.18***	-1.39	7.92 (4.46)	6.97 (5.15)	.54	-.62
Resilience Appraisal	26.50 (13.44)	24.15 (6.97)	.67	-.44	25.00 (10.81)	20.86 (5.15)	**.20***	-1.35
Perceived Stress	45.50 (.71)	39.42 (3.38)	**.02***	-2.49	41.77 (4.80)	41.17 (3.77)	.62	-.50
Social Support	50.00 (7.07)	43.40 (9.23)	.34	-.98	42.92 (13.35)	37.48 (9.67)	**.10***	-1.67
Relationship Autonomy	12.00 (1.41)	12.14 (.96)	.85	.20	11.27 (1.62)	11.67 (1.11)	.31	1.02
Discrimination	21.00 (1.41)	23.00 (3.09)	.38	.89	21.0 (4.20)	23.66 (3.81)	**.03***	2.19

*Threshold for inclusion in regression model p < .20

Table 14. Bivariate Analysis for Predictor Variables and Reproductive Coercion by Age group, Fisher's Exact

	Aged 15-19			Aged 20-24		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Religious Importance			1.0			.44
Not at all important	5 (100%)	0		14 (93.33%)	1 (6.67%)	
More than somewhat important	21 (91.30%)	2 (8.70%)		51 (80.95%)	12 (19.05%)	
Healthcare Utilization			--			.43
Seen a health provider in the last 3 years	26 (92.86%)	2 (7.14%)		62 (83.78%)	12 (16.22%)	
Have not seen a health provider in last 3 years	--	--		2 (66.67%)	1 (33.33%)	
Contraceptive History			1.0			.40
Ever used contraception	22 (91.67%)	2 (8.33%)		63 (85.14)	11 (14.86%)	
Never used contraception	4 (100%)	0		2 (66.67%)	1 (33.33%)	
Pregnancy Experience			.27			**.0065***
Been pregnant in their lifetime	3 (75%)	1 (25%)		14 (63.64%)	8 (36.36%)	
Never been pregnant	23 (95.83%)	1 (4.17%)		51 (91.07%)	5 (8.93%)	
Abortion Experience			--			1.0
Previous pregnancy ended in abortion	--	--		4 (80%)	1 (20%)	

	Aged 15-19			Aged 20-24		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Previous pregnancy did not end in abortion	26 (92.86%)	2 (7.14%)		61 (83.56%)	12 (16.44%)	
Intimate Partner Violence (IPV)			1.0			.54
Experienced IPV in the last year	8 (100%)	0		23 (79.31%)	6 (20.69%)	
Did not experience IPV in the last year	18 (90%)	2 (10%)		42 (85.71%)	7 (14.29%)	
Emotional Abuse			--			1.0
Experienced emotional abuse in the last 4 months	26 (92.86%)	2 (7.14%)		63 (82.99%)	13 (17.11%)	
Did not experience emotional abuse in the last 4 months	--	--		1 (100%)	0	
Sexual Activity Stigma			1.0			1.0
Experienced sexual activity stigma	23 (92%)	2 (8%)		61 (83.56%)	12 (16.44%)	
Never experienced sexual activity stigma	3 (100%)	1		4 (80%)	1 (20%)	
Public Assistance Usage			.39			**.1073***
Currently receiving public assistance	5 (83.33%)	1 (16.67%)		8 (66.67%)	4 (33.33%)	
Not currently receiving public assistance	21 (95.45%)	1 (4.55%)		57 (83.36%)	9 (13.64%)	
Insurance Coverage			1.0			1.0
Currently have insurance	23 (92%)	2 (8%)		61 (83.56%)	12 (16.44%)	
Currently do not have insurance	2 (100%)	0		4 (100%)	0	

