Moral Values and Ideological Differences in Evidence-based Judgments on Adolescent Sex and Sex Education

by

Alice Xin Huang

B.A. (Rice University) 2005

A thesis submitted in partial satisfaction of the

requirements for the degree of

Master of Science

in

Health and Medical Sciences

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Norman A. Constantine, Chair
Professor Colette Auerswald
Professor Maureen Lahiff
Professor Carol H. Weiss

Spring 2008

The thesis of Alice Xin Huang is approved:

Chair _____ Date 3/30/08

_____ Date 3/18/08

Maureen Lahiff Date 17 March 2008

_____ Date 3/21/08

University of California, Berkeley

Spring 2008

Table of Contents

List of Tables and Figures iii

Acknowledgements iv

Part 1. Moral Foundations of Judgments on Adolescent Sex and Sex Education

Introduction 2

Policy decisions amidst the culture wars 3

The adolescent sex education policy debates 10

Dual process and social intuitionist theory 15

Moral judgments 18

Culture and morality 23

The moral foundations of judgments on adolescent sex and sex education 25

Conclusions 29

Part 2. Moral Values and Ideological Differences in Evidence-based Judgments on Adolescent Sex and Sex Education

Introduction 33

The present study 41

Method 44

Results 50

Discussion 57

Limitations 65

Implications 67

References Cited 70

Appendix A. Coding Scheme 78

Tables & Figures

Table 1. Sex education preferences by political ideology.
51

Table 2. Estimated means and standard deviations of appropriateness ratings for the adolescent sex and CSE policy scenarios.
52

Table 3. Estimated means and standard deviations of moral acceptability ratings for the adolescent sex and CSE policy scenarios.
52

Table 4. Percentage of each political ideology group expressing Shweder et al.'s ethical clusters of autonomy, community, and divinity in open-ended responses to adolescent sex and CSE policy.
53

Figure 1. Estimated means of appropriateness ratings by research evidence condition and by political ideology.
56

Figure 2. Estimated means of moral acceptability ratings by research evidence condition and by political ideology.
57

Acknowledgments

I thank
the University of California Berkeley-San Francisco Joint Medical Program
for thesis research grants in support of this work,
and
the W.T. Grant Foundation for the support provided
to the Evidence Use in the Sex Education Debates study (Norman A. Constantine, PI)
at the Public Health Institute,
which provided a home base for my work on this thesis.

I also thank my entire thesis committee,
especially Norman A. Constantine,
for their dedicated and enthusiastic efforts
in the development and completion of this thesis.

Part 1.

Moral Foundations of Judgments on Adolescent Sex and Sex Education

Introduction

Certain social issues have the propensity to spark intense public debate—classic examples are from the areas of family and sexuality. When people discuss social policy differences over family and sexuality, it is not unlikely that the discussion will turn into a heated, emotional debate laden with normative and moral claims intermixed with claims about what makes sound and rational public policy. An argument between two individuals on abortion or sex education may progress to a stalemate, where neither side can convince the other to compromise their own position. This can be especially apparent when the two individuals differ in ideological background. A commonly perceived example of this in our society is the clash between social-conservative and social-liberal ideology.

Such stalemates present enormous hurdles to the making of public policy that serves the welfare of the whole of society. They can represent a failure of people to effectively communicate their needs and values to each other, and reflect poignantly on the lack of understanding, and perhaps lack of tolerance, between different groups. What is needed is a deeper understanding of how individuals on different sides of an issue reason and form judgments that lead to their policy positions. For example, are the apparent differences in policy preferences between liberals and conservatives truly irreconcilable, or do they represent some variation in the way these different groups express common goals and ideals for society?

This paper will examine the social-psychological basis for differences in policy positions between conservatives and liberals, specifically in the context of adolescent sex education. We first review how political ideology and research evidence may influence

policy positions, examining in particular the case of the adolescent sex education policy debates and the different proposals characterizing the basis for these debates. To explore the psychological basis for reasoning and judgment in policy position-taking, we provide an overview of the dual process theories with a special focus on social intuitionist theory. Finally, we examine the psychological basis for moral concerns on issues of family and sexuality and how this can inform our understanding of political differences in sex education policy preferences. The goal of this paper is to provide a basis for better understanding how people reason about social public policy with the hope that such an understanding will facilitate more effective policy making for issues that have historically been arrested in political stalemate.

Policy decisions amidst the culture wars

In the recent decades, we have witnessed a widening divide in American politics. Descriptions by many political leaders, media, and scholars have characterized U.S. society as divided into "warring moral camps" (Davis & Robinson, 1996), such that people, political entities, and issues are increasingly defined as belonging exclusively to one side or the other of a conservative-liberal dichotomy. Indeed, most social policy debates appear to be delimited by a conservative and a liberal stance, with each side using expressions that are often predictable to argue for or against policies. A reasonable question to ask is—does this dichotomy reflect a true substantive divide in the U.S.?

According to James Davison Hunter, the answer is yes. Hunter (1991) termed this divide as the "culture wars" over social and economic issues, where the two poles are defined by their fundamentally different worldviews, rather than by religious views or geography. These differing worldviews represent differences in conceptions of right and wrong, social obligation, and the source of moral authority. From his analysis of public debates over issues such as education, abortion, and homosexuality, Hunter claimed that a polarization of political and moral attitudes exists between those who have an "impulse toward orthodoxy" and those who have an "impulse toward progressivism" (p.43). In constructing their normative beliefs and judgments about the world, the orthodox tend to emphasize the role of a transcendent authority, while the progressivists tend to emphasize the role of human agency (Hunter, 1991). The conflicts over social policy in the U.S., according to Hunter, appear to be a battle between two groups—the conservative-orthodox group and the liberal-progressivist group—with differing ideologies and visions about how the world should be.

At the same time, a push towards evidence-based policy continues to gain ground in many areas. Yet, as evidence-based arguments permeate our social policy discussions, a great portion of political and policy debate continues to concern value-sensitive topics that can be controversial between conservatives and liberals. These issues include, for example, gay marriage, stem-cell research, abortion, and sex education. In these instances, it is unclear to what extent research evidence is truly incorporated into policy formulation as opposed to serving as a tool of political argumentation. It is possible that research evidence is sometimes used not as information that directly guides policy decisions but as superficial

justification of policy decisions reached through other means, such political motivation for or ideological commitments to a particular line of policy.

For example, in the public debates over sex education, there appears to be a muddling of arguments based on research evidence and arguments based on values (Constantine, Jerman, & Huang, 2007b). When policy advocates argue about the merits of a particular sex education approach—often using a mixed bag of scientific research, public opinion polls, expert testimony, personal anecdotes, and appeals to emotion—what are they really arguing about? Are these debates about which policy solution is best supported by evidence, or do they represent something deeper about views on adolescent sex? Exploring this question might help the dialogue between opposing sides of the debate and ultimately lead to more effective and inclusive policy formation.

Sex education has been a subject of controversy in U.S public policy since at least the 1960s (Luker, 2006). While there most likely exist many diverse and complex opinions on what makes the most appropriate sex education program, the public debates over adolescent sex education, like many other debates over social policy issues, appear to be two-sided and politically polarized. The current policy positions over sex education are bounded, on one end, by approaches that teach abstinence-only and, on the other end, by approaches that include instruction on contraception and protection from unintended pregnancy and sexually transmitted diseases (STDs). The supporters of the *abstinence-only* (AO) approach advocate teaching only abstinence from sexual activity outside of marriage. The supporters of *comprehensive sex education* (CSE) advocate instruction on contraception and protection from unintended pregnancy and STDs in addition to teaching abstinence.

A more expansive definition exists for both types of education. Abstinence-only sex education is most influentially described by an eight-point guideline (definitions A-H) in Section 510 of the Title V Social Security Act of 1996. These guidelines specify the requirements for curricula funded by federal abstinence-only programs. In addition to teaching that "a mutually faithful monogamous relationship in the context of marriage is the expected standard of human sexual activity" (definition B), abstinence-only is taught as a strategy to promote social and psychological health and as the only way to avoid pregnancy and STDs. It also teaches the importance of attaining self-sufficiency before bearing children, strategies to avoid sexual advances, and that out-of-wedlock birth is likely to have harmful consequences for the individual and society (Maternal and Child Health Bureau, 1997).

Comprehensive sex education is defined in detail by National Guidelines Task Force's *Guidelines for Comprehensive Sexuality Education* as consisting of three main components: "provision of complete, accurate, positive, and age-appropriate information on human sexuality, including the risk reduction strategies of abstinence, contraception, and protection from STDs; promotion of the development of personal and interpersonal skills; and inclusion of parents and caretakers as partners with teachers" (National Guidelines Task Force, 2004).

A key point to emphasize is that neither approach disputes the value of abstinence from sexual activity and that both approaches appear to strive for the physical and psychosocial health of the adolescent. The primary point of contention between these two approaches is whether or not it is acceptable to include information and instruction on contraception and protection from unintended pregnancy and STDs.

Returning to the question of whether the sex education debates represent something deeper about the public's views on adolescent sex and sex education, we first need to examine the various forces that influence policy decisions and how they interact. In one of her seminal works on research use in policy making, Carol Weiss (1983, 1995) argued that public policy positions taken by policy actors are influenced by four sets of forces: their interests, their knowledge, their ideologies, and their institutions.

Interests refer to self-interests—for example, in finance, political power, reputation, or job security (Weiss, 1983). The influence of interest may take place explicitly, sometimes made painfully apparent with media attention, or more often, it may take place with little notice in the day-to-day events of policy-making (Weiss, 1983). For example, a particular policy decision may be influenced by the interests of the prominent political figure who receives credit for the decision as well as by the interests of the administrative staff members, policy staff members, and lower-level bureaucrats who work behind the scenes on that policy.

Knowledge refers to the arsenal of information, beliefs, and theories that people have about the world and the way in which it works, and these understandings may be imperfect, biased, or invalid (Weiss, 1983). Somewhere in this "informational mélange" lies knowledge of research evidence (p.228), such as of research findings on the effectiveness of various sex education programs. Thus, in influencing a policy decision, information on policy research evidence is intermixed with personal knowledge about the issue at hand and general knowledge of the world, as well as interests and ideology.

