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LET'S TALK ABOUT SEX (EDUCATION):
EXPLAINING STATE VARIATION IN SEX EDUCATION STANDARDS AND THEIR
IMPACT ON UNIVERSITY SEXUAL ASSAULT RATES

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ABSTRACT

States vary greatly in their requirements for the comprehensiveness and inclusiveness of sex education. This paper seeks to understand why sex education policy varies among states, and determine the real-world impact of these standards, specifically on university sexual assault rates. This paper examines sex education standards, and compares a states' sex education comprehensiveness with university sexual assault rates in that state. We find that sex education standards are dependent on public opinion, and cannot be explained by factors that tend to explain other types of non-controversial education policy. Furthermore, we find that a state's sex education comprehensiveness does not appear to have an impact on sexual assault rates, although this is likely due to underreporting of sexual assaults.

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Chapter 1

Introduction

Sexuality is an important part of an individual's personal identity and human development (Shtarkshall 2007; Moore 2000; Brick 1993; Planned Parenthood 2014). In 2001, the United States Surgeon General declared that "sexuality is an integral part of human life," and "sexual health is inextricably bound to both physical and mental health" (Shtarkshall 2007). As such, sex education has been asserted as a necessity for students to make informed decisions about their health and well-being (Shtarkshall 2007; Planned Parenthood 2014). The United Nations Educational, Scientific, and Cultural Organization (UNESCO) is among many groups that emphasize sex education as a human right, stating:

Few young people receive adequate preparation for their sexual lives. This leaves them potentially vulnerable to coercion, abuse and exploitation, unintended pregnancy and sexually transmitted infections (STIs), including HIV. Many young people approach adulthood faced with conflicting and confusing messages about sexuality and gender. This is often exacerbated by embarrassment, silence and disapproval of open discussion of sexual matters by adults, including parents and teachers, at the very time when it is most needed. There are many settings globally where young people are becoming sexually mature and active at an earlier age. They are also marrying later, thereby extending the period of time from sexual maturity until marriage... It is therefore essential to recognize the need and entitlement of all young people to sexuality education. (UNESCO 2009, 2)

As such, it is important that the sexuality education of students be a priority in order for them to make educated and healthy choices. However, discussions about the merits of sex education in the United States have existed for many years and continue today (Donovan 1998; Brick 1993; Irvine 2004). Conservative groups have targeted proponents of comprehensive sex

education since the 1960s, and although the HIV epidemic of the 1980s made it medically and politically necessary to discuss sexuality in a school context, many groups continue to attack institutionalized sex education (Donovan 1998). As arguments about sex education intensify, curricula and standards remain inconsistent across the United States (Irvine 2004; Shtarkshall 2007). Such policy is determined at the state level, and enforced locally or by the school district itself, which allows for a great deal of heterogeneity in curricula, standards, oversight, and implementation (Landry 2003; Mooney 2000; Donovan 1998; Berne 1999).

States vary greatly in their requirements for the comprehensiveness and inclusiveness of sex education. A state sex education policy summary report by the Guttmacher Institute illustrates this: twenty-two states mandate sex education, thirteen states require that education be medically accurate, twenty-five states require that abstinence be stressed, two states prohibit sex education from promoting religion, and thirty-five states permit parents to remove their children from sex education classes (Guttmacher 2014a). Of the many varied standards for sex education, a requirement of information about “avoiding coerced sex” is one of them (Guttmacher 2014a).

This variation across states raises my first research question: why do some states have more comprehensive (that is to say, inclusive, educational, accurate, etc.) sex education standards than others, including education on avoiding coerced sex in some places? This paper seeks to identify the factors that influence the comprehensiveness of state’s sexuality education as well as their decisions to adopt particular measures, in particular instruction in coercion.

This aspect of sex education should be particularly important to students in American health education classrooms. Feminist theory argues that the United State is a sex negative culture, a culture in which sex is treated as something shameful, harmful, and unnatural (Rubin 1984; D’Ercole 2011; Comella 2013). Sex negativity is evident in American sex education,

predominantly in the moral, biased, and shaming messages and undertones, like the emphasis on abstinence until marriage that exists in thirteen states (Guttmacher 2014a). Indeed, my findings for the first question will show the impact of conservative religions on state sex education policy. Feminists have argued that this sex negativity supports a rape-supportive culture, and that education about consent and a complete sex education can be the first steps to ending sexual assault (Fine 1988; Fine 2006; Burt 1980; Buchwald 1993). According to one feminist sex critic, “As long as sex in our society is construed as a dirty, low, and violent act involving domination of a male over a female, rape will remain a common occurrence” (Herman 1988, 52). This therefore raises my second research question.

Feminist theory further emphasizes the importance of open communication and verbal consent as a key to ending sexual violence. This leads to my second research question: what effect does variation in sex education standards have on students’ choices? Specifically, does this policy variation impact reported university sexual assault rates?

Chapter 2

Literature Review

Sexual Assault in the United States

The United States is an environment in which sexual assault, and a culture that supports the crime, runs rampant (Buchwald 1993). To illustrate the extensive rape epidemic in the United States, it is helpful to examine victimization statistics. Approximately 1 in 5 women and about 1 in 71 men in the United States have survived an attempted or completed sexual assault (Tjaden 1998, 3; Black 2011, 2). Sexual assault is also primarily a crime against youth (Tjaden 1998). In one survey, 54% of female sexual assault survivors were under the age of 18. Of female sexual assault survivors in that survey, 22% were assaulted when they were less than 12 years old (Tjaden 1998, 6). Other surveys find that 42.2% of female sexual assault survivors were first assaulted under the age of 18 (Black 2011, 2). Furthermore, sexual assault survivors almost always know the people who assault them (Fisher 2000; Black 2011; Buchwald 1993). And yet despite these statistics that show sexual assault as an important and prominent issue for girls and young women, only 21% of children received sexual assault education in school, compared to 55% receiving bullying education (Finklehor 2014).

The inclusion of information about sexual assault is crucial to recognizing a very real part of life for many American youth. First sexual experiences in the United States generally occur before college age, around age 17 (Guttmacher 2014b). Furthermore, “a notable percentage of these first experiences are forced...sexual and physical violence occur at alarming rates among

middle school and secondary school students” (Lonsway 2009a, 3). Thus, students who are taking sex education classes have many times already had sexual experiences and have not yet been educated about sexual assault.

As it stands, sexual assault prevention and awareness education efforts are focused mainly on college students (Klaw 2005; Lonsway 2009a). While universities are a particularly high-risk environment for sexual assault, by the time young people arrive at college, many have already had sex, and some have already been assaulted (Lonsway 2009a; Klaw 2005). Educating college students is important, but for many the temporal relevance is already past. The attitudes that support sexual assault have already been developed throughout a lifetime of experiences that support rape culture (Klaw 2005; Burt 1980; Buchwald 1993). Students, even those of college age, all too often fail to understand what sexual assault is (Adams-Curtis 2004). College men have been found to fail to name coercive actions of themselves and of others as problematic, and college women fail to recognize coercive actions towards themselves as such (Adams-Curtis 2004).