	Aged 15-19			Aged 20-24		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Educational Desires			1.0			.34
Graduate from high school	2 (100%)	0		0	0	
Graduate from a two-year community college	1 (100%)	0		--	--	
Earn a specialized certificate from a vocational or trade school	1 (100%)	0		2 (100%)	0	
Attend a 4-year college	--	--		1 (50%)	1 (50%)	
Graduate from a 4-year college	6 (100%)	0		12 (70.59%)	5 (29.41%)	
Graduate from a graduate degree program	16 (88.89%)	2 (11.11%)		46 (86.79%)	7 (13.21%)	
Do something else	--	--		3 (100%)	0	
Race			.85			**.0879***
White	7 (100%)	0		20 (90.91%)	2 (9.09%)	
Black or African American	7 (87.50%)	1 (12.50%)		23 (76.67%)	7 (23.33%)	
Hispanic or Latino	5 (100%)	0		10 (100%)	0	
Asian or Pacific Islander	1 (100%)	0		8 (88.89%)	1 (11.11%)	
American Indian, Alaskan Native or Native Hawaiian	--	--		0	1 (100%)	
Biracial or multiracial	5 (83.33%)	1 (16.67%)		4 (66.67%)	2 (33.33%)	
Other	1 (100%)	0		--	--	

	Aged 15-19			Aged 20-24		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Education			.27			.23
8th grade or less	1	0		--	--	
9th grade	3 (100%)	0		--	--	
10th grade	3 (100%)	0		--	--	
11th grade	1 (50%)	1 (50%)		1 (100%)	0	
12th grade	6 (100%)	0		7 (70%)	3 (30%)	
One year of college	7 (100%)	0		7 (63.64%)	4 (36.36%)	
Two years of college	4 (80%)	1 (20%)		8 (80%)	2 (20%)	
Three years of college	1 (100%)	0		10 (100%)	0	
Four years of college	--	--		26 (89.66%)	3 (10.34%)	
Beyond a college degree	--	--		6 (85.71%)	1 (14.29%)	
Income			1.0			**.20***
$9,999 or less	25 (92.59%)	2 (7.41%)		29 (90.63%)	3 (9.38%)	
$10,000 - $19,999	--	--		15 (71.43%)	6 (28.57%)	
$20,000 or more	1 (100%)	0		20 (83.33%)	4 (16.67%)	

*Threshold for inclusion in regression model $p < .20$

Table 15. Results of Linear Regression for Reproductive Autonomy in 15-19 year olds, p<.05

Independent Variable	Beta	Confidence Interval	P-value
Relationship Autonomy	0.53544	-0.28095, 1.35184	0.1825
Religious Importance	-0.50690	-1.80343, 0.78963	.4177
Pregnancy Experience	0.86279	-0.87577, 2.60135	.3069
Intimate Partner Violence (IPV)	0.86779	-0.38903, 2.12460	.1618
Public Assistance Usage	0.04801	-1.66530, 1.76132	.9532
Race	-0.05053	-0.37197, 0.27090	.7422
*Significance p<.05			

Table 16. Results of Linear Regression for Reproductive Autonomy in 20-24 year olds, p<.05

Independent Variable	Beta	Confidence Interval	P-value
Discrimination	-0.02862	-0.08767, 0.03042	.34
Relationship Autonomy	-0.15147	-0.34311, 0.04017	0.1192
Abortion Experience	-1.03891	-1.90632, -0.17151	**0.0197***
Public Assistance Usage	0.22143	-0.35816, 0.80103	0.4480
*Significance p<.05			

Table 17. Results of Logistic Regression for Reproductive Coercion in 15-19 year olds, p<.05

Independent Variable	Adjusted Odds Ratio	Confidence Interval	P-value
Depression	1.34	0.682, 2.626	.40
Perceived Stress	0.039	<0.001, 20.593	.31
*Significance p<.05			

Table 18. Results of Logistic Regression for Reproductive Coercion in 20-24 year olds, p<.05

Independent Variable	Adjusted Odds Ratio	Confidence Interval	P-value
Resilience Appraisal	0.944	0.794, 1.123	0.5175
Social Support	0.953	0.887, 1.024	0.1864
Discrimination	1.243	0.990, 1.561	0.0613
Pregnancy Experience	0.422	0.054, 3.305	0.4112
Public Assistance Usage	0.239	0.014, 4.239	0.3295
Race	0.812	0.491, 1.343	0.4166
Income	0.388	0.115, 1.313	0.1279
*Significance p<.05			