Weiss's concept of *ideology* encompasses a broad set of ideas, including "philosophy, principles, values, [and] political orientation" (p.224). People, including highly trained

researchers, often do not have coherent, comprehensive, and internally consistent ideologies. In the context of political topics and policy issues, ideology can refer to "values with general dispositions toward programs of action" (p.224) that become more articulated as they interact with information and interests in the context of a specific policy issue. Importantly, ideology can serve as the "emotionally charged normative orientation that provides a basis for position-taking" (p.224).

Institutions refers to the "institutional arena in which decisions are made", composed of organizational features such as hierarchical power structures, internal division of labor, control of information, and standard operating procedures as well as norms of behavior and values. An institution represents a sort of cultural environment in the context of policy. The individual's preferences are "grounded in the concrete social relationships of the organization", and thus institutions may play a ubiquitous role shaping how individuals define and focus their interests, knowledge, and ideology (Weiss, 1995). As important as values, interests, and knowledge are in the decision-making process, they take tangible shape within the context of the organizations in which living individuals work and live. Therefore, changing the venue of decisions can be expected to influence the nature of decisions in more or less profound ways, depending on how much difference there is between the old and the new decision-making forums.

These four forces influence every policy position to some extent, through an iterative interplay where knowledge interacts with ideology and interests and all three are modulated by institutional culture. Additionally, the interaction between ideology and knowledge plays out in another sense: according to Weiss (1983), our culture values rationality and intelligent choice to the extent such that people are normatively inclined to demonstrate the quality of

their policy decisions by justifying them with research evidence, even when the contribution of research evidence to the policy decision is rather weak. This utilization of research is characterized by Weiss as the *symbolic use* of research, just one of many ways research can influence policy. Research can also serve as direct data informing a specific policy change (*instrumental use* of research) or ideas that serve as general enlightenment of policy-makers without direct effects on policy (*conceptual use* of research) (Weiss, 1980, 1991). Although the instrumental and conceptual uses of research undoubtedly have a role in policy-making, their roles are more transparent and less debated as sound ways in which to reach policy conclusions. People do not object to research directly or indirectly informing policy positions, but they might feel some violation of what they consider the appropriate policy process when research is used as merely a means to give an ideologically-motivated position the illusion of being evidence-based.

In summary, research evidence usually must compete with other forces in the complex process of policy making. The roles of values and research evidence in arguments for a particular policy depend on the relative contribution of these elements to an individual's decision-making process. Furthermore, within the context of our society, ideological commitments to evidence-based policy may drive the argumentation to be dominated by discussion of research evidence, when interests and values may have played a more important, albeit less explicit, role in guiding the actual policy decision.

The adolescent sex education policy debates

Although Hunter's "culture wars" view of United States politics might suggest that there is a balanced divide in sex education preferences, public opinion surveys have consistently shown widespread public support for inclusion of contraception and protection from unintended pregnancy and STDs as a part of sex education curricula. A recent national survey found that 82 percent of adults supported teaching both abstinence and other methods of preventing pregnancy and STDs, that 69 percent supported teaching proper use of condoms, and that regardless of political ideology, adults in the U.S. tend to favor comprehensive sex education (Bleakley, Hennessy, & Fishbein, 2006). Another recent national poll found that 86 percent of the American public found it appropriate to teach how to obtain and use contraceptives (National Public Radio, Kaiser Family Foundation, & Kennedy School of Government, 2004). Recent surveys of parents from diverse regions of the U.S. have found that 91 percent (North Carolina; Ito et al., 2006), 89 percent (California; Constantine et al., 2007a), and 89 percent (Minnesota; Eisenberg, Bernat, Bearinger, & Resnick, 2008) supported comprehensive sex education in schools.

While it has been shown that people's policy preferences regarding education on contraception and protection from unintended pregnancy and STDs are closer to consensus than the fervor of the public debates suggests, the question remains of why sex education continues to stir vociferous argumentation from advocates on both sides regarding the effectiveness, safety, normative correctness, scientific support for, public support for, and the preferred approach to sex education (Constantine, Jerman, & Huang, 2007a). If an overwhelming majority of the U.S. adult population agrees that instruction on contraception

and protection from unintended pregnancy and STDs are appropriate elements of adolescent sex education, what is driving the debate over sex education, and is the conservative-liberal dichotomy an accurate characterization of this issue?

There are several different proposals on how best to characterize the sex education debates. Some have suggested that moral values regarding sexuality lie at the center of the issue (Constantine, 2007; Constantine et al., 2007a; Luker, 2006), while others have emphasized the role of political agenda and manipulation of public discourse in driving the debates (Irvine, 2002).

Luker (2006) characterized the sex education debates as a clash of moral values regarding sexuality. According to Luker, both supporters of abstinence-only and supporters of comprehensive sex education argue about the effectiveness of their respective approaches against "the backdrop of unexamined assumptions about values" (p.246). This interpretation seems to suggest that preferences in adolescent sex education arise directly out of views and values related to the act of adolescent sex. The sexually conservative consider sex sacred and view information on sex as potentially dangerous; accordingly, "sacred sex demands formal structures, namely marriage, to protect it" (p.99). Their support for abstinence-only education stems from their conviction that "sex outside of marriage is wrong because the Bible says it is" (p.136). In contrast, according to Luker, the sexually liberal view sex as a natural and healthy experience and that one ought to be "relaxed and playful" in order to make good decisions about sex (p.99-100). They support comprehensive sex education because they believe that young people should have information to aid in decision-making and learn to manage the risks associated with sex (Luker, 2006). From

Luker's description, one gets the impression that the two sides are roughly balanced in voice and representation, with conservatives and liberals pitted equally against each other.

While Luker provided an in-depth argument for of the types of values at play in the sex education debates, some have criticized her conclusions as ignoring the role of those who hold moderate views on sexuality (Constantine, 2007; Elliott, 2007), poorly characterizing liberals as stereotypically reckless and hedonistic (Constantine, 2007; Irvine, 2006), and limiting her sample to mostly white, middle-class parents with sharply opposing beliefs (Irvine, 2006) who are largely Protestant (Elliott, 2007; Shulevitz, 2006). Constantine (2007) wrote that Luker's study inaccurately characterized all CSE supporters to be in the same group as extreme sexual liberals while neglecting to emphasize the role of sexual moderates who base their support for CSE on pragmatic concerns. Irvine (2006) wrote that Luker's characterization of the moral divide in the sex education debates overstates the ideological differences between conservatives and liberals, and that these two groups are more similar than the rhetoric of the culture wars suggests.

Constantine echoed Luker in claiming that the differences between the two sides of the debate are indeed related to moral values, but suggests that the two sides are far from equal in terms of representation. Until recently, very little focus has been given to the role of those who hold moderate viewpoints on sex education, or the "sexual middle". Constantine argued that moderate viewpoints on sexuality are held by the large majority of the public and characterizes the sexual middle as a group united by their "pragmatic, public-health-oriented views on sexuality education" while still holding "a diversity of values on related issues, such as traditional marriage, sex outside of marriage, abortion, homosexuality, gender roles, and so on" (Constantine, 2007). He provided evidence from a recent survey of Californian

parents that support for abstinence-only versus comprehensive sex education is poorly described by the conservative-liberal dichotomy (Constantine et al., 2007a).

From a different perspective, Irvine (2002) also concluded that the sex education debates are not purely a clash of conservative versus liberal values. Her characterization, however, emphasized that political and moral divides in these debates are forged by the purposeful spread of incendiary political rhetoric. From Irvine's perspective, the sex education debates are the product of a political play for power—conservative religious activists have a created a national-level discourse centered on feelings of disgust, anger, and fear associated with adolescent sex, and, through its ability to trigger strong emotionality, this national-level discourse was and is continually being adopted by localities and individuals as their own debate. Furthermore, individuals who are relatively uncommitted to any side to the issue are incited to join one side following exposure to these discursive strategies and to the emotionality expressed by advocates of the other side (see especially p.150-151). This expands on Hunter's (1991) "culture wars" argument, which claimed that the "public discourse is more polarized that the American public itself" (p.159), and that moderate positions and nuanced moral viewpoints are "played into the grid of opposing rhetorical extremes" (p.161).

Irvine (2002) claimed that the debates over sex education are not "unmediated collective expressions of the attitudes and feelings of individual Americans in response to controversial issues such as sexuality" (p. 143). Instead, she pointed to the social role of emotion in politicizing the issue of sex education: emotions serve to draw attention to the issue, amplify the power of language in persuasion, and galvanize individuals to become activists (p.145). She wrote that an individual's response to the emotional triggers that are

present in the sex education debates depends on how these triggers interact with the contextual dynamics of the situation and the individual's predisposition. Such predispositions include political leanings, religious commitments, values regarding sexuality, and each individual's personal experiences with sexuality and sex education (p.146). Indeed, personal experiences with sexuality, both positive and negative, often lead an individual to take certain political and religious views on the topic of sexuality, family, and gender, an observation made also by Luker (2006). From there, Irvine emphasized emotion as a social construct through which policy positions in the sex education debates are refined and brought to light.

While this may be an accurate description of the social and political dynamics of the sex education debates, Irvine does not examine what specifically it is about an individual's predisposition that makes him or her susceptible to taking one side or the other in the sex education debates. In order for the political discourse that Irvine described to evoke position-taking and action, the individuals at the target of persuasion would need to hold specific values, attitudes, and intuitions that are amenable to the persuasive effects of emotional rhetoric. These values, attitudes, and intuitions most likely include moral considerations about adolescent sex and sex education, and they may play out implicitly in shaping judgments on these issues and may be expressed more explicitly in an individual's argumentation. To be sure, such moral considerations may be associated with political ideology, but the exact relationship has yet to be clarified. The following section will address the social psychological basis for moral judgment surrounding sexuality and how this relates to the commonly assumed conservative-liberal dichotomy in argumentation over sex education policy preferences.