Many college programs focus heavily on consent education, and have been extremely successful, such as the semester-long course called Campus Acquaintance Rape Education (CARE) at the University of Iowa that “connects the issue of sexual violence to a cultural context of gender inequality” (Klaw 2005, 50). This program increased students’ awareness of the prevalence of rape and heightened their sense of duty to do something about it (Klaw 2005). The program also elicited strong emotional reactions from students, such as “helplessness, anger, and frustration at the pervasiveness of rape culture,” along with greater empathy for survivors of sexual assault (Klaw 2005, 53-54). Even more importantly, students who went through this program felt more empowered to take action and felt better prepared in how to effectively

support survivors (Klaw 2005). Men who went through the program described times when they confronted sexist behavior in the people around them and said they try to be role models to other men, which is key (Klaw 2005). Sexually coercive behaviors are associated with support of sexual aggression and coercion in peer groups, and so changing male attitudes about rape is an important piece to ending violence (Adams-Curtis 2004; DeKeseredy 1995; Schwartz 1996; Buchwald 1993). These aggression supporters tend to be close friends who pressure the perpetrator into sexual aggression and/or do nothing to stop it (Adams-Curtis 2004; Buchwald 1993). Education programs like CARE encourage peer groups to intervene in cases where sexual assaults are possible and have been shown to increase students' sexual assault knowledge, lessen their beliefs in rape myths, and increase their likelihood to intervene in harmful situations (Lonsway 2009a). If consent education programs on the university level have proven to be effective in university settings, we must ask why this education has not been extended to high school classrooms as well.

Sex Education as Public Policy

State policy in the United States is made in state legislatures, which collaborate with state governors. Policy tends to reflect the characteristics of the chamber as well as those of the state, and is influenced by a system of supply and demand for particular policies. The general climate and culture of a state might influence the supply of requests for a particular type of policy. Policy is influenced by ideas put forth by constituencies, which tend to stay on back burner till they're pressing. Issues taken up are generally supported by the majority party, and these issues tend to reflect community values. On the demand side, particular events or realities might create a

necessity for a particular policy. For example, a state may have a very conservative culture that disagrees with raising property taxes, but failing school districts with low budgets may require a hike in property taxes to fix the education system. Political bureaucracies are also involved in the enforcement of state policy.

Looking specifically at sex education policy, the general factors influencing policy are not enough to explain policy variation. Sex education falls into a category of morality politics, among other issues such as gambling, abortion, and marriage equality, which tend to greatly affect the public and garner widespread participation and attention (Mooney 2000, 171). These types of issues tend to divide groups of people over core values (Mooney 2000, 172-173). When voting on other morality issues, like gay rights, legislators' decisions tend to be made on the basis of partisanship, ideology, and religion (Oldmixon 2007, 57). Though partisanship may help explain legislators' voting behavior on moral issues, party influence has been found to be rare on types of moral issues similar to sex education such as abortion and school prayer (Snyder 2000, 203). Legislators voting on gay rights issues in the US House were found to be highly influenced by religious conservatives in their districts (Oldmixon 2007, 56). This was consistent with findings that legislators tend to be highly responsive to constituents when it comes to "morality issues," such as sex education (Mooney 2000, 175). It is possible that the religious conservatives that highly influenced legislators in Oldmixon's study were an example of those highly engaged constituents that elected officials were responding to in Mooney's piece.

Religious fundamentalism has been found to have the most pronounced influence on issues that "directly affect fundamentalist concerns" (Fairbanks 1977, 411). Sexuality education certainly qualifies an issue that would directly affect fundamentalist concerns, and as such religious influence on sex education policy should be pronounced. Because sex education policy

is a moral issue and one that concerns fundamentalists, it would logically see similar legislator behavior as other morality issues like gay rights. This means that the influence of religion on legislators must be examined.

Authority over morality issues like sex education has often been delegated to states, allowing for greater heterogeneity in policy (Mooney 200, 172-173). State politics is an area where opponents of comprehensive sex education generally focus their activism, and sex education standards tend to vary by areas, with certain policies more common in particular states and regions (Donovan 1998, 189; Landry 1999, 280; Landry 2003, 261). These regional differences suggest that some sex education variance occurs at the state level due to regional and/or ideological differences, as particular regions tend to be more conservative than others (Saad 2009). Examining the influence of religious fundamentalism on the variance among sex education policy at the state level is necessary, as that is where policies vary most, where policies are determined, and where activists tend to concentrate their efforts.

Contemporary studies on the influence of religious fundamentalism on state sex education policy have not been conducted, although a dissertation with a similar topic to that proposed in this paper was written in 1986 (Pizziferri 1986). The dissertation explored the influence of national fundamentalist interest groups on the introduction of sex education programs into public schools in Worcester, Massachusetts. Though this work is dated, it still provides a valid framework from which more current research can be based. The political landscape has greatly changed since 1986, particularly in respect to sex education. At the time that this study was being written, sex education programs were just beginning to be implemented. Today, sex education is widespread across the United States, and standards are very different (Guttmacher 2014). It is important to examine the factors influencing the variance

in sex education policy today to build on previous work and better understand the differences in these policies and how they came about.

Though policy ultimately determines sex education standards, money also plays an important role in the determination of what kind of sex education students will receive. Religion influences sex education policy in both formal and informal ways, most formally through stipulations on funding. Funding for sex education programs is closely tied to religious standards of sexuality: federal funding for abstinence-only sex education programs reached \$167 million in 2005 (Kohler 2008, 345). Many funding streams for sex education come with religious strings attached, requiring education to be framed in a certain way or to emphasize a particular set of values, usually religious ones. For example, some funding avenues require that an educational program have the exclusive purpose of educating students about the gains to be had from abstaining from sex, and must teach that sex within the confines of marriage is the expectation for children of school age (Kohler 2008, 345). An analysis of Section 510 of Title V of the Social Security Act, one of the specific funding streams for abstinence-only sex education, found that the act contains language indicative of a religious and moral rather than health-focused purpose (Jones 2001, 1090). It is possible that religious fundamentalism is influencing the creation of these funding standards. The possibility of religious fundamentalist influence on both legislative policy of sex education and the funding streams to support that sex education (which impact policy implementation) has never been studied, despite the literature suggesting that religious fundamentalism plays an important role. Although this paper will focus on policy aspects influencing sex education standards, the influence of religious morality on sex education funding is another factor that could be explored in future studies, and build on literature about the many variables impacting sex education policy.

Chapter 3

Theory

Theory and Hypothesis: Variation in Sex Education Standards

This literature review has made clear that sex education standards vary greatly across the United States, and that there is a disparity between sex education standards that have proven to be effective, public support for these standards, and policy outlining these standards (Guttmacher 2000; Donovan 1998, 188; Santelli 2006, 74). Legislators' voting behavior on moral issues similar to sex education can sometimes be explained by partisanship, ideology, and religion, although other factors may play a role (Oldmixon 2007, 57). It appears that religious fundamentalism could play a part in influencing this policy, but that has yet to be studied as a singular important factor to explaining sex education policy. To date, no one has looked specifically at the role of consent education in sex education, despite the importance feminist theory puts on this particular aspect of sex education in preventing sexual assaults. Policy on sex education is determined at the state level, which is also where much religious activism is focused (Donovan 1998, 189; Mooney 2000, 171).

The theory developed through this literature review is that religion plays an important role in influencing sex education on many levels. First, religious fundamentalism influences the types of policy being written. Furthermore, religious fundamentalism also influences the types of restrictions put on funding streams to help pay for sex education programs, which in turn impacts the implementation. Finally, religious fundamentalism in a given area compels community

members to put pressure on districts, schools, and instructors to teach a particular type of sex education. This study seeks to understand if religious influence is a statistically significant explanatory variable for variance in sex education policy.

The hypothesis to be tested in this design is that more religious fundamentalists in a state will cause the state legislature to be less likely to support comprehensive sex education. It has been found that legislators are most likely to be highly responsive to their constituents on morality issues, like sex education policy (Mooney 2000, 175). Legislators have also been highly influenced by religious conservatives in their districts on moral issues, such as gay marriage, which mobilize constituents in similar ways (Oldmixon 2007, 56). Religious groups have also been found to have the most influence on policy when issues “directly affect fundamentalist concerns,” as sex education clearly does (Fairbanks 1977, 411). Religious fundamentalism also has a significant impact on public opinion, as will be illustrated later in this study.