Table 19. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy by Race, Pearson Correlation

	Black or African American			White		
Variables	**Mean (S.D)**	**P-Value**	**Pearson's R**	**Mean (S.D)**	**P-Value**	**Pearson's R**
Age	21.53 (2.75)	**.1615***	.2318	21.19 (2.40)	.3905	.1657
Depression	7.53 (5.12)	.4823	-.1209	6.94 (5.37)	.7603	.0592
Resilience Appraisal	22.97 (8.0)	.9497	.0107	20.84 (5.89)	.4506	-.1457
Perceived Stress	41.05 (4.41)	.7763	-.0477	39.68 (3.72)	.5972	.1024
Social Support	39.78 (10.07)	.3140	-.1726	39.24 (10.36)	.9170	.0210
Discrimination	22.62 (3.99)	.2753	.1841	23.03 (3.92)	.4211	-.1615
Relationship Autonomy	11.50 (1.30)	.5098	-.1152	11.83 (1.0)	.6152	-.0993

*Threshold for inclusion in multivariate model $p < .20$

Table 20. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy by Race, T-test

	Black or African American			White		
Variables	**Mean (S.D)**	**P-Value**	**T-Value**	**Mean (S.D)**	**P-Value**	**T-Value**
Religious Importance		.5661	-.58		.79	.27
More than somewhat important	34.84 (3.13)			32.20 (27.93)		
Not at all important	33.00 (--)			32.93 (6.98)		
Healthcare Utilization		.7443	-.33		--	--
Seen a health provider in the last 3 years	34.75 (3.18)			--		
Have not seen a health provider in last 3 years	35.50 (.71)			--		

	Black or African American			White		
Variables	**Mean (S.D)**	**P-Value**	**T-Value**	**Mean (S.D)**	**P-Value**	**T-Value**
Contraceptive History		.5659	-.68		--	--
Ever used contraception	34.60 (2.80)			--		
Never used contraception	37.00 (6.08)			--		
Pregnancy Experience		**.0654***	-1.90		.60	-.53
Been pregnant in their lifetime	36.00 (3.04)			34.67 (2.08)		
Never been pregnant	34.08 (2.98)			32.31 (7.60)		
Abortion Experiences		.4096	.83		--	--
Previous pregnancy ended in abortion	33.00 (2.83)			--		
Previous pregnancy did not end in abortion	34.89 (3.12)			--		
Intimate Partner Violence (IPV)		.5193	.65		**.0710***	-1.90
Experienced IPV in the last year	34.36 (3.27)			35.11 (1.36)		
Did not experience IPV in the last year	35.04 (3.04)			31.40 (8.49)		
Emotional Abuse		.9463	.07		--	--
Experienced emotional abuse in the last 4 months	34.78 (3.15)			--		
Did not experience emotional abuse in the last 4 months	35.00 (--)			--		
Sexual Activity Stigma		.9790	-.03		.70	.39
Experienced sexual activity stigma	34.79 (3.24)			32.41 (7.49)		
Never experienced sexual activity stigma	34.75 (1.89)			34.50 (0.71)		

	Black or African American			White		
Variables	**Mean (S.D)**	**P-Value**	**T-Value**	**Mean (S.D)**	**P-Value**	**T-Value**
Public Assistance		.4742	-.72		.85	-.19
Currently receiving public assistance	35.35 (2.01)			33.50 (.71)		
Not currently receiving public assistance	34.56 (3.46)			32.48 (7.51)		
Insurance Coverage		**.1559***	-1.45		--	--
Currently have insurance	35.00 (2.95)			--		
Currently do not have insurance	32.33 (4.51)			--		
*Threshold for inclusion in regression model p < .20						

Table 21. Bivariate Analysis Results for Predictor Variables and Reproductive Autonomy by Race, ANOVA

	Black or African American			White		
Variables	**Mean**	**P-Value**	**F Value**	**Mean**	**P-Value**	**F Value**
Education		.3224	1.22		**.01***	3.52
8th grade or less	32.0			--		
9th grade	33.50			8.0		
10th grade	34.0			35.0		
11th grade	--			--		
12th grade	34.71			33.0		
One year of college	38.0			34.67		