Dual process and social intuitionist theory

Let us return to Weiss's idea that most policy positions are constructed through interactions between knowledge, ideology, and interests. The idea that multiple sources can influence individual policy position-taking has important and relevant implications for policy-making. While claiming a decision to be "evidence-based", the decision-maker may not have adequately clarified the role of her intuitions and values to her audience or, more-importantly, to herself. The individual may be allowing values to inadvertently influence what was intended to be a judgment based on research evidence.

Underlying this discussion is the assumption that when people make judgments, they are not always forming them via deliberate conscious reasoning using all of the relevant information. Instead, different social, situational and individual factors—for example, the presence of time constraints or cues to learned stereotypes—can lead people to reason using low-effort processing. This idea is best described by a group of theories about reasoning known as the *dual process* theories.

The dual process theories have many different forms and have been applied in numerous fields of psychology and cognitive science, but generally these theories have in common some major goals and components. They posit that there are two systems of reasoning: an automatic, effortless, and preconscious system, and a slow, effortful, conscious system. These two systems are activated under different circumstances and make use of different cognitive resources to perform a given reasoning task. They can function alone or in parallel and yield separate conclusions, but they can also interact with each other or yield similar conclusions. The former system is a group of processes referred to by names such as

the heuristic processing system, the intuitive system, the associative system, the implicit system, or *system 1*. The latter is referred to by names such as the systematic processing system, the reasoning system, the rule-based system, the explicit system, or *system 2*. This paper will address these two systems using the system 1 versus system 2 terminology, which was first coined by Stanovich and West (Stanovich & West, 2000). The generic features of dual process, to be outlined below, have been described by numerous scholars (Chaiken & Trope, 1999; Chen, Duckworth, & Chaiken, 1999; Evans, 1984, 2003; Haidt, 2001; Kahneman, 2003; Sloman, 2002; Smith & DeCoster, 2000; Stanovich & West, 2000; Zajonc, 1980).

Processing in system 1 entails "activation and application of judgmental rules or 'heuristics' that are presumed to be learned or stored in memory" (Chen & Chaiken, 1999; p.74). In simpler terms, system 1 processing yields conclusions by applying rules-of-thumb acquired through experience, and this often happens automatically and outside of conscious awareness. This type of processing is constrained by the availability, accessibility, and applicability of heuristic knowledge structures, which means that judgment-relevant rules-of-thumb must be stored in memory, be readily retrievable for use from memory, and relevant to the reasoning task at hand (Chen & Chaiken, 1999). The body of knowledge structures within system 1 contains innately programmed behaviors as well as associations gained through experience (Evans, 2003). System 1 tends to be heavily influenced by affect or emotion, and these "feelings" often serve as heuristics, in guiding judgment and decision-making and in motivating behavior (Damasio, 1994; Slovic, Finucane, Peters, & MacGregor, 2002; Zajonc, 1980). The product of system 1 processing is a conclusion that arises into consciousness suddenly (often as intuition or accompanied by emotion), without the

individual being aware of having gone through any steps of controlled, deliberate reasoning. This conclusion can be biased insofar as an individual's associations and heuristics gained from their idiosyncratic experience in the world are biased.

Processing in system 2 entails "a relatively analytic and comprehensive treatment of judgment-relevant information" (Chen & Chaiken, 1999; p.74). In simpler terms, system 2 yields judgments based on deliberate, effortful, conscious reasoning and reflection about information relevant to the reasoning task. This information can include research evidence, theoretical information, and prior beliefs. Although system 2 may utilize the processes and outputs of system 1, a necessary component of reasoning within system 2 is that at least part of the reasoning process must take place within conscious control (Haidt, 2001). Thus, it demands a higher degree of cognitive ability and capacity than system 1 (Chen & Chaiken, 1999), which is consistent with it being posited to be the more evolutionarily recent and distinctively human system of the two (Evans, 2003). The knowledge structures within system 2 involve language-based rules of reasoning shaped by an individual's education and mental training. The product of system 2 is a reasoned conclusion, which does not exclude it from being biased or incorrect.

Real-world judgment tasks, especially in policy-making, are often complex and require more than a simple pass through one system of reasoning. When faced with a complicated judgment task, an individual may utilize the reasoning processes of both systems. Since system 1 processes are, by definition, not available to conscious scrutiny, it is difficult to pinpoint the relative contributions of each system to the final conclusion. Nisbett and Wilson found that people's attempts to report on the cognitive processes leading to their conclusions are often erroneous. Instead, their reports are based on "prior,

implicit causal theories or judgments about the extent to which a particular stimulus is a plausible cause of a given response" (Nisbett & Wilson, 1977)—in other words, people often give post-hoc justifications using what they think are plausible explanations for how their conclusions were reached. These are referred to as *a priori causal theories.* Thus, though individuals actively engage both systems when reasoning, they cannot always accurately identify the sources of their judgments. The implication of this idea is that it is difficult to clarify the respective roles of values and research evidence in policy judgments.

Moral judgments

The dual process theories have implications for the special case of moral judgments. In the cognitive rationalist tradition and influenced heavily by the work of Piaget, Kohlberg, and Turiel, moral judgments have historically been characterized as conclusions reached via reasoning and reflection—that is, as processes taking place within system 2 (Haidt, 2001). Information is transformed through conscious, effortful mental processing including weighing of evidence, evaluation of the situation, and inference to form a judgment on whether something is right or wrong or bad or good. Increasingly, the field of moral psychology is yielding to the emotivist-intuitionist approach to moral judgment, which recognizes the role of affect, emotions, intuitions, and heuristics in moral judgment and proposes that rapid, automatic system 1 processes may be a more primary contributor to moral judgment than conscious, effortful system 2 processes (García & Ostrosky-Solís, 2006; Haidt, 2001; Haidt & Bjorklund, 2007; Haidt & Joseph, in press; Shweder & Haidt, 1993).

Utilizing dual-process concepts, Haidt (2001) proposed a theory of moral judgment—the social intuitionist theory—that challenges the cognitive rationalist conception of moral reasoning by emphasizing the powerful role of intuitions in moral judgment. Haidt offered the following definitions: *Moral judgments* are "evaluations (good versus bad) of actions or character of a person that are made with respect to a set of virtues held to be obligatory by a culture or a subculture." *Moral reasoning* is "conscious mental activity that consists of transforming given information about people in order to reach a moral judgment," which he adds is "intentional, effortful, and controllable." *Moral intuition* is "the sudden appearance in consciousness of a moral judgment, including an affective valence (good-bad, like-dislike)," without any awareness of having gone through conscious, effortful, intentional moral reasoning (Haidt, 2001) Moral intuitions can be related to emotional and affective responses to issues in the moral realm.

Social intuitionist theory states that moral judgments primarily arise automatically and effortlessly from moral intuitions and that the effortful process of moral reasoning often takes place after a moral judgment has already been reached, to form post-hoc justification in the sense that Nisbett and Wilson described (Haidt, 2001; Haidt & Bjorklund, 2007; Nisbett & Wilson, 1977). Here, moral intuition can be thought of as a type of affect heuristic (Slovic et al., 2002), which informs moral judgment and motivates decision-making and behavior. In rare instances, reasoning may override initial moral intuitions, and self-reflection may activate new intuitions that contradict initial moral intuitions. However, these processes tend to be minor contributors in guiding real-life moral judgments compared to the role of moral intuitions (Haidt, 2001; Haidt & Bjorklund, 2007).

Haidt's proposal that intuition and affect are the primary sources for moral judgments is supported by empirical studies. For example, one study found that moral judgments regarding objectively harmless sexually taboo acts were predicted by affective responses, including emotions such as shock, disgust, or discomfort, indicating that intuition and emotion is strongly related to moral judgment formation (Haidt & Hersh, 2001). Maio and Olsen found that participants' expressed values change after they analyzed their reasons for supporting those values, indicating that the original expression of these values "do not derive their strength from cognitive support." The authors continue to speculate that values are "supported primarily by affective information", mainly because people associate strong emotions with their values as a result of socialization to moral rules that are understood to be absolute and rarely questioned (Maio & Olson, 1998). Others have argued for the strong role of intuition and affect on moral judgments (Cushman, Young, & Hauser, 2006; García & Ostrosky-Solís, 2006; Greene & Haidt, 2002; Haidt, Koller, & Dias, 1993; Pizarro, Uhlmann, & Bloom, 2003; Shweder & Haidt, 1993).

Another important aspect of the social intuitionist theory is the mechanism it posits for how moral judgments can have influences on a social level. Under this theory, one individual's moral judgment and reasoning can influence another's moral intuitions and hence moral judgments. This suggests that mere exposure to the moral judgments of others, with or without explicit attempts at persuasion or communication of reasons, can activate moral intuitions that lead to an individual's moral judgments and subsequent post hoc moral reasoning (Haidt, 2001; Haidt & Bjorklund, 2007). For example, by encountering judgments, rhetoric, or merely the spectacle of social policy debates, people may experience moral intuitions that draw them to one side of the debate. Subsequently, further exposure to

controversial and provocative content in the debate may prompt people to defend their policy positions, which in turn lead to further attitude polarization (Lord, Ross, & Lepper, 1979). This lends a social-cognitive mechanism to support Irvine's sociological theory that the conservative religious activists are able to recruit people into one side or another of the sex education debates simply by portraying the issue as an emotionally intense, two-sided debate (Irvine, 2002).

Some have criticized the social intuitionist theory by pointing out the lack of emphasis on effortful reasoning in the formation of moral judgments (Cushman et al., 2006; Pizarro & Bloom, 2003; Saltzstein & Kasachkoff, 2004). For example, Cushman et al. (2006) found that the content of subjects' justification varied greatly by the moral principle guiding the judgments, and that people are not uniformly inaccurate at pinpointing the source of their judgments. This suggests that the extent to which intuition and conscious reasoning play roles in moral judgment could depend on which moral principles are triggered. Pizarro and Bloom (2003) suggested that conscious reasoning and effortful selection of the information to which one is exposed plays a role in reevaluating and "educating" moral intuitions; they also provide real-world historical support for the role of reasoning in shaping and changing moral intuitions.