In testing this hypothesis, it will be necessary to control for other factors that tend to influence both public policy more generally and education policy, specifically. When controlling for factors influencing public policy, this study will control at the state level for educational attainment, median income, conservatism, and religious fundamentalism. The strength of the bureaucracy will also be controlled for to determine the amount of money the state tends to invest in policy in general. This study will also control for the state’s science education standards, to determine the quality of the state’s education standards at large. In order to isolate the influence of religious fundamentalism on sex education standards, it is necessary to control for the state’s teen pregnancy rate, which would indicate a demand for more comprehensive standards. It is also necessary to control for the number of professional women in the state,

which indirectly measures gender attitudes in the state and women's ability to be free from parenthood in order to pursue a professional career.

This model will be tested by regressing the control factors thought to help explain sex education standards on the state's sex education comprehensiveness score. If sex education comprehensiveness is not an issue influenced by state religious fundamentalism, these other factors should explain variation in state sex education standards.

Theory and Hypothesis: Impact of Sex Education on Reported University Sexual Assault Rates

Sex education, at its core, is intended to give students complete and relevant information in order for them to make educated choices about their sexuality. As such, we would expect university sexual assault rates to be influenced by state sex education standards because those standards, in theory, should impact the type and amount of information students receive that enables them to make educated choices. We would expect students with more comprehensive sex education to have more information about sexuality and thus understand what healthy sexuality and unhealthy sexuality look like, how to distinguish the two, and how to make the correct choices. Of course, there is always the possibility teachers are not actually directed in their teaching by state standards, but absent direct observation of health classrooms it is the best we can do, and state standards policies do give us an idea of how the state government expects sex education to be taught (Berkman and Plutzer 2010).

The hypothesis to be tested in this design is that university sexual assault rates will be lower in states with more comprehensive sex education standards. Feminists have argued that sex education is laden with negativity about sexual activity, pregnancy, sexually transmitted

infections, and teen pregnancy, and that this negativity supports a rape-supportive culture (Rubin 1984; D'Ercole 2011; Comella 2013). These feminists argue that education about consent and a complete sex education can and should be the first step to ending sexual assault (Fine 1988; Fine 2006; Burt 1980; Buchwald 1993). Testing this hypothesis will include an analysis of each element of sex education comprehensiveness, as well as an analysis of environmental variables.

Chapter 4

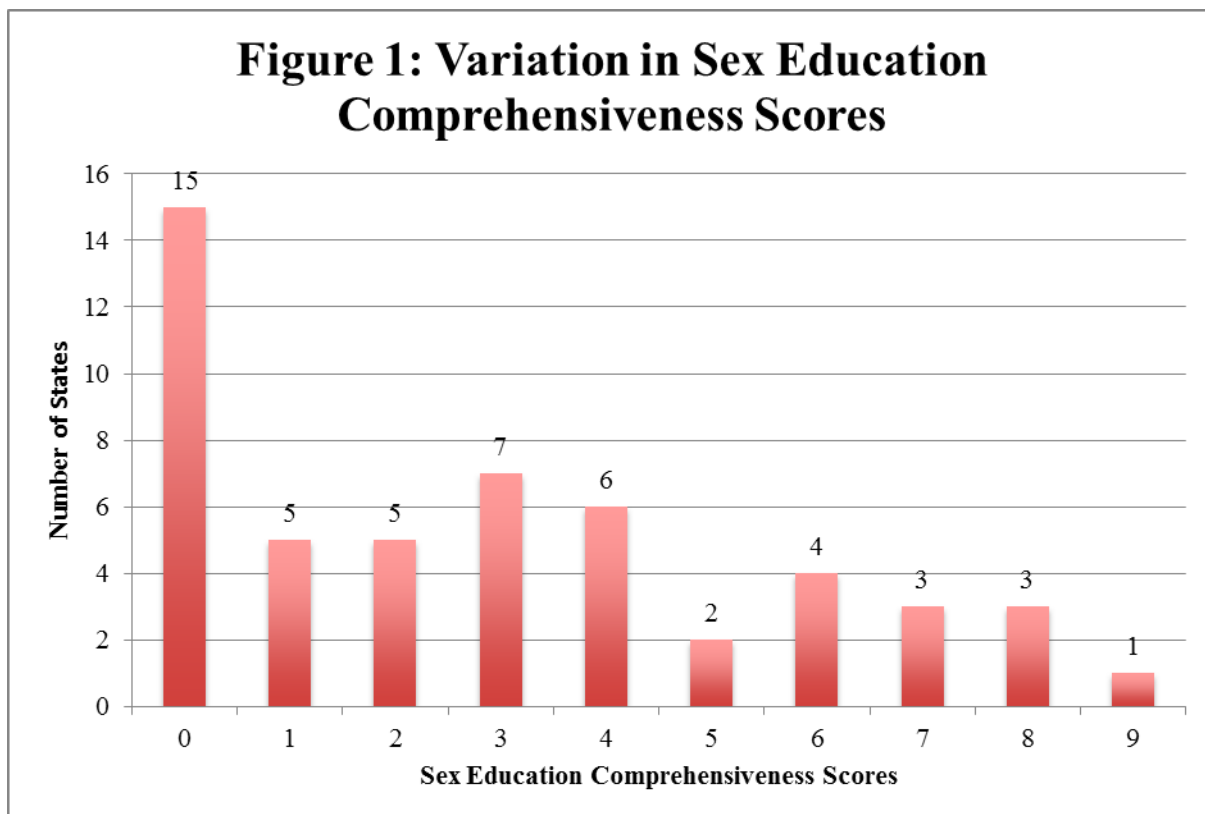
Analysis

Data and Methodology: Variation in Sex Education Standards

The dependent variable in this analysis is state sex education standard comprehensiveness. Comprehensiveness is coded as a numerical additive-scaled score coded from a 2015 Guttmacher Institute report on state sex education standards, including all 50 states and Washington, D.C. Elements that were theoretically considered to contribute to a more comprehensive sex education policy were those that recognized and advanced an education that was inclusive, accurate, and holistic. These elements added one point to that state's additive-scaled score, and state scores ranged from zero to nine. Each comprehensive element was weighted equally in the additive scaled score, as all contribute to a more open, accurate, informative sex education in varied ways. The comprehensive elements were: sex education mandated, a requirement for medical accuracy, a requirement for age appropriateness, a requirement of cultural appropriateness and unbiased information, a requirement that sex education cannot promote religion, a requirement to discuss contraception, a requirement to inclusively discuss sexual orientation, the inclusion of life skills for avoiding coercion, the inclusion of life skills for healthy decision-making, and the inclusion of life skills for family communication. The scorecard for each state and Washington, D.C. is available in Appendix A.

Though this measure of the comprehensiveness of a state's sex education standards captures the laws and requirements of each state's sex education, the enforcement of this policy remains to be seen. Previous studies have found that evolution education standards may not be the most accurate measure of the education students do receive (Berkman and Plutzer 2010, 160). In this study, however, standards are used to capture the ideal situation in which instructors closely follow state standards for sex education. Future studies could build on this research by observing classrooms in various states to determine the extent to which standards dictate classroom content, which could give a more accurate and reliable measure of the information children are actually receiving in sex education classes. Figure 1 shows the distribution and variation of sex education comprehensiveness scores.

Figure 1: Variation in Sex Education Comprehensiveness Scores



When controlling for factors influencing public policy, this study controls for state median income, measured as a state's median household income in 2009 in tens of thousands of dollars, according to the US Census. Level of educational attainment is measured as the percent of the state's population holding a bachelor's degree or more in 2009, collected from the US Census. Conservatism is measured as the percent of the state's population identifying themselves as politically conservative, collected from Gallup polls in 2014. Religious fundamentalism is measured as the percent of the state population that are adherents to religious evangelical traditions, collected from the Association of Religious Data Archives (ARDA) (2005). The strength of the bureaucracy is collected from coded data from 1992-1993, coded by Berkman and Plutzer (Berkman and Plutzer 2009). The quality of a state's science standards is collected from a report by the Fordham Institute, which graded each state's science standards from A to F (Fordham 2012). A state's teen pregnancy rate is measured as the number of pregnancies per 1,000 women aged 15 – 19, collected from the Center for Disease Control (CDC) (2013). The number of professional women in the state is measured as the percent of women employed in professional occupations, collected from the Institute for Women's Policy Research (2005).