	Black or African American			White		
Variables	**Mean**	**P-Value**	**F Value**	**Mean**	**P-Value**	**F Value**
Two years of college	33.50			34.86		
Vocational training	--			--		
Three years of college	35.0			35.0		
Four years of college	35.56			35.0		
Beyond a college degree	35.71			--		
Income		.8204	.20		.56	.57
$9,999 or less	34.50			32.72		
$10,000 - $19,999	35.33			35.0		
$20,000 or more	34.77			30.0		
Educational Desires		.4948	.90		.70	.48
Graduate from high school	31.67			--		
Graduate from a two-year community college	32.0			--		
Earn a specialized certificate from a vocational or trade school	--			36.0		
Attend a 4-year college	35.50			--		
Graduate from a 4-year college	35.50			34.44		
Graduate from a graduate degree program	35.08			31.28		
Do something else	34.0			--		

*Threshold for inclusion in regression model $p < .20$

Table 22. Bivariate Analysis for Predictor Variables and Reproductive Coercion by Race, T-test

	Black or African American				White			
Variables	**Reproductive Coercion** Mean (S.D)	**No Reproductive Coercion** Mean (S.D)	**P-Value**	**T-Value**	**Reproductive Coercion** Mean (S.D)	**No Reproductive Coercion** Mean (S.D)	**P-Value**	**T-Value**
Depression	8.88 (5.91)	7.32 (4.90)	.4548	-.76	6.0 (1.41)	6.89 (5.74)	.83	.22
Resilience Appraisal	28.00 (13.05)	21.55 (5.89)	.2118	-1.36	27.50 (10.61)	19.85 (5.27)	**.0716***	-1.88
Perceived Stress	42.00 (4.17)	41.03 (4.48)	.5859	-.55	40.50 (10.61)	39.81 (3.13)	.9420	-.09
Social Support	39.86 (12.67)	39.64 (9.85)	.9615	-.05	47.00 (8.49)	37.89 (10.22)	.2333	-1.22
Relationship Autonomy	11.43 (1.72)	11.48 (1.22)	.9258	.09	10.50 (2.12)	11.92 (.8622)	.5162	.94
Discrimination	21.88 (3.76)	22.73 (4.14)	.5989	.53	17.50 (7.78)	23.56 (3.49)	**.0376***	2.20

*Threshold for inclusion in regression model $p < .20$

Table 23. Bivariate Analysis for Predictor Variables and Reproductive Coercion by Race, Fisher's Exact

	Black or African American			White		
Variables	**No Reproductive Coercion** N %	**Reproductive Coercion** N %	**P-Value**	**No Reproductive Coercion** N %	**Reproductive Coercion** N %	**P-Value**
Religious Importance			--			1.0
Not at all important	0	0		12 (92.31%)	1 (7.69%)	
More than somewhat important	30 (79.95%)	8 (21.05%)		15 (93.75%)	1 (6.25%)	

	Black or African American			White		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Healthcare Utilization			.3812			--
Seen a health provider in the last 3 years	29 (80.56%)	7 (19.44%)		27 (93.10%)	2 (6.90%)	
Have not seen a health provider in last 3 years	1 (50%)	1 (50%)		--	--	
Contraceptive History			.5187			--
Ever used contraception	28 (80%)	7 (20%)		27 (96.43%)	1 (3.57%)	
Never used contraception	2 (66.67%)	1 (33.33%)		--	--	
Pregnancy Experience			.4068			**.0074***
Been pregnant in their lifetime	9 (69.23%)	4 (30.77%)		1 (33.33%)	2 (66.67%)	
Never been pregnant	21 (84%)	4 (16%)		26 (100%)	0	
Abortion Experience			1.0			--
Previous pregnancy ended in abortion	2 (100%)	0		--	--	
Previous pregnancy did not end in abortion	28 (77.78%)	8 (22.22%)		27 (93.10%)	2 (6.90%)	
Intimate Partner Violence (IPV)			.2219			**.0887***
Experienced IPV in the last year	12 (92.31%)	1 (7.69%)		7 (77.78%)	2 (22.22%)	
Did not experience IPV in the last year	18 (72%)	7 (28%)		20 (100%)	--	