A spectrum of other theories on moral reasoning and judgment exist. Some of these theories allow that both affective systems (system 1) and cognitive systems (system 2) contribute to moral reasoning (Greene, Nystrom, Engell, Darley, & Cohen, 2004) while others call for a multisystem approach without being specific about where the division between affect and cognition is placed (Cushman et al., 2006). All of these theories recognize that the cognitive rationalist approach to moral reasoning is inadequate.

Hauser (2006) proposed that individuals possess innate moral faculties that make it possible for them to acquire a moral system as well as constrain the content of any possible moral system. Moral judgments arise from this moral faculty through evaluation of actions, omissions, intentions, and consequences. Hauser accounted for the observation that individuals are not always able to articulate the processes leading to the moral judgment by claiming that the moral faculty operates below conscious awareness. He does not view moral emotions as causing moral judgment, but notes that emotions are powerful motivators of moral actions and behaviors (Hauser, 2006).

Whether it is an innate moral faculty or some other set of processes involving emotion and intuition, research suggests that there is *some* component of our moral judgment formation that occurs below the level of conscious awareness, to which we have no access when formulating justification. Whether or not Haidt's theory goes too far in emphasizing the causal role of moral intuitions, there is support for the contribution of both automatic intuitions *and* conscious, deliberate reasoning in the formation of moral judgments. Accordingly, people's justifications of their moral positions may reflect both conscious reasoning processes and post-hoc attempts to explain judgments using a priori causal theories.

It seems clear that the use of research evidence in policy argumentation cannot preclude emotions and intuitions from having a strong influence in the final policy position. The decision-maker may not even be aware of the influence of his or her own emotions and intuitions, as these influences typically occur below conscious awareness and can be driven by powerful associations formed through experience. Thus, people's arguments about the morality of adolescent sex or a particular sex education approach might originate from

genuine conscious reasoning about these topics, might be attempts to justify their conclusions and persuade others based on emotional reactions to and moral intuitions about these topics, or might be some combination of both.

Culture and morality

Although the field of moral psychology has not reached a consensus on the mechanism through which moral judgments are formed, it is widely accepted that certain emotional, intuitive, and affective responses accompany moral judgments and that such responses are important elements of human moral capacity. These responses can be called *moral emotions,* which have been defined as emotions "that are linked to the interests or welfare of either society as a whole or at least of persons other than the judge or agent" (Tangney, Stuewig, & Mashek, 2007). Although some moral emotions are viewed as more or less universal (Haidt, Rozin, McCauley, & Imada, 1997), past research has suggested that moral emotions, and the stimuli that trigger them, are related to the moral system of a particular culture or subculture (Haidt et al., 1993; Haidt et al., 1997; Shweder & Haidt, 2000). But to say that differences in morality occur due to differences in culture would hardly be a satisfactory explanation. The observed cultural differences in moral systems prompt the question—what is the basis for cultural variation in morals systems?

To start, we must first define the concept of "culture." Shweder and Haidt conceptualize culture as both symbolic and behavioral. Culture is made up of "meanings, conceptions, and interpretive schemes that are activated, constructed or brought 'online'

through participation in normative social institutions and routine practices (including linguistic practices)" (p.398). An individual's culture provides a "subset of possible or available meanings which...[have] become active in giving shape to the psychological processes of the individuals in a group" (Shweder & Haidt, 2000; p.398). Thus, the moral system of an individual consists of ethical and normative beliefs and sensitivities that are based in the psychological processes, in both system 1 and system 2, shaped by that individual's particular culture. In reacting to and reasoning about moral issues, individuals draw upon the culturally shaped moral intuitions and emotions of system 1 as well as the culturally acquired—and sometimes, a priori—moral concepts, ethical values, and interpretations of system 2.

Shweder, Much, Mahapatra, & Park (1997) proposed that the morality of any culture can be described by three clusters of ethical ideas: the ethics of autonomy, the ethics of community, and the ethics of divinity. All three clusters coexist in every moral system, and cultural differences in morality are a result of different cultures emphasizing each of the clusters to different extents. The *ethics of autonomy* are concerned with the individual-to-individual relationship, and can be thought of as protective of the interests, rights, and choices of the individual. It is based on regulatory concepts such as harm, rights, and justice. For Western cultures that idealize the concept of individualism and libertarian principles, the ethics of autonomy hold relatively more weight in the moral domain. The *ethics of community* are concerned with the individual-to-community relationship, and can be thought of as protective of the integrity of a family, community, society, or nation and an individual's place within that structure. It is based on regulatory concepts such as interdependency, hierarchy, duty to others, and societal or community roles. The *ethics of divinity* are concerned with the

individual-to-"divine order" relationship, and can be thought of as protective of the soul and spiritual aspects of the human being. It is based on regulatory concepts such as sanctity, sin, purity, natural order, and sacred order.

According to Shweder et al., these three clusters of ideas work together to promote three distinct types of moral "goods" in society that enhance the human condition. As moral goods, though, they are often in conflict and require trade-offs such that not all three can be maximized at the same time. Accordingly, different cultures and subcultures ascribe different levels of relative importance to each cluster of ethical ideas. For example, Western societies like the United States focus on the ethical idea of autonomy while some Eastern societies, such as the Hindu culture, focus on the ethical ideas of community and divinity. In both societies, the ethical ideas of lesser focus are still present and valued, but they are often "absorbed" into and referred to in the context of the more prominent clusters of ethical ideas. Thus, different cultures and subcultures value different combinations of these moral goods to promote human well-being within society, and this can often lead to moral disputes highlighted by the moral emotions they elicit (Shweder, Much, Mahapatra, & Park, 1997).

The moral foundations of judgments on adolescent sex and sex education

The perceived conservative versus liberal dichotomy of the sex education debates in the U.S. may be one demonstration of a clash of moral views. Previous research indicates that conservatives and liberals differ in the ethics guiding their moral judgments. Hunter characterized the differences between the culturally conservative and the culturally liberal—

what he terms as the "orthodox" and the "progressivist", respectively—as functions of moral ethos (Hunter, 1991). Hunter's characterization of orthodox and progressivist ideologies roughly correspond with Shweder et al.'s (1997) ethics of community and divinity, and ethics of autonomy, respectively.

Working from Hunter's theory, Jensen (1997) examined differences in moral judgments of abortion, divorce, and suicide between "fundamentalist" Baptists and "mainline" Baptists, which he corresponded with Hunter's orthodox and progressivist groups. He found that the orthodox were more likely than the progressivists to judge abortion, divorce, and suicide as morally wrong. Analysis of the respondents' justifications in terms of Shweder et al.'s (1997) ethics found that the orthodox generally utilized the ethics of divinity in their moral reasoning more than the progressivists, while the progressivists generally utilized the ethics of autonomy more than the orthodox. The two groups did not differ significantly in their utilization of the ethics of community.

Interestingly, Jensen reported that the ethics of autonomy was used more widely by the orthodox on the issue of abortion to the extent that, for certain age groups, the level of use did not differ from that of progressivists. Jensen suggested that this anomaly may be a reflection of the pro-life movement's public strategy to disseminate a rights-based language of argumentation (Jensen, 1997), which is analogous to Irvine's claim that the sex education debates is fueled by the conservative religious rights' manipulation of public discourse (Irvine, 2002). Jensen (1997) suggested that the differences in the utilization of ethics in moral reasoning exist even when the factor of religion is held constant.

Haidt and Hersh (2001) found differences between political conservatives and liberals in their utilization of Shweder et al.'s ethics in moral reasoning. In their study of

sexual morality, Haidt and Hersh examined moral judgments regarding objectively harmless sexually taboo acts involving homosexuality, masturbation, and consensual sibling incest. Conservatives were more likely than liberals to morally condemn these acts. Analysis of the content of participant's responses to these acts revealed that conservatives' morality include the ethics of autonomy, community, and divinity while liberals' morality covered a narrower domain, which included extensive utilization of the ethics of autonomy (Haidt & Hersh, 2001). This provides evidence for varying levels of valuation for different moral goods between conservatives and liberals in dilemmas concerning sexuality.

Expanding on Shweder et al.'s work, Haidt and Graham (2007) proposed that there are five psychological systems that provide the foundations for the world's moralities. These are the foundations of harm, reciprocity, ingroup, hierarchy, and purity. The moral foundation of *harm* produces sensitivity to the suffering of others, producing behaviors reflecting approval of characteristics that relieve harm, such as kindness and compassion, and disapproval of harm-producing characteristics, such as cruelty and aggression. The moral foundation of *reciprocity* produces responses and behavior that favor equality, fairness, justice, and reciprocal altruism. The moral foundation of *ingroup* produces social behaviors and emotions related to recognizing, trusting, and cooperating with members of one's own group; furthermore, it produces valuation of characteristics such as loyalty to one's group and patriotism to one's nation. The moral foundation of *hierarchy* produces valuation of respect, duty, and obedience to authority and hierarchical social structures. The moral foundation of *purity* produces emotions of disgust and behaviors of avoidance and disapproval toward activities that contaminate of the human body; hence, characteristics

such as chastity, piety, and cleanliness are morally valued whereas characteristics such as lust, gluttony, and promiscuity are frowned upon.

These five moral foundations draw parallels to three ethics proposed by Shweder et al. (1997). The foundations of harm and reciprocity align with the ethics of autonomy, the foundations of ingroup and hierarchy align with the ethics of community, and the foundation of purity aligns with the ethics of divinity (Haidt & Graham, 2007). Haidt and Joseph propose that these psychological systems provide the foundation for intuitive ethics—that is, they are "the psychological primitives that are the building blocks from which cultures create moralities that are unique yet constrained in their variations" (Haidt & Joseph, in press). Implicit in this claim is that moral systems are based on intuitions, rather than on conscious reasoning

Using this theory, Haidt and Graham explain the "culture wars" in the U.S. as a dispute over what liberals and conservatives consider relevant to morality. The morality of liberals is built primarily upon the foundations of harm and reciprocity, while the morality of conservatives rests more equally upon all five foundations. They provide preliminary evidence for this: liberals rated concerns related to harm and reciprocity as more relevant to their moral judgments than concerns of ingroup, hierarchy, and purity, while conservatives rated all five concerns as similarly relevant to their moral judgments (Haidt & Graham, 2007). In Shweder et al.'s terms, these finding suggest that the ethics of autonomy dominate the moral systems of liberals, while all three ethics are considered to the same extent in the moral systems of conservatives. These findings, along with the findings from the Haidt and Hersh study (2001), suggest that for both general morality and sexual morality, conservatives have a relatively pluralistic set of moral considerations, while liberals' morality focus

primarily on concerns for autonomy and individualism. The conservative-orthodox and liberal-progressivist moral systems may not be, as Hunter (1991) claimed, fundamentally different; rather, they might arise as variations of a set of psychological foundations common to all humans that diverge and specify according to cultural experience.