Regressions were run to determine the explanatory factors for state conservatism. Then, the independent variables of were regressed on the dependent variable of state sex education comprehensiveness score.

Analysis: Variation in Sex Education Standards

In preliminary regressions of independent variables on sex education comprehensiveness scores, there were variable interactions between religious fundamentalism and conservatism. Because of this, it was necessary to analyze correlations to determine what factors influence state conservatism. Educational attainment, religious fundamentalism, catholic adherents, and median income were regressed individually and together on state conservatism. It was found that educational attainment and religious fundamentalism are significant explanatory variables for conservatism, and when regressed on conservatism with catholic adherents, these three variables explain 37.71% of variation in state conservatism. As such, it appears that religious fundamentalism functions as a representation of public opinion, but does so through conservatism.

Table 1: Linear Regression Analyses Predicting State Conservatism

Table 1: Linear Regression Analyses Predicting State Conservatism				
Independent Variable	Model 1	Model 2	Model 3	Model 4
Educational Attainment	400.0649 ***	542.7021 ***	644.1562 ***	1134.919 ***
Standard Error	132.2921	140.6635	172.7528	168.3236
t-value	3.02	3.86	3.73	6.74
p-value	0.004	0.000	0.001	0.000
Religious Fundamentalism		193.7528 **	302.5886 ***	76.286
Standard Error		83.06411	90.41413	84.80491
t-value		2.33	3.35	0.90
p-value		0.024	0.002	0.373
Catholic Adherents			135.2083	30.87929
Standard Error			86.25646	71.89091
t-value			1.57	0.43
p-value			0.124	0.670
Median Income				-5878.679 ***
Standard Error				1154.265
t-value				-5.09
p-value				0.000
Constant	-10331.77	-17343.92	-24788.05	-1650.625
Standard Error	3790.957	4713.204	5135.293	6121.277
t-value	-2.73	-3.68	-4.83	-0.27
p-value	0.009	.001	0.000	0.789
<i>n</i>	51	51	48	48
R-squared	0.1573	0.2431	0.3771	.06115
* = p<0.1, ** = p<0.05, *** = p<0.01				

State educational attainment and religious fundamentalism are statistically significant predictors of state conservatism. Table 1 shows that a number of factors influence state conservatism, namely median income, educational attainment, and religious fundamentalism. Model 3 in Table 1 above shows that the effect of religious fundamentalism is significant, and it operates through conservatism, as educational attainment and religious fundamentalism affect

how conservative a state is. Model 4 also shows that religious fundamentalism is a significant explanatory factor for conservatism along with median income.

Table 2: Linear Regression Analyses Predicting State Sex Education Comprehensiveness

Table 2: Linear Regression Analyses Predicting State Sex Education Comprehensiveness					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Conservatism	-.0000678	-.0000942	-.0001941	-.2084426 **	-0.2160744 **
Standard Error	.0000643	.0000684	.0002139	.092392	0.1037002
t-value	-1.06	-1.38	-0.19	-2.26	-2.08
p-value	0.297	0.175	0.369	0.029	0.043
Teen Pregnancy Rate		-.0503244	-.0524685	.0386572	0.0354527
Standard Error		.0454975	.0469509	.0604893	0.0640285
t-value		-1.11	-1.12	0.64	0.55
p-value		0.274	0.270	0.526	0.583
Bureaucratic Power			.2142161	.2516991	0.2349915
Standard Error			.4348411	.4384992	0.45432
t-value			0.49	0.57	0.52
p-value			0.625	0.569	0.608
Science Standards Quality				-.0443222	-0.035848
Standard Error				.179925	0.188711
t-value				-0.25	-0.19
p-value				0.807	0.85
Professional Women					-3.221294
Standard Error					18.97138
t-value					-0.17
p-value					0.866
Constant	2.922711	4.264721	4.30624	10.11539	11.59752
Standard Error	.3887731	1.273786	1.31315	3.17563	9.301054
t-value	7.52	3.35	3.28	3.19	1.25
p-value	0.000	0.002	0.002	0.003	0.219
n	51	51	49	48	48
R-squared	0.0222	0.0465	0.0532	0.1398	0.1404
* = p<0.1, ** = p<0.05, *** = p<0.01					

The first hypothesis to be tested in this study was that states with higher levels of religious fundamentalism will have less comprehensive sex education scores. As seen in Table 1 above, the impact of religious fundamentalism on state sex education standards works through conservatism. As such, the measure of conservatism in Table 2 can be considered as incorporating religious fundamentalism as an explanatory factor for state sex education standards. In order to reject the null hypothesis, we would expect to see that the relative value of conservatism (which encapsulates the effect of religious fundamentalism) would be negatively related with sex education comprehensiveness scores. As you see in Model 5 in Table 2, as conservatism increases, the sex education comprehensiveness score decreases with an estimated coefficient of -0.216. This is to say that for each percentage point greater that a state's population identifies themselves as conservative, that state's sex education comprehensiveness score can be expected to decrease 0.216 points. Conservatism is the only explanatory variable that is statistically significant in Model 4 and Model 5, the most complete models to explain variation in sex education standards. The other explanatory variables, the teen pregnancy rate, the power of the bureaucracy, the quality of science standards, and the percent of professional women in the state, would be expected to explain variation in sex education standards alone as they are factors that would influence the general quality of education policy in that state, as well as the demand for more comprehensive sex education.

It is interesting that these variables are unable to explain the variation in sex education standards. Because conservatism is the only statistically significant variable, sex education appears to be influenced most significantly by public opinion. State sex education comprehensiveness is not driven by evidence-based factors: it is not that states have a less comprehensive sex education policy because they have a low teen pregnancy rate, invest very

little in their educational system, have poor school standards generally, or have more traditional gender attitudes. Instead, states have less comprehensive sex education standards because these standards are influenced by public opinion, which is driven in part by religion. As such, we can say that sex education standards are not considered or treated as other educational standards are, instead, they are subject to public opinion and not determined by evidence-based or need-based factors.

Data and Methodology: Impact of Sex Education on Reported University Sexual Assault Rates

The analysis of the impact of sex education standards on university sexual assault rates was divided into three separate regression studies: one set of regressions that included all public universities in the United States, one that examined state averages for that state's universities' reported sexual assault rates, and one that examined only the flagship university in each state. The dependent variable studied in each analysis is reported university sexual assaults per 1,000 students, as compiled by the Washington Post from each university's Clery Act data, referred to in this paper as reported university sexual assault rate. It is important to note that this measure is that of reported sexual assaults and not perpetrated sexual assaults. According to the United States Department of Justice, only about 20% of campus sexual assaults are reported to authorities (2014). As such, the reported sexual assault rate for each university is only a partial measure of the actual incidence rate of the crime on that campus. It is also important to note that reporting rates may be higher or lower in some areas or specific universities depending on levels of activism and awareness education efforts.

The explanatory variables examined in this analysis fall into two categories. First, we examine environmental variables that could impact a state or university's climate and conversations about sexuality and sexual assault. These variables include the percentage of professional women in each state, collected from the Institute for Women's Policy Research (2005); the percentage of people in that state who describe themselves as politically conservative, collected from 2014 Gallup polls; religious fundamentalism which is measured as the percent of the state population that are adherents to religious evangelical traditions, collected from the Association of Religious Data Archives (ARDA) (2010); median income which is measured as a state's median household income in US dollars, collected by the US Census (2009); and level of educational attainment, measured as the percent of the state's population holding a bachelor's degree or more, collected from the US Census (2009). The second category of explanatory variables includes each element of the additive scaled score for sex education standards' comprehensiveness, as described on page 14, and the additive scaled score itself.