	Black or African American			White		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Emotional Abuse			1.0			
Experienced emotional abuse in the last 4 months	29 (78.38%)	8 (21.62%)		27 (93.10%)	2 (6.90%)	--
Did not experience emotional abuse in the last 4 months	1 (100%)	0		--	--	
Sexual Activity Stigma			1.0			1.0
Experienced sexual activity stigma	27 (79.41%)	7 (20.59%)		26 (92.86%)	2 (7.14%)	
Never experienced sexual activity stigma	3 (75%)	1 (25%)		1 (100%)	0	
Public Assistance Usage			.6503			**.0025***
Currently receiving public assistance	8 (88.89%)	1 (11.11%)		0	2 (100%)	
Not currently receiving public assistance	22 (75.86%)	7 (24.14%)		27 (100%)	0	
Insurance Coverage			1.0			--
Currently have insurance	27 (77.14%)	8 (22.86%)		26 (92.86%)	2 (7.14%)	
Currently do not have insurance	3 (100%)	0		--	--	
Educational Desires			.8487			.2685
Graduate from high school	2 (100%)	0		--	--	
Graduate from a two-year community college	1 (100%)	0		--	--	

	Black or African American			White		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Earn a specialized certificate from a vocational or trade school	--	--		1 (100%)	0	
Attend a 4-year college	1 (50%)	1 (50%)		--	--	
Graduate from a 4-year college	5 (83.33%)	1 (16.67%)		6 (75%)	2 (25%)	
Graduate from a graduate degree program	20 (76.92%)	6 (23.08%)		18 (100%)	0	
Do something else	1 (100%)	0		1 (100%)	0	
Education			.9294			**.0813***
8th grade or less	1 (100%)	0		--	--	
9th grade	3 (100%)	0		0	0	
10th grade	1 (100%)	0		1 (100%)	0	
11th grade	--	--		--	--	
12th grade	5 (83.33%)	1 (16.67%)		1 (50%)	1 (50%)	
One year of college	3 (60%)	2 (40%)		3 (75%)	1 (25%)	
Two years of college	3 (60%)	2 (40%)		7 (100%)	0	
Three years of college	2 (100%)	0		5 (100%)	0	
Four years of college	7 (77.78%)	2 (22.22%)		10 (100%)	0	

	Black or African American			White		
Variables	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**	**No Reproductive Coercion N %**	**Reproductive Coercion N %**	**P-Value**
Beyond a college degree	5 (83.33%)	1 (16.67%)		--	--	
Income			**.1072***			1.0
$9,999 or less	15 (93.75%)	1 (6.25%)		15 (88.24%)	2 (11.76%)	
$10,000 - $19,999	6 (60%)	4 (40%)		4 (100%)	0	
$20,000 or more	9 (75%)	3 (25%)		7 (100%)	0	
Age			.6600			1.0
15-19 years old	7 (87.50%)	1 (12.50%)		7 (100%)	0	
20-24 years old	23 (76.67%)	7 (23.33%)		20 (90.91%)	2 (9.09%)	
*Threshold for inclusion in regression model p < .20						

Table 24. Results of Linear Regression for Reproductive Autonomy in Black or African American Participants, p<.05

Independent Variable	Beta	Confidence Interval	P-value
Age	0.04533	-0.09117, 0.18182	0.1843
Pregnancy Experience	0.57691	-.08526, 1.23907	0.2611
Insurance Coverage	0.65602	-.63620, 1.94824	.3095
*Significance p<.05			

Table 25. Results of Linear Regression for Reproductive Autonomy in White Participants, p<.05

Independent Variable	Beta	Confidence Interval	P-value
Intimate Partner Violence (IPV)	0.53882	-0.27317, 1.35081	0.1843
Education	0.09732	-0.07681, 0.27145	0.2611
*Significance p<.05			