Conclusions

Integration of previous research on the process of policy-making, dual process theories of reasoning, and cultural variations in moral systems may help explain the basis for argumentation in the sex education debates. Conservative and liberal ideologies in the U.S are different social-political cultures, each with its own language of moral reasoning and its own set of prescribed emotional responses to moral situations. People identify with these ideologies as a result of an interaction between their nuanced experiences within the social world and their individual psychological predispositions. However, once they have identified with a particular ideological culture, people in turn tend to adopt the beliefs and values of that culture. While individuals' views on moral issues may actually lie anywhere on the spectrum between social conservatism and liberalism, the popular conception of the "culture wars" in the U.S. perpetuate the division of public opinion along well-demarcated conservative versus liberal ideological lines. To the extent that this division stirs political controversy and ongoing debate, it can also serve to divert the public eye from the true complexity of policy issues and the diversity of political opinion.

For example, public displays of controversy over sex education activate different intuitions and emotions regarding sexuality and sex education in different people, and they do so because people value varying sets of moral goods. People then are inclined to align their moral judgments and justifications with the framework of the two-sided public sex education debates. They are motivated to further defend their own conclusions when facing opposition in future encounters with evidence and arguments on the subject matter. Through this mechanism, the emotionality of the national-level rhetoric on sex education is able to polarize attitudes and argumentation on the individual level. As Hunter (1991) puts it, disagreements over public policy issues "are often intensified and aggravated by the way they are presented to the public" (p.34). The end result can be an acrimonious public debate over sex education that appears to be a simple division between conservatives and liberals.

In spite of the expected moral and cultural differences between conservatives and liberals related to the matter of sex education, empirical research shows that, regardless of political ideology, the overwhelming majority of the general and parent population support comprehensive sex education (Bleakley et al., 2006; Constantine et al. 2007a; Eisenberg et al., 2008). If policy preferences on sex education are indeed closely related to moral values and considerations, the question remains of how the majority support for comprehensive sex education can be reconciled with the apparent moral differences between conservatives and liberals. Moreover, if moderate-pragmatic viewpoints are indeed the large majority (Constantine, 2007; Constantine et al., 2007a), do their preferences and beliefs indicate that there might be a disjoint between the values people consider important to a particular moral dilemma and the preferences they express in the context of a policy dilemma related to that moral issue? For example, might people hold separate moral considerations of the act of

adolescent sex than they do of policy governing the sex education of adolescents? Research exploring answers to these questions might help explain the apparent discrepancy between the research findings of wide support for comprehensive sex education on one hand and the continuing two-sided public debates over sex education on the other hand.

Future research should aim to clarify the differences and commonalities between liberals and conservatives on the issue of sex education and examine to what extent these are related to emotional and intuitive responses to adolescent sexuality. Research should also explore the differences between liberals and conservatives with regards to the moral considerations guiding preferences in sex education. In the complex process of policy position-taking and argumentation regarding adolescent sex education, the role of research evidence must compete with such forces as moral considerations. Therefore, an additional question remains regarding the extent to which moral considerations about sex education influence considerations of research evidence.

Understanding the differences and the commonalities between conservatives and liberals in the realm of sex education could facilitate more effective and forward-thinking dialogue in public policy on adolescent sex education, potentially leading to better health outcomes, more economical use of tax money, and a more inclusive public policy process. Furthermore, such an understanding may ultimately lead to the dispelling of publicly constructed myths on inherent ideological divisions in the interest of making better policy. In the future, perhaps we could focus less on our disagreements and, instead, work to find the intersections on our value systems in the hopes of making public policy more inclusive.

Part 2.

Moral Values and Ideological Differences in Evidence-based Judgments on Adolescent Sex and Sex Education

Introduction

Adolescent Sex Education amidst the Culture Wars

In the recent decades, we have witnessed a widening divide in American political culture. Hunter (1991) described this divide as "culture wars" over social and economic issues, where two poles are defined by their fundamentally different worldviews, rather than by religious views or geography. The conflicts over social policy in the U.S., according to Hunter, represent a battle between two groups—the conservative orthodox group and the liberal progressivist group—with differing ideologies and visions about how the world should be (Hunter, 1991).

At the same time, a push towards evidence-based policy continues to gain ground in many areas. Yet even as evidence-based arguments permeate our social policy discussions, much social policy debate continues to concern value-sensitive topics that are often controversial. Weiss (1983) says that our culture values rationality and intelligent choice, and thus people are normatively inclined to demonstrate the quality of their policy decisions by justifying them with research evidence, even when the contribution of research evidence to the policy decision is rather weak. In such cases, it is unclear to what extent research evidence and other influences, such as moral judgments, contribute to a particular policy position.

One example is the case of adolescent sex education policy. Sex education has been a subject of controversy in U.S public policy since at least the 1960s. While there exist many diverse and complex viewpoints on what makes the best sex education program, the recent public debates have largely been portrayed as two-sided—between supporters of *abstinence-*

only (AO) education and supporters of *comprehensive sex education* (CSE). The phrase comprehensive sexuality education is commonly used in policy debates and by the media to distinguish approaches that include instruction on contraception and protection from unintended pregnancy and sexually transmitted diseases (STDs) from the abstinence-only approaches that strategically omit these topics. Conservative ideologies have been portrayed as associated with the abstinence-only education side and liberal ideologies with the comprehensive sex education side. While both sides appear to advocate their positions using arguments based on research evidence, these arguments often seem entangled with considerations of moral values (Constantine et al., 2007b).

While the politically-polarized appearance of these public debates might suggest that there is a balanced divide in sex education preferences, public opinion surveys have consistently shown widespread support for inclusion of instruction on contraception and protection from unintended pregnancy and STDs in sex education curricula (e.g. Bleakley et al., 2006; Constantine et al., 2007a; Ito et al., 2006; Eisenberg et al., 2008; National Public Radio et al., 2004). For example, a recent national survey found that 82 percent of adults supported teaching both abstinence and other methods of preventing pregnancy and STDs, that 69 percent supported teaching proper use of condoms, and that regardless of political ideology, adults in the U.S. tend to favor comprehensive sex education (Bleakley et al., 2006). In light of this discrepancy, a reasonable question to ask is—do the policy debates regarding adolescent sex education reflect a genuine substantive political divide?

There have been several proposals on how best to characterize the polarized political nature of the sex education debates. Some have suggested that moral values and considerations regarding sexuality are at the center of the issue (Constantine, 2007;

Constantine et al., 2007a; Luker, 2006), while others have emphasized the role of political ideology, political agenda, and manipulation of public discourse in driving the debates (Irvine, 2002).

In this paper, *ideology* is defined as "an explicit system of values and ideals concerning both the prevailing and desirable social order" (Constantine et al., 2007b). *Political ideology* is thus be defined as an individual's self-identification with a particular political culture with which he or she shares a general pattern of values, ideals, and preferences regarding public issues. A *moral value* or *moral consideration* is defined as "a principle, standard, or quality considered worthwhile or desirable" regarding "the rightness or wrongness of an action" (Constantine et al., 2007b).

Luker (2006) has characterized the sex education debates as a clash of moral values regarding sex. According to Luker, the supporters of abstinence-only and supporters of comprehensive sex education align with conservative and liberal ideologies, respectively, and both sides argue about the effectiveness of their preferred approaches against "the backdrop of unexamined assumptions about values" (p.246). Conservatives consider sex sacred and view information on sex as potentially dangerous. Their support for abstinence-only education stems from their conviction that "sex outside of marriage is wrong because the Bible says it is" (p.136). In contrast, according to Luker, liberals tend to view sex as a natural and healthy experience that may appropriately take place outside of marriage, even if hedonistic ("if it feels good do it," p. 100). Liberals support comprehensive sex education because they believe that it is healthy to have a playful, relaxed attitude toward sex and that young people should learn to manage the risks associated with sex (Luker, 2006). According

to Luker's interpretation, political ideological differences in adolescent sex education preferences arise directly out of views and values related to the act of adolescent sex.

Constantine echoed Luker in viewing the differences between the two sides of the debate as primarily concerning moral values, but argued that moral considerations can override political ideology and that the large majority of the public holds morally pragmatic viewpoints on sex education. He characterizes this "sexual middle" as a group united by their pragmatic, public-health-oriented views on sexuality education while still holding a diversity of values on related issues, such as traditional marriage, sex outside of marriage, abortion, homosexuality, gender roles, and so on (Constantine, 2007). He provided evidence from a recent survey of Californian parents that support for abstinence-only versus comprehensive sex education is poorly explained by the conservative-liberal dichotomy (Constantine et al., 2007a).

If policy positions on sex education are indeed closely related to moral values and considerations, the question remains of how these moral considerations differ between conservative, moderate, and liberal political ideologies. Moreover, if moderate-pragmatic viewpoints are indeed the majority, do their preferences and beliefs indicate that people may hold separate moral considerations of the act of adolescent sex versus policy governing sex education of adolescents? Finally, how can these moral considerations be reconciled with the empirical evidence of widespread majority support for comprehensive sex education?