Regressions were run for three separate studies: one that examines all public universities across the United States including those in Washington, D.C., a second study that examines state average reported university sexual assault rates for all universities in that state (including Washington, D.C. schools), and a third that studies only flagship campuses in the 50 states. In each regression, environmental variables were regressed on the reported university sexual assault rate first independently and then in theoretically sound ways to determine if a combination of explanatory environmental variables could further explain the reported university sexual assault rate in that study. The same process was repeated with each element of the additive scale, and finally multiple combinations of both environmental and sex education standards elemental variables were regressed on the reported university sexual assault rate. This allowed us to

determine which explanatory variables were consistently found to be statistically significant factors explaining the reported university sexual assault rate.

Analysis: Impact of Sex Education on Reported University Sexual Assault Rates

All Universities

In regressions studying all public universities across the country, multiple environmental variables were found to be statistically significant explanatory factors for reported sexual assault rates. Table 3 shows the results of ten regression models examining these environmental variables.

Table 3: Linear Regression Analyses Predicting Reported Sexual Assault Rates for All Universities, Additive Scaled and Environmental Variables

Table 3: Linear Regression Analyses Predicting Reported Sexual Assault Rates All Universities, Additive Scaled and Environmental Variables					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Additive Scaled	.0039074				
Standard Error	.0051675				
t-value	0.76				
p-value	0.450				
Professional Women		1.357029 ***			
Standard Error		.4580344			
t-value		2.96			
p-value		0.003			
Conservativism			-2.50e-06		
Standard Error			2.22e-06		
t-value			-1.12		
p-value			0.262		
Religious Fundamentalism				-.0041901 ***	
Standard Error				.001398	
t-value				-3.00	
p-value				0.003	
White Evangelicals					-.0008387
Standard Error					.0014068
t-value					-0.60
p-value					0.551
Constant	.2426337	-.2325319	.2554315	.3228236	.2747548
Standard Error	.0195865	.1644681	.0141524	.0271297	.0380509
t-value	12.39	-1.41	18.05	11.90	7.22
p-value	0.000	0.158	0.000	0.000	0.000
<i>n</i>	644	644	644	644	636
R-squared	0.0009	0.0135	0.0020	0.0138	0.0006
* = p<0.1, ** = p<0.05, *** = p<0.01					

Table 3 (Continued): Linear Regression Analyses Predicting Reported Sexual Assault Rates All Universities, Additive Scaled and Environmental Variables					
Independent Variable	Model 6	Model 7	Model 8	Model 9	Model 10
Educational Attainment	.0036872				
Standard Error	.0026663				
t-value	1.38				
p-value	0.167				
Median Income		2.74e-06 **	6.45e-07	-4.29e-08	
Standard Error		1.33e-06	1.64e-06	1.69e-06	
t-value		2.05	0.39	-0.03	
p-value		0.041	0.695	0.980	
Professional Women			1.226418 **	.926078	.9188169 *
Standard Error			.5663776	.5896528	.5156042
t-value			2.17	1.57	1.78
p-value			0.031	0.117	0.075
Religious Fundamentalism				-.0029027 *	-.0028934 *
Standard Error				.0016176	.001574
t-value				-1.79	-1.84
p-value				0.073	0.066
Constant	.1505103	.1138652	-.2186096	-.02779	-.0275285
Standard Error	.0754186	.0692512	.1683549	.1988813	.1984607
t-value	2.00	1.64	-1.30	-0.14	-0.14
p-value	0.046	0.101	0.195	0.889	0.890
<i>n</i>	644	644	644	644	644
R-squared	0.0030	0.0065	0.0137	0.0187	0.0187
* = p<0.1, ** = p<0.05, *** = p<0.01					

The percentage of professional women in a state was found to be statistically significant with less than a 1% chance of incorrectly rejecting the null hypothesis. The professional women variable had an estimated coefficient of 1.3570, which is to say that for every 1% increase in professional women in a state, we would expect a university in that state to see a 1.3570% increase in its reported sexual assault rate. Religious fundamentalism was also found to be

statistically significant with a less than 1% chance of incorrectly rejecting the null hypothesis.

The estimated coefficient for the religious fundamentalism variable was -0.0042, so for each percentage point that the adherents to religious fundamentalism in the state increases, a university in that state could expect its reported sexual assault rate to decrease by -0.0042%.

State median income was also found to be statistically significant with less than a 5% chance of incorrectly rejecting the null hypothesis. For each dollar that state median income increases, we would expect a university in that state to see a 0.00000274% increase in its reported sexual assault rate. For each ten thousand dollars that state median income increases, we would expect a university in that state to see a 0.0274% increase in its reported sexual assault rate. When both the professional women variable and the religious fundamentalism variables were regressed on the reported sexual assault rates, both remained statistically significant with less than a 10% chance of incorrectly rejecting the null hypothesis with estimated coefficients of .9188 and -0.0029 respectively.

Initially, these results may be confusing. According to the theory developed in this paper, we would expect that higher percentages of professional women in a state and higher state median incomes would lead to lower reported university sexual assault rates as these variables are more associated with progressivism and improved education. In the same way, one would expect higher levels of religious fundamentalism to be associated with higher rates of reported university sexual assault, as religious fundamentalism tends to be tied to more traditional values of patriarchy. However, upon further examination, these results appear to reflect not the incidence of sexual assaults but instead reporting rates of this crime. This is to say that while higher percentages of professional women in a state and higher state median incomes would not logically contribute to a greater incidence rate of sexual assaults, it appears that these variables

impact the rates at which sexual assaults are reported. Pennsylvania, for example, is a state with very high reported university sexual assault rates, which is in great part due to heightened awareness about sexual assault and encouragement of reporting after the Sandusky scandal at Penn State University. It is very unlikely that higher percentages of professional women and higher state median incomes cause more sexual assaults; instead the more logical conclusion is that these variables are associated with environments that encourage reporting. In the same way, higher levels of religious fundamentalism tend to be associated with cultures and environments in which talking about sex, and particularly sexual assault, is not acceptable.

In regressions studying the comprehensive elements of the additive scale, only requirements for the inclusion of information on contraception and information on avoiding coercion were found to be statistically significant. Other elements of the additive scale that were not found to be statistically significant were excluded from the tables. Table 4 shows the results of five regression models examining both sex education standards variables and environmental variables.

Table 4: Linear Regression Analyses Predicting Reported Sexual Assault Rates for All Universities, Additive Scaled, Sex Education Standards Variables, and Environmental Variables

Table 4: Linear Regression Analyses Predicting Reported Sexual Assault Rates All Universities, Additive Scaled, Sex Education Standards Variables, and Environmental Variables					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Additive Scaled	.0039074				
Standard Error	.0051675				
t-value	0.76				
p-value	0.450				
Include: Contraception		.1011786 **		.0937951 **	.061723 *
Standard Error		.0303415		.0320593	.0342764
t-value		3.33		2.93	1.80
p-value		0.001		0.004	0.072
Include: Avoiding Coercion			.0520392 *	.0224674	.0421788
Standard Error			.0299046	.0314013	.0325875
t-value			1.74	0.72	1.29
p-value			0.082	0.475	0.196
Professional Women					.4672452
Standard Error					.5407068
t-value					0.86
p-value					0.388
Religious Fundamentalism					-.0033026
Standard Error					.0016359
t-value					-2.02
p-value					0.044
Constant	.2426337	.2228319	.23627	.2178115	.1088985
Standard Error	.0195865	.016567	.0169543	.0179974	.2040448
t-value	12.39	13.45	13.94	12.10	0.53
p-value	0.000	0.000	0.000	0.000	0.594
<i>n</i>	644	644	644	644	644
R-squared	0.0009	0.0170	0.0047	0.0178	0.0297
* = p<0.1, ** = p<0.05, *** = p<0.01					