Moral Judgments

To understand the moral considerations involved in the sex education debates, one must understand how individuals arrive at moral judgments. When people make judgments,

they are not always forming them via deliberate conscious reasoning using all the relevant information. Instead, different individual, social, and situational factors can lead people to reason using low-effort cognitive processing. This idea is best described by a group of theories about reasoning known as the *dual process theories.* These theories posit that there are two systems of reasoning: an automatic, effortless, and preconscious system, and a slow, effortful, conscious system. The former system is sometimes referred to as the heuristic processing system, the intuitive system, the associative system, the implicit system, or *system 1.* The latter is sometimes referred to as the systematic processing system, the reasoning system, the rule-based system, the explicit system, or *system 2* (Chaiken & Trope, 1999; Chen & Chaiken, 1999; Chen et al., 1999; Evans, 1984, 2003; Haidt, 2001; Kahneman, 2003; Sloman, 2002; Smith & DeCoster, 2000; Stanovich & West, 2000; Zajonc, 1980). These two systems are activated to different extents under different circumstances, and they make use of different cognitive resources to perform a given judgment or reasoning task. They can function alone or in parallel and yield their own separate conclusions, or they can also interact with each other and can yield similar conclusions.

Past research on dual-processes and moral reasoning supports the contribution of both preconscious conscious effortful reasoning and intuitive reasoning in the formation of moral judgments. That is, in addition to our ability to reason consciously in the moral domain, there is a critical component of our moral judgment formation that occurs below the level of conscious awareness, to which we have little or no access when formulating a justification. In addition, certain emotional, intuitive, and affective responses often accompany moral judgments, and such responses are often important elements of human moral capacity. The conscious use of research evidence in policy argumentation cannot

preclude such responses from having a strong influence in the final policy position. Thus, people's moral positions on adolescent sex may be a product of intuition, conscious reasoning, or both. Furthermore, people's justifications might reflect conscious reasoning processes, post-hoc attempts to explain emotional reactions and moral intuitions using a priori causal theories, or some combination of these (Haidt, 2001; Nisbett & Wilson, 1977).

In reasoning about and making judgments on moral issues, individuals draw upon intuitions, ethical beliefs, interpretations, and sensitivities that are based in conscious and preconscious psychological processes, shaped by that individual's particular culture (Haidt et al., 1993; Haidt et al., 1997; Shweder & Haidt, 2000). Shweder et al. (1997) proposed that the morality of any culture can be described using three clusters of ethical ideas that coexists in every culture to a different degree: the ethics of autonomy, the ethics of community, and the ethics of divinity. The *ethics of autonomy* are concerned with the individual-to-individual relationship, and can be thought of as protective of the interests, rights, and choices of the individual. It is based on regulatory concepts such as harm, rights, and justice. The *ethics of community* are concerned with the individual-to-community relationship, and can be thought of as protective of the integrity of a community, society, or nation and an individual's place within that structure. It is based on regulatory concepts such as interdependency, hierarchy, duty to others, and societal or community roles. The *ethics of divinity* are concerned with the individual-to-divine-order relationship, and can be thought of as protective of the soul and spiritual aspects of the human being. It is based on regulatory concepts such as sanctity, sin, holiness, purity, and natural order.

According to Shweder et al., these three clusters of ideas work together to promote three distinct types of moral "goods" in society that enhance the human condition. As

moral goods, though, they are often in conflict and require trade-offs such that not all three can be maximized at the same time. Accordingly, different cultures and subcultures, including political subcultures, ascribe different levels of relative importance to each cluster of ethical ideas (Shweder et al., 1997). This can often result in moral disputes—for example, the alleged conservative versus liberal dichotomy in the sex education debates in the U.S. could be one demonstration of such a clash.

Previous research has examined differences between conservatives and liberals by applying Shweder et al's (1997) ethical clusters. Jensen (1997) examined differences in moral judgments of abortion, divorce, and suicide between "fundamentalist" Baptists and "mainline" Baptists, which corresponded with Hunter's conservative orthodox and liberal progressivist groups respectively, and found that the orthodox generally utilized the ethics of divinity in their moral reasoning more than the progressivists, while the progressivists generally utilized the ethics of autonomy more than the orthodox. The two groups did not differ significantly in their utilization of the ethics of community (Jensen, 1997). In their study of sexual morality, Haidt and Hersh examined moral judgments regarding objectively harmless sexually taboo acts involving homosexuality, masturbation, and consensual sibling incest. They found that in participants' verbal responses to these acts, conservatives' morality include the ethics of autonomy, community, and divinity while liberals' morality covered a narrower domain, which included extensive utilization of the ethics of autonomy (Haidt & Hersh, 2001).

Expanding on Shweder et al.'s (1997) work, Haidt and Graham proposed five psychological systems that provide the foundations for the world's moralities: harm, reciprocity, ingroup, hierarchy, and purity. These five moral foundations draw parallels to

three ethics proposed by Shweder et al.—the foundations of harm and reciprocity align with the ethics of autonomy, the foundations of ingroup and hierarchy align with the ethics of community, and the foundation of purity aligns with the ethics of divinity (Haidt & Graham, 2007).

Haidt and Graham go on to explain the "culture wars" in the U.S. as a dispute over what liberals and conservatives consider relevant to morality. They view the morality of liberals as built primarily upon the foundations of harm and reciprocity and the morality of conservatives as resting more equally upon all five foundations. They provide preliminary evidence for this: liberals rated concerns related to harm and reciprocity as more relevant to their moral judgments than concerns of ingroup, hierarchy, and purity, while conservatives rated all five concerns as similarly relevant to their moral judgments (Haidt & Graham, 2007). In Shweder et al.'s (1997) terms, these finding suggest that the ethics of autonomy dominate the moral systems of liberals, while all three ethics are considered to a similar extent in the moral systems of conservatives. These findings, along with the findings from the study by Haidt and Hersh (2001), suggest that for both general morality and sexual morality, conservatives have a relatively pluralistic set of moral considerations, while liberals' morality focuses primarily on concerns for autonomy and individualism. The conservative-orthodox and liberal-progressivist moral systems might not be, as Hunter (1991) claimed, fundamentally different; rather, they arise as variations of a set of universal psychological foundations that develop and diverge according to cultural experience.

In summary, the role of research evidence must compete with other forces, such as moral considerations, in the complex process of policy position-taking and argumentation regarding adolescent sex education. Although empirical studies have consistently suggested

widespread majority support for comprehensive sex education, the public debates over sex education continue to be portrayed as polarized, two-sided debates often at least superficially dominated by research evidence-based arguments. How conservatives, moderates, and liberals differ in their moral considerations of sex education policy and the extent to which these policy considerations coincide with moral considerations of the act of adolescent sex remain to be clarified. Additionally, the question remains regarding the extent to which moral considerations about sex education by these groups interact with considerations of research evidence.

The present study

The present study investigates the potential differences between conservatives, moderates, and liberals with respect to sex education preferences, appropriateness and moral judgments of adolescent sex and of comprehensive sex education policy, the moral content of reasoning about such issues, and the role of context and evidence in influencing their judgments about sex education. Comprehensive sex education policy (rather than abstinence-only education policy) was chosen because, while the utility of information on contraception and protection from unintended pregnancy and STDs is debated, there is relatively little dispute that abstinence should be a part of adolescent sex education curricula. Participants were presented with a web-based survey that asked them to rate the appropriateness and the moral acceptability of scenarios about (1) an adolescent engaging in sexual intercourse and (2) a state-wide CSE policy. They were further asked to write open-

ended responses explaining what considerations are important to them when making judgments about adolescent sex and CSE policy. This study began with four hypotheses:

Hypothesis 1: Sex education preference by political ideology. As suggested by previous research (Bleakley et al., 2006; Constantine et al., 2007a; Ito et al., 2006; National Public Radio et al., 2004), the majority of participants within all political ideology groups will prefer comprehensive sex education over abstinence-only education.

Hypothesis 2: Policy versus sex. Both appropriateness and moral acceptability ratings will be more positive for the CSE policy scenario than for the adolescent sex scenario across all political ideology groups. This is expected because the policy scenarios are likely to orient individuals' toward pragmatic considerations, while the adolescent sex scenarios are likely to orient individuals' toward their intuitions about sexual morality more removed from pragmatic considerations of policy. Previous research has suggested (Constantine et al., 2007a, 2007b) that comprehensive sex education supporters are united by their pragmatic, public health-oriented concerns while holding a diversity of values surrounding sex, traditional marriage, sex outside of marriage, abortion, homosexuality, and gender roles.

Hypothesis 3: Moral values in sex and policy. (*3a*) In open-ended responses to the adolescent sex scenario, liberals will exhibit a relatively narrow moral

domain, favoring the ethics of autonomy. Moderates will exhibit a broader moral domain, utilizing ethics of autonomy, community, and divinity, but tending toward the ethics of autonomy. Conservatives will exhibit the broadest moral domain, utilizing Shweder et al.'s (1997) ethics of autonomy, community, and divinity in a more equal distribution. This is supported by past research on differences between liberals and conservatives regarding moral values related to issues of family and sexuality (Haidt & Graham, 2007; Haidt & Hersh, 2001; Jensen, 1997). (*3b*) In their open-ended responses to the pragmatically-oriented comprehensive sex education policy scenario, liberals and moderates will both express a similarly narrow moral domain predominantly utilizing Shweder et al.'s ethics of autonomy. Conservatives will continue to exhibit a broader moral domain, but will employ the ethics of autonomy more so than for the adolescent sex scenario.

Hypothesis 4: Effect of research evidence. Because they tend toward the ethics of autonomy, which encompass harm reduction, liberals will be most affected by research evidence regarding effectiveness of different approaches to sex education in their appropriateness and moral ratings of and open-ended responses to the CSE policy scenario. Conservatives, who more equally consider all three ethical clusters will be least affected by research evidence. Moderates will lie somewhere in the middle.

Method

Procedure and Participants

Approval for the study was obtained from the Committee for the Protection of Human Subjects at the University of California at Berkeley (CPHS#: 2006-11-65). Participants were graduate students from various academic schools and departments (including business & management, education, engineering, journalism, political science, public health, and public policy) at the University of California at Berkeley and Texas A&M University. These two universities and the various academic departments were selected in order to yield a full spectrum of political ideology among participants. The survey was administered via a web-based survey application (http://www.hostedsurvey.com). Participants chose to take part in the survey by clicking on a web link in a recruitment email. Participants had to click a button at the bottom of the consent page to indicate their consent to participation before continuing on to the survey. All participants who completed the survey in its entirety received a $5 Amazon.com gift certificate via email.

There were a total of 244 completed web-based surveys. Of these, twelve were removed from analysis due to responses that showed unvaried ratings, had implausible responses to participant characteristic questions (e. g., reported both having no children and having ≥1 number of children), or showed evidence that the participant had completed the survey multiple times (e.g., same full name reported, same email address, verbatim repeated responses to open-ended questions). A total of 232 (95%) participants were included in the final analysis (126 female, 106 male, median age=27, range=21 to 48 years).

Political ideology was obtained by self-report as one of five choices: *very conservative* (n=7), *conservative* (n=18), *moderate/middle-of-the-road* (n=59), *liberal* (n=102), or *very liberal* (n=46). For analysis, these were collapsed to three groups by combining the two liberal groups to *liberal* and the two conservative groups to *conservative*. Sex education preferences were obtained by self-report as one of five choices: *abstinence-only* (n=11), *comprehensive sex education* (n=192), *abstinence-omitted* (n=20), *no sex education* (n=6), *don't know* (n=3). For analysis, the *no sex education* group was collapsed into *abstinence-only* and the *abstinence-omitted* group was collapsed into the *comprehensive sex education* group.

Design

To elicit judgment ratings about adolescent sex and CSE policy, participants were asked to consider two hypothetical scenarios. The full text of these scenarios was presented in the wording as follows:

> *Adolescent Sex Scenario*: "A teenager has sexual intercourse with a peer of the opposite sex."

> *Comprehensive Sex Education Policy Scenario*: "A new policy requires schools in your state to provide teenagers age 14 and above with information about contraception and protection. This includes instruction on how to use birth control pills, condoms, and other types of protection effectively in preventing pregnancy and sexually transmitted infections."

After the presentation of each scenario, participants were asked to rate that scenario in terms of appropriateness and moral acceptability using a 7-point Likert scale ranging from 1 (*completely inappropriate/morally unacceptable*) to 7 (*completely appropriate/morally acceptable*). The full text of the rating questions is as follows:

> *Appropriateness*: "How appropriate or inappropriate do you find this [situation/policy]?
>
> *Moral Acceptability*. "How morally acceptable or unacceptable do you find this [situation/policy]?

After rating the CSE policy scenario, participants were presented with three additional pieces of information regarding the effectiveness of sex education approaches and ask to re-rate the CSE policy scenario in light of each piece of information. Each of the three conditions presented different information on hypothetical research evidence support for the effectiveness of abstinence-only and comprehensive sex education, so that abstinence-only sex education (AO), comprehensive sex education, or neither of these approaches was presented as effective. The presentation of the three conditions was randomized. The full text of these conditions is as follows:

> *Abstinence-only Effective Only:* "Imagine that we learned from a wide body of rigorous research that abstinence-only sex education substantially reduces

rates of unintended pregnancy and sexually transmitted infections while comprehensive sex education has no effect on these rates."

No evidence for CSE or AO: "Imagine that we learned from a wide body of rigorous research that neither abstinence-only sex education nor comprehensive sex education substantially reduce rates of unintended pregnancy and sexually transmitted infections."

Comprehensive Sex Education Effective Only: "Imagine that we learned from a wide body of rigorous research that comprehensive sex education substantially reduces rates of unintended pregnancy and sexually transmitted infections while abstinence-only sex education has no effect on these rates."

After providing the scenario ratings, participants were asked to enter open-ended responses to two groups of questions, with no restriction on the length of their typed responses. The full text of the two open-ended questions was presented in the wording and order as follows:

Adolescent Sex Question: "When deciding whether or not it is acceptable for a teenager to have sexual intercourse, what factors do you think are important to consider? Why are these considerations important to you?"

Comprehensive Sex Education Policy Question: "When deciding whether or not it is acceptable for teenagers to receive information and instruction about using contraception and protection, what factors do you think are important to consider? Why are these considerations important to you?"

Coding and Reliability

For both open-ended questions, each participant's responses were coded for the absence or presence of each of four codes. Three of these codes referred to Shweder et al.'s "big three" ethical clusters of autonomy, community, and divinity (Shweder et al., 1997), and the last referred to participants' mention of evidence of any kind. The four codes were not mutually exclusive and a single response to either scenario could elicit more than one code.

Ethical cluster codes. We read all participants' responses, identified common themes, and grouped these themes into categories. We used Shweder et al.'s (1997) three ethical clusters as a guide in the development of the coding scheme, but were open to creating codes that did not clearly align with Shweder el al.'s ethical clusters. Since the themes we found easily mapped onto Shweder et al.'s three ethical clusters, the three ethical clusters were used as the final coding scheme.

The *ethics of autonomy* code was applied to content that referred to autonomy and individual agency (e.g., "whether they are ready to accept the potential responsibilities", "knowledge is power"), contributing factors to the well-being adolescent participating in sexual activity (e.g., "age, maturity", "positive role models in his/her life that model respectful behavior toward sex", "understanding of STDs", "access to relevant information and materials", "quality of the instruction"), consideration of risk to the adolescent

participating in sexual activity (e.g., "use of protection", "likelihood of them having sex", "[What] if it encourages them to have sex?"), or respect for diversity (e.g., "... that recognizes the diversity of peoples, cultures, and situations").

The *ethics of community* code was applied to content that referred to the benefits and burden to society or the community (e.g., "because of the potential repercussions on society...unwanted child places greater demands on healthcare, school, and/or juvenile detention system"), respect for societal roles and social structures (e.g., "it is most appropriate for these things to be taught in the home", "sex education in public schools should be a state decision and not a federal government decision"), or respect for marriage as an institution (e.g., "it is never acceptable for someone who is not married to have sexual intercourse").

The *ethics of divinity* code was applied to content that referred to any sacred or divine order (e.g., "it comes down to not just [how] God has...designed us to function, but also what he is saying"), chastity and purity (e.g., "my feelings about family, chastity and the sacred powers of procreation"), religion (e.g., "when I consider this question for myself, my religious beliefs are the only consideration", "I'm a Christian. The Bible teaches that sex outside of marriage is wrong"). For instances where sex before marriage was stated as a consideration, the *ethics of community* was coded unless there was specific mention of religion, in which case the *ethics of divinity* was applied.

Consideration of evidence code. The consideration of evidence code was applied to content that referred to research-supported effectiveness of a certain approach (e.g., "the research is conclusive that great access to technology and information vis a vis contraception actually reduces rates of STDs and abortion"), the willingness to consider evidence or

research (e.g., "what good research shows that works", "given hard evidence to the contrary I might change my view"), the results of scientific or statistical analysis (e.g., "statistical research", "population-based evidence of efficacy in this instruction"), and the need for accurate information regarding sex education (e.g. "accurate, scientific information"). A full description of the coding scheme is included in the Appendix A.

Inter-rater reliability for the first 54% of the sample was established between two coders using Cohen's coefficient kappa. The kappa across 1,008 ratings (126 participants x 2 scenarios x 4 codes) was .92. Consensus was then achieved by discussion of any disagreements in the coded sample, and it was concluded that a single coder was sufficient. The remaining open-ended responses were then coded by one coder after this discussion.

Results

Hypothesis 1: Education Preference by Political Ideology

An alpha level of .05 was used for all statistical tests. For the overall sample, support of comprehensive sex education was 93%. We examined differences in sex education preference (abstinence-only versus comprehensive sex education) between conservatives, moderates, and liberals. As we predicted, the majority of conservatives (63%), moderates (93%), and liberals (97%) preferred comprehensive sex education over abstinence-only education. The political ideology groups differed significantly in sex education preferences ($p<.001$). Table 1 shows the distribution of sex education preferences by political ideology.

Table 1.

Sex education preferences by political ideology.

		Sex Education Preference		
		AO	CSE	Total
Political Ideology	Conservative	9	15	24
		37.5%	62.5%	
	Moderate	4	54	58
		6.9%	93.1%	
	Liberal	4	143	147
		2.7%	97.3%	
Total		17	212	229
		7.4%	92.6%	

**Three participants reported "don't know" for sex education preference and were treated as missing.*

Hypothesis 2: Policy versus sex

Repeated measures ANOVAs were performed for the appropriateness ratings and the moral acceptability ratings with political ideology as the between-subject factor (3 levels) and scenario as the within-subject factor (2 levels). Appropriateness ratings differed by political ideology [$F(2, 229)=53.5$; $p<.001$] and by scenario [$F(1, 229)=130.3$; $p<.001$]. For the appropriateness ratings, there was a political ideology gradient in ratings such that liberals had the most positive ratings of both scenarios while conservatives had the least positive ratings. Across all political ideologies, the policy scenario was rated as more appropriate than the sex scenario and the size of this difference did not differ among the political ideology groups [$F(=2, 229)=.23$; $p=.78$].

The moral acceptability ratings mirrored the appropriateness ratings, differing by political ideology [$F(2, 229)=57.5$; $p<.001$] and by scenario [$F(1, 229)=121.7$; $p<.001$] without a significant two-way interaction [$F(2, 229)=.35$; $p=.70$]. As with appropriateness

ratings, there was political ideology gradient in moral acceptability ratings such that liberals had the most positive ratings of both scenarios while conservatives had the least positive ratings. Tables 2 and 3 show the means and standard deviations for the appropriateness and moral acceptability ratings of the two scenarios by political ideology.

Table 2.

Estimated means and standard deviations of appropriateness ratings for the adolescent sex and CSE policy scenarios.

		Adolescent Sex	CSE Policy
Conservative	M	2.4	4.1
	SD	1.7	2.3
Moderate	M	3.7	5.7
	SD	1.8	1.5
Liberal	M	4.8	6.6
	SD	1.6	1.0
Total	M	4.3	6.1
	SD	1.9	1.6

*Ratings on 7-point Likert scale ranging from 1 (*completely inappropriate*) to 7 (*completely appropriate*).

Table 3.

Estimated means and standard deviations of moral acceptability ratings for the adolescent sex and CSE policy scenario.