A state requirement that sex education classes include information about contraception was found to be a statistically significant explanatory variable for reported sexual assault rates. The estimated coefficient for the inclusion of information about contraception was 0.10118, with less than a 5% chance of incorrectly rejecting the null hypothesis that information about contraception does not have an impact on reported university sexual assault rates. This means that in states where information about contraception is required to be discussed, reported sexual assault rates are about 0.10118% higher. The significance of the inclusion of contraception information remained in regressions that also included a requirement for the inclusion of information about avoiding coerced sex as well as regressions including the professional women and religious fundamentalism variables. A state requirement that sex education must include information about avoiding coerced sex was also found to be a statistically significant explanatory factor for reported university sexual assault rates. The estimated coefficient for the avoiding coercion variable was 0.05203, and was significant with less than a 10% chance of incorrectly rejecting the null hypothesis. This is to say that in states that require information about avoiding coerced sex, reported university sexual assault rates can be expected to be 0.05203% higher. The significance of the avoiding coercion variable was not maintained in regressions that also included the inclusion of information on contraception or the professional women and religious fundamentalism variables.

While initially it may appear that these results are contrary to what we would expect, it is likely that states in which a requirement to educate students about contraception and avoiding coerced sex is present, a culture is fostered in which survivors of sexual assault feel able and safe enough to report their assaults. Overall, the results indicate that it is not education that impacts reported university sexual assault rates, but rather that factors influencing a general culture

around, comfort with, and attitudes about sex and gender roles can either encourage or discourage reporting of sexual assaults.

State Averages

The second study examining reported university sexual assault rates focused on averages for reported university sexual assault rates within all 50 states and Washington, DC. As seen in Table 5 and Table 6 below, state median income was the only explanatory variable that was statistically significant in explaining reported university sexual assault rates, and that variable lost its significance when regressed on state average reported university sexual assault rates with other explanatory variables.

Table 5: Linear Regression Analyses Predicting Reported Sexual Assault Rates for State University Average, Additive Scaled and Environmental Variables

Table 5: Linear Regression Analyses Predicting Reported Sexual Assault Rates for State University Average, Additive Scaled and Environmental Variables					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Additive Scaled	.001575				
Standard Error	.0081891				
t-value	.19				
p-value	.848				
Professional Women		.6898012			
Standard Error		.5808085			
t-value		1.19			
p-value		0.241			
Conservatism			-1.78e-06		
Standard Error			3.72e-06		
t-value			-0.48		
p-value			0.635		
Religious Fundamentalism				-.003411	
Standard Error				.0021663	
t-value				-1.57	
p-value				0.122	
White Evangelicals					-.0019238
Standard Error					.0022799
t-value					-0.84
p-value					0.403
Constant	.2704469	.0281834	.2765257	.3280045	.3254095
Standard Error	.0323526	.2089413	.022494	.0401066	.0625748
t-value	8.36	0.13	12.29	8.18	5.20
p-value	.000	0.893	0.000	0.000	0.000
<i>n</i>	51	51	51	51	51
R-squared	.0008	0.0280	0.0046	0.0482	0.0152
* = p<0.1, ** = p<0.05, *** = p<0.01					

Independent Variable	Model 6	Model 7	Model 8	Model 9
Educational Attainment	.0045317			.0002897
Standard Error	.0037039			.0064253
t-value	1.22			0.05
p-value	0.227			0.964
Median Income		5.20e-06 ***	4.10e-06	4.07e-06
Standard Error		2.72e-06	4.27e-06	4.36e-06
t-value		1.91	0.96	0.93
p-value		0.062	0.342	0.355
Professional Women			-.0091378	-.0399888
Standard Error			.7604862	1.029077
t-value			-0.01	-0.04
p-value			0.990	0.969
Religious Fundamentalism			-.0014521	-.0014338
Standard Error			.0027589	.002818
t-value			-0.53	-0.51
p-value			0.601	0.613
Constant	.1479088	.0009128	.0848113	.0888051
Standard Error	.10614	.1451733	.2574968	.2749322
t-value	1.39	0.01	0.33	0.32
p-value	0.170	0.995	0.743	0.748
<i>n</i>	51	51	51	51
R-squared	0.0296	0.0692	0.0747	0.0747
* = p<0.1, ** = p<0.05, *** = p<0.01				

Table 6: Linear Regression Analyses Predicting Reported Sexual Assault Rates for State University Average, Additive Scaled and Sex Education Standards Variables

Table 6: Linear Regression Analyses Predicting Reported Sexual Assault Rates State University Average, Additive Scaled and Sex Education Standards Variables					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Additive Scaled	.001575				
Standard Error	.0081891				
t-value	0.19				
p-value	0.848				
Include: Contraception		.0721161		.0534452	.0604936
Standard Error		.0455213		.0506606	.0509433
t-value		1.58		1.05	1.19
p-value		0.120		0.297	0.241
Include: Avoiding Coercion			-.0037137		
Standard Error			.046129		
t-value			-0.08		
p-value			0.936		
Professional Women				.1550388	-.3598872
Standard Error				.6673955	.8127629
t-value				0.23	-0.44
p-value				0.817	0.660
Religious Fundamentalism				-.0025485	-.0009132
Standard Error				.0023636	.0027842
t-value				-1.08	-0.33
p-value				0.286	0.744
Median Income					4.74e-06
Standard Error					4.29e-06
t-value					1.10
p-value					0.275
Constant	.2704469	.2495031	.2763394	.2402634	.1469606
Standard Error	.0323526	.0270437	.0281557	.2482446	.2616683
t-value	8.36	9.23	9.81	0.97	0.56
p-value	0.000	0.000	0.000	0.338	0.577
<i>n</i>	51	51	51	51	51
R-squared	0.0008	0.0487	0.0001	0.0784	0.1022
* = p<0.1, ** = p<0.05, *** = p<0.01					

Flagship Campuses

The third and final part of this study examined only flagship campuses in the 50 states. Theoretically, it is important to study the large flagship campuses across the country to see if they behave differently in regressions than all public universities in the United States. These campuses also tend to be quite large, have high percentages of in-state students, and have “party school” reputations. High percentages of in-state students would indicate that many students at a flagship campus have gone through a sex education program compliant with that state’s standards considering they had gone through the public education system of their home state. It is important to determine if these aspects of the flagship campuses have an impact on campus environment in terms of reported university sexual assault rates. Table 7 and Table 8 show the results of regression models studying flagship campus reported university sexual assault rates.