		Adolescent Sex	CSE Policy
Conservative	M	2.3	4.1
	SD	1.6	2.1
Moderate	M	3.8	5.4
	SD	2.0	1.5
Liberal	M	5.1	6.6
	SD	1.8	.9
Total	M	4.5	6.1
	SD	2.1	1.5

*Ratings on 7-point Likert scale ranging from 1 (*morally unacceptable*) to 7 (*morally acceptable*).

Hypothesis 3: Moral values in sex and policy

We compared the frequency of expression of the three ethical cluster codes across political ideology groups for each of the two open-ended responses. Table 4 shows the numbers and percentages of each political ideology group expressing each of Shweder et al.'s three ethical clusters in open-ended responses to adolescent sex and CSE policy.

Table 4.

Percentage of each political ideology group expressing Shweder et al.'s ethical clusters of autonomy, community, and divinity in open-ended responses to adolescent sex and CSE policy.

	Shweder et. al's Ethical Clusters					
	Autonomy		Community		Divinity	
	Sex	Policy	Sex	Policy	Sex	Policy
Conservative	21	23	15	6	4	2
	84%	92%	60%	24%	16%	8%
Moderate	58	58	4	6	4	1
	98%	98%	7%	10%	7%	2%
Liberal	145	145	20	14	4	1
	98%	98%	14%	10%	3%	1%

For the adolescent sex scenario, the expression of all three ethical clusters varied across the political ideology groups (autonomy $p<.01$, community $p<.001$, divinity $p<.05$). More than 80% of each political ideology group utilized the ethics of autonomy in their open-ended responses to adolescent sex, with conservatives utilizing the ethics of autonomy less than liberals and moderates. The ethics of community was utilized less than the ethics of autonomy overall. The majority of conservatives utilized the ethics of community, while less than 15% of liberal or moderates did so. Less than 20% of each political ideology group

utilized the ethics of divinity, with conservatives having the highest utilization and liberals having the lowest utilization.

For the policy scenario, the ethics of community and divinity varied across the political ideology groups (community $p<.05$, divinity $p<.05$), while the ethics of autonomy did not ($p=.10$). More than 90% of each political ideology group utilized the ethics of autonomy in their open-ended responses to CSE policy, while less than 25% of utilized the ethics of community. The differences in utilization of the autonomy ethical cluster in the sex scenario disappear in the policy scenario, mainly seen in changes within the conservative ideology group. A smaller percentage of conservatives utilized the ethics of community in the policy scenario compared to the sex scenario, but this was still a greater percentage than both liberals and moderates. Less than 10% of all political ideology groups utilized the ethics of divinity, with conservatives utilizing the ethics of divinity more than liberals and moderates. Each political ideology group had a smaller percentage expressing the ethics of divinity in the policy scenario compared to the sex scenario.

Hypothesis 4: Effect of research evidence

Repeated measures ANOVAs were performed to analyze the appropriateness and the moral acceptability ratings of CSE policy under the three conditions of hypothetical research evidence, with research evidence condition as the within-subject factor (3 levels) and political ideology as the between-subject factor (3 levels). For the appropriateness and the moral acceptability ratings, political ideology, research evidence condition, and their interaction all were significant. The effect of the interaction between research evidence condition and ideology was significant for both the appropriateness rating [$F(4, 458)=21.4$,

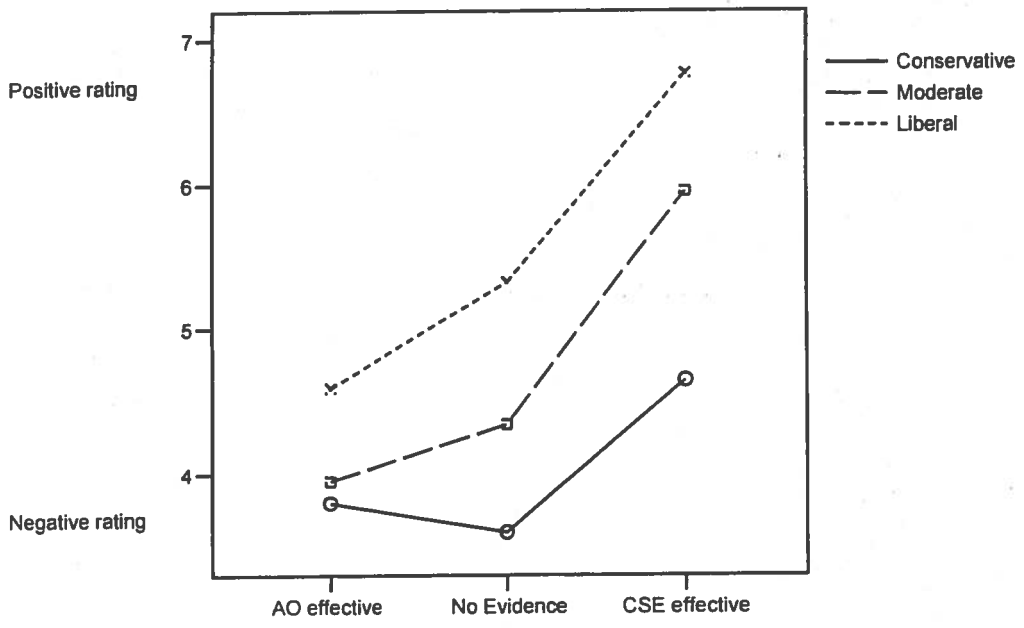
$p<.05$] and the moral acceptability rating [$F(4, 458)=23.2$, $p<.01$]. The effect of research evidence condition was also significant for both the appropriateness rating [$F(2, 458)=223.8$, $p<.001$] and the moral acceptability rating [$F(2, 458)=83.7$, $p<.001$]. Finally, the effect of political ideology was significant for both the appropriateness rating [$F(2,229)=17.0$, $p<.001$] and the moral acceptability rating [$F(2,229)=26.6$, $p<.001$]. Figures 1 and 2 plot the means of the appropriateness ratings and moral acceptability ratings, respectively, by research evidence condition and political ideology.

For each political ideology group, the appropriateness and moral acceptability ratings of CSE policy show differing trends when varying research evidence was provided. The liberal ideology group showed consistent increasing appropriateness and moral acceptability ratings as evidence changed from AO effective evidence to no evidence to CSE effective evidence. The moderate ideology group also showed increasing appropriateness ratings as evidence changed from AO effective evidence to no evidence to CSE effective evidence, but less consistently. The moderate ideology group's moral acceptability ratings were similar in the two cases where CSE was not supported and increased only when given evidence that CSE was effective. The conservative ideology group was most distinct in the patterns of their ratings. In their appropriateness ratings, approval for CSE policy was the lowest when no evidence was given and notably increased in when CSE effective evidence was given. In their moral acceptability ratings, however, approval for CSE changed very little across the three types of evidence. When CSE effective evidence was given, conservatives' appropriateness ratings of CSE policy were higher than their moral acceptability ratings of CSE policy. Overall, the liberals were most positive in their ratings of CSE policy, conservatives were least positive, and moderates fell somewhere in between.

Finally, we compared the percentages of participants in each political ideology group expressing evidence consideration in open-ended responses regarding CSE policy. The percentage of participants expressing consideration for evidence did not differ between the political ideology groups (p=.75). Less than 30% of each political ideology group expressed consideration of evidence.

Figure 1.

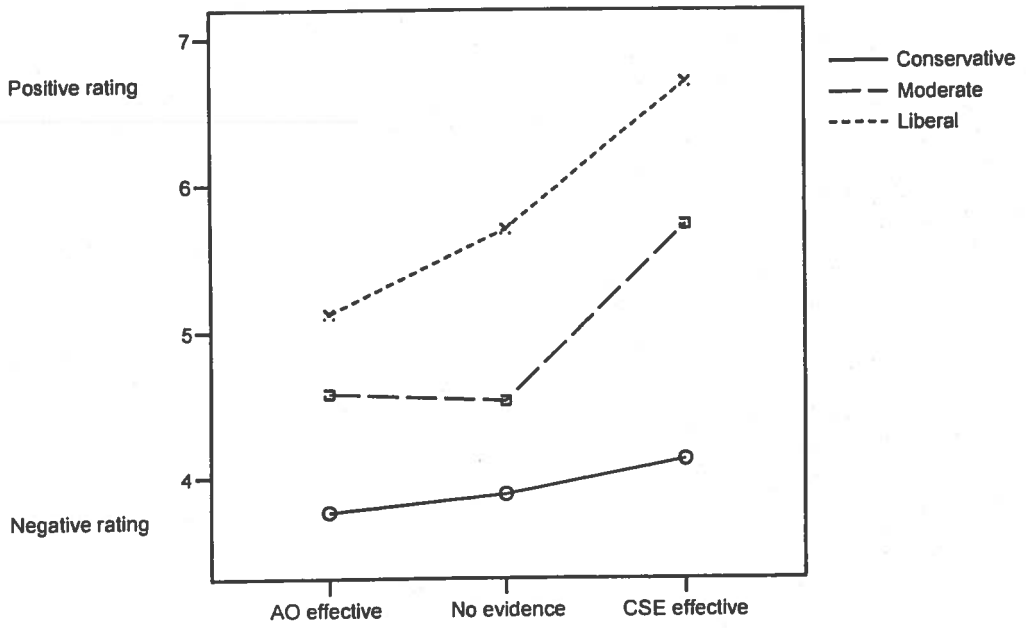
Estimated means of appropriateness ratings by research evidence condition and by political ideology.



*Ratings on 7-point Likert scale ranging from 1 (*completely inappropriate*) to 7 (*completely appropriate*).

Figure 2.

Estimated means of moral acceptability ratings by research evidence condition and by political ideology.



*Ratings on 7-point Likert scale ranging from 1 (*morally unacceptable*) to 7 (*morally acceptable*).

Discussion

Support for Comprehensive Sex Education Policy.

We found majority support for comprehensive sex education, overall and within each political ideology group. While 90% of both moderate and liberal groups showed support for CSE, a considerably small percentage of conservatives (63%) did the same. Although the number of participants identifying as conservative in the sample was only

twenty-five, the patterns of CSE support found across political ideology groups in this study are similar to those seen in previous studies (Bleakley et al., 2006; Constantine et al., 2007a).

Though there was majority support for comprehensive sex education, there were