Table 7: Linear Regression Analyses Predicting Reported Sexual Assault Rates for Flagship Campuses, Additive Scaled and Environmental Variables

Table 7: Linear Regression Analyses Predicting Reported Sexual Assault Rates for Flagship Campuses, Additive Scaled and Environmental Variables					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Additive Scaled	-.0005568				
Standard Error	.0152259				
t-value	-0.04				
p-value	0.971				
Professional Women		2.019946			
Standard Error		1.321542			
t-value		1.53			
p-value		0.133			
Conservatism			-3.34e-06		
Standard Error			6.86e-06		
t-value			-0.49		
p-value			0.628		
Religious Fundamentalism				-.0107333 ***	
Standard Error				.0037986	
t-value				-2.83	
p-value				0.007	
White Evangelicals					-.0056727
Standard Error					.004184
t-value					-1.36
p-value					0.182
Constant	.3524371	-.3641641	.353814	.5173249	.4942163
Standard Error	.0610937	.4695212	.0419337	.0703947	.1139879
t-value	5.77	-0.78	8.44	7.35	4.34
p-value	0.000	0.442	0.000	0.000	0.000
<i>n</i>	50	50	50	50	50
R-squared	0.0000	0.0464	0.0049	0.1426	0.0384
* = p<0.1, ** = p<0.05, *** = p<0.01					

Independent Variable	Model 6	Model 7	Model 8	Model 9	Model 10
Educational Attainment	.0131366 *		.0044522		.0032934
Standard Error	.0077139		.0084878		.0112288
t-value	1.70		0.52		0.29
p-value	0.095		0.602		0.771
Median Income		6.82e-06 *	2.39e-06	2.30e-06	
Standard Error		3.75e-06	4.22e-06	4.19e-06	
t-value		1.82	0.57	0.55	
p-value		0.076	0.573	0.586	
Professional Women					.2415921
Standard Error					1.868867
t-value					0.13
p-value					0.898
Religious Fundamentalism			-.0083732 *	-.0095143 *	-.0096103 *
Standard Error			.0049611	.0044242	.004443
t-value			-1.69	-2.15	-2.16
p-value			0.098	0.037	0.036
Constant	-.0109555	-.0017246	.2342297	.3795685	.3236969
Standard Error	.2162273	.1983127	.3818931	.2607736	.5449984
t-value	-0.05	-0.01	0.61	1.46	0.59
p-value	0.960	0.993	0.543	0.152	0.555
<i>n</i>	50	50	50	50	50
R-squared	0.0570	0.0642	0.1531	0.1481	0.1475
* = p<0.1, ** = p<0.05, *** = p<0.01					

Religious fundamentalism, educational attainment, and state median income were the only explanatory environmental variables found to be statistically significant in explaining flagship campus reported university sexual assault rates. Religious fundamentalism had an estimated coefficient of -0.01073 and was statistically significant with less than a 1% chance of incorrectly rejecting the null hypothesis. For every 1% increase in the percentage of people in a state that are adherents to religious fundamentalism, we would expect the reported sexual assault

rate of that state's flagship campus to decrease by 0.01073%. The religious fundamentalism variable maintained its significance in all regressions in which it was included. Educational attainment had an estimated coefficient of 0.013136 and was statistically significant with less than a 10% chance of incorrectly rejecting the null hypothesis. For every 1% increase in the percentage of people in a state that have attained a bachelor's degree or more, we would expect the reported sexual assault rate of that state's flagship campus to increase by 0.013136%. State median income had an estimated coefficient of 0.00000682 and was statistically significant with less than a 10% chance of incorrectly rejecting the null hypothesis. For every one-dollar increase in the state median income, we would expect the reported sexual assault rate of that state's flagship campus to increase by 0.00000682%. That is to say, for every ten thousand dollar increase in the state median income, we would expect the reported sexual assault rate of that state's flagship campus to increase by 0.0682%.

These results appear to reflect not necessary the incidence of sexual assaults on flagship campuses but instead reporting rates. This is to say that while higher percentages of people in a state with bachelor's degrees or more and higher state median incomes would not logically contribute to a greater incidence rate of sexual assaults, it appears that these variables impact the rates at which sexual assaults are reported at these flagship campuses. It is very unlikely that higher percentages of people in a state with bachelor's degrees or more and higher state median incomes cause more sexual assaults; instead the more logical conclusion is that these variables are associated with environments that encourage reporting. In the same way, higher levels of religious fundamentalism tend to be associated with cultures and environments in which talking about sex, and particularly sexual assault, is not acceptable. This is consistent with findings from analyses of all public universities.

In an analysis of the additive scale for sex education comprehensiveness and each comprehensive element shown in Table 8 below, none of the sex education standards variables were found to be statistically significant explanatory variables for flagship campus reported university sexual assault rates. However, religious fundamentalism maintained its significance across all regressions in which it was included.

Table 8: Linear Regression Analyses Predicting Reported Sexual Assault Rates for Flagship Campuses, Additive Scaled, Sex Education Standards Variables, and Environmental Variables

Table 8: Linear Regression Analyses Predicting Reported Sexual Assault Rates Flagship Campuses, Additive Scaled, Sex Education Standards Variables, and Environmental Variables					
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5
Additive Scaled	-.0005568			-.0090168	
Standard Error	.0152259			.0144914	
t-value	-0.04			-0.62	
p-value	0.971			0.537	
Include: Contraception		.0130481			
Standard Error		.0877491			
t-value		.0115			
p-value		0.882			
Include: Avoiding Coercion			-.0055903		.0045405
Standard Error			.0866152		.081132
t-value			-0.06		0.06
p-value			0.949		0.956
Religious Fundamentalism				-.0112265 ***	-.0107429 ***
Standard Error				.0039044	.0038425
t-value				-2.88	-2.80
p-value				0.006	0.007
Constant	.3524371	.3463636	.3528125	.5514871	.5158394
Standard Error	.0610937	.0511661	.0519691	.0896322	.0759286
t-value	5.77	6.77	6.79	6.15	6.79
p-value	0.000	0.000	0.000	0.000	0.000
<i>n</i>	50	50	50	50	50
R-squared	0.0000	0.0005	0.0001	0.1496	0.1427
* = p<0.1, ** = p<0.05, *** = p<0.01					

Chapter 5

Conclusion

In the analysis of explanatory factors for variation in state sex education standard comprehensiveness, it was found that state sex education standards cannot be explained by the factors that generally explain non-controversial education policy. Instead, it was found that sex education tends to be a highly controversial issue, influenced in great part by public opinion by way of state conservatism. This indicates that sex education policy is not subject to normal supply and demand rules that other types of policy are, and instead that deciding sex education standards becomes a hotly debated ideological issue. The ideological nature of sex education policy should be cause for concern, as it calls into question the true purpose of sex education – is it about education and health and choices, or is it about delivering a particular, ideological, partisan message?

Initially, results from regressions studying the impact of environmental variables on reported university sexual assault rates at all public universities and at flagship campuses could be confusing. According to the theory developed in this paper, we expected that higher percentages of professional women in a state and higher state median incomes would lead to lower reported university sexual assault rates as these variables are more associated with progressivism and improved education. We expected the opposite of states with higher levels of religious fundamentalism. However, in regressions studying reported university sexual assault rates, we found the opposite of our expectations to be supported. Though these results are incongruent with our theory these results can be explained insofar as they appear to reflect not necessary the incidence of sexual assaults but instead reporting rates. This is to say that while

higher percentages of professional women in a state and higher state median incomes would not logically contribute to a greater incidence rate of sexual assaults, it appears that these variables impact the rates at which sexual assaults are reported. In the same way, higher levels of religious fundamentalism tend to be associated with cultures and environments in which talking about sex, and particularly sexual assault, is not acceptable.

In analyses of the comprehensiveness elements of sex education standards, requirements for including contraception information and requirements for including information on how to avoid coercion were found to be significantly positively associated with higher reported university sexual assault rates. This could be confusing in the same way as results for environmental variables were, however upon further examination we can apply similar logic to explain why this might have occurred. It is likely that states in which a requirement to educate students about contraception and avoiding coerced sex is present, there is a culture in which survivors of sexual assault feel more welcome, able, and ready to report their experiences.

Overall, the results for both environmental and sex education standards in explaining reported university sexual assault rates indicate that it is not education that impacts reported university sexual assault rates, but instead factors that influence the culture and discussions surrounding sex and sexual assault that can impact the rate at which perpetrated sexual assaults are reported. This makes sense, as educational standards have not been found to be particularly well-enforced in all areas, so it is logical that it is environmental and cultural factors, not educational ones, that impact reporting.

Research on the factors influencing sex education standards has been completed in the past, but contemporary studies have not been conducted to more completely understand the landscape of sex education policy in modern day America. Furthermore, policy analysis research

on the impact of these sex education standards on one of the most widely-discussed issues in higher education at the moment, sexual assault, have also not been conducted. This paper fills a void in current literature, and opens up opportunities for future research on the factors influencing, and impacts of, sex education in the United States. In order to understand the broader significance of this research, future follow up studies will be necessary. At this point in time, it makes sense that environmental and educational factors have a greater impact on reporting rates than they do on actual incidence rates, seeing as sexual assault on college campuses is a relatively new discussion within higher education. However, as activist and educational efforts continue, it will be interesting to see if over the next ten to twenty years we begin to see more education decreasing the reported university sexual assault rate, because the maximum number of survivors are already reporting, and it is truly the incidence rate of the crime that is lessening.

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ACADEMIC VITA

Melissa McCleery

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EDUCATION

The Pennsylvania State University The College of the Liberal Arts Schreyer Honors College Paterno Fellows Program BA Women's Studies BA Political Science BA Spanish	University Park, PA <i>Class of May 2015</i>
Universidad Pablo de Olavide – Grade 9.8/10 Spanish Language and Culture Program	Seville, Spain <i>Summer 2013</i>

LEADERSHIP EXPERIENCE

The University Park Undergraduate Association <i>Chair of Academic Affairs, At-Large Representative</i> – Present	University Park, PA March 2012
<ul style="list-style-type: none">▪ Elected by a student body of 40,000 to serve student needs as one of 20 At-Large Representatives, chaired two 25+ person committees to envision and implement projects for an improved undergraduate experience in regards to academic affairs and the prevention of sexual violence▪ Maintained professional relationships with top Penn State administrators to represent student interests	
Penn State University Faculty Senate <i>Faculty Senator, Chair of Student Senator Caucus</i>	University Park, PA March 2012 – Present
<ul style="list-style-type: none">▪ Elected as one of 20 student senators to advocate for student academic needs, coordinated student senator statements and mobilization to enhance student voice in the body	
Penn State Lion Scouts <i>Campus Tour Guide</i>	University Park, PA October 2013 – Present
<ul style="list-style-type: none">▪ Represent Penn State University to prospective students at the University Park campus through campus tours, phone calls, and chat room discussions	
Penn State Administrative Council on Undergraduate Education <i>University Park Student Representative</i>	University Park, PA December 2013 – Present
<ul style="list-style-type: none">▪ Elected as one of two student representatives to provide student perspective on changes to university academic policy, presented and cooperated with college deans and academic administrators to create student-centered programs	
Penn State Department of Women's Studies <i>Teaching Assistant - Introduction to Women's Studies</i>	University Park, PA January 2014 – May 2014
<ul style="list-style-type: none">▪ Consult with students to improve coursework and develop student-run class plans, develop lesson plans and led class discussions, develop and monitor attendance management system	
Upward State <i>Board of Directors</i>	State College, PA May 2014 – Present
<ul style="list-style-type: none">▪ Worked with Penn State community members, alumni, and students to advocate for progressive, student-focused changes to the Board of Trustees	

University Sexual Assault and Sexual Harassment Task Force

University Park, PA

Student Representative

August 2014 – Present

- Appointed by the university President as a student expert on sexual assault issues to collaborate with expert faculty, staff, and high-level administrators to develop a proposal report for the university to become a leader in education about and response to sexual assault

Onward State

State College, PA

Staff Writer

September 2014 – Present

- Write three to five stories per week on student life and downtown and campus news for the most-followed student-run media in the world with over 65,00 Facebook likes and 70,000 Twitter followers

The Nittany Valley Society

State College, PA

Board of Directors, Chair of Salon Committee

November 2014 – Present

- Plan events, hold receptions, publish books, and create cultural heritages to enhance the experience of the Nittany Valley for students, alumni, faculty, townspeople, and all friends of Penn State

PROFESSIONAL EXPERIENCE

Borough of State College

State College, PA

Community Engagement Intern

January 2015 – Present

- Spearhead and execute community-based projects to join town and gown residents for borough improvement

GDA Corporation

State College, PA

Office Manager

August 2014 – January 2015

- Handled the administrative and logistical tasks of the company and assist the executive staff, including company finances, human resources responsibilities, data analysis, research, and travel planning

Kome Fine Japanese Cuisine

Center Valley, PA

Lead Hostess

March 2010 – August 2013

- Oversaw all front-of-house operations including seating, reservations, phone services, and finances; trained 15+ new staff members on restaurant policies, operations, and protocols; developed reservation management system to increase the efficiency of day-to-day operations

Obama for America

Allentown, PA

Organizing Fellow

May 2012 – August 2012

- Independently recruited, trained, and coordinated campaign volunteers, developed strategic neighborhood outreach strategies and voter registration drives, completed record number of campaign calls and canvass visits

GNI Strategies

Austin, TX

Campaign and Communications Intern

August 2011 – December 2011

- Assisted the executive team on political campaigns and public relations for non-profits in contacting and recruiting volunteers by phone, collecting names by phone for a list of public candidate supporters, canvassing, and updating social media platforms

ACADEMIC PAPERS

Let's Talk About Sex (Education): Explaining State Variation In Sex Education Standards And Their Impact On University Sexual Assault Rates

University Park, PA

Schreyer Honors College

April 2015

- This paper seeks to understand why sex education policy varies between states, and determine the real-world impact of these standards, specifically on university sexual assault rates.

What About Sexual Assault? The Lack of Information In U.S. Sex Education

University Park, PA

Penn State Women's Studies Graduate Organization Conference

February 2015

- Selected as one of three undergraduate research presenters for an international women's studies conference to present independent research on the United States' sex education standards and curricula

Sexual Assault Education in United States Sex Ed. Curricula

University Park, PA

Penn State Department of Women's Studies

December 2014

- Presented extended research on and poster presentation of a feminist analysis of sex education in the United States to a group of esteemed faculty, administrators, and students

PRESENTATIONS

State of State

State College, PA

Sexual Violence Keynote Speaker

November 2014 – February 2015

- Selected as one of 10 student speakers to present a talk at an annual conference focused on the wellbeing of Penn State; delivered individual speech about the gendered harassment and violence against women on college campuses

Unafraid Voices Panelist

State College, PA

Collegetown Film Festival

February 2015

- Participated as a panelist to discuss a documentary film about four survivors of sexual violence and New York City's first rape crisis center

Sexual Misconduct Panel

University Park, PA

State of State

October 2014

- Selected as panelist to discuss issues of sexual violence at Penn State, spoke about victim blaming of sexual assault survivors and how to appropriately respond to hearing someone's story

HONORS & ACHIEVEMENTS

Department of Women's Studies

University Park, PA

Mimi Barash Coppersmith Endowed Scholarship

March 2015

- Selected as the recipient for a scholarship awarded to women students in the Women's Studies program who have demonstrated superior academic success

Rock Ethics Institute

University Park, PA

Stand Up Awardee

February 2015

- Selected as one of three undergraduates for an annual award honoring students for leadership on an ethical issue; honored for extensive campus work to end sexual violence and harassment

Lion's Paw Senior Society

University Park, PA

Active Member

April 2014 – Present

- Selected as one of 14 Penn State seniors to the premier honor society, considered the highest honor a Penn State undergraduate can receive; carried out projects to promote the welfare and perpetuate the traditions of Penn State

Student Leader Scholarship

University Park, PA

Award Recipient

January 2013, 2015

- Selected as a recipient for the scholarship honoring excellence in academics and student organization leadership

Campus Spirit Scholar Award

University Park, PA

Dietz and Watson Spirit Scholar

November 2013

- Selected as a recipient for the scholarship awarded for excellence in academics and unparalleled campus pride and school spirit

ACADEMIC HONORS

Paterno Fellows Program

January 2012

Order of Omega Greek Honors Society – *inducted for excellence in academics in a Greek student*

October 2012

Schreyer Honors Scholar

January 2013

Phi Beta Kappa

March 2014

Phi Kappa Phi

March 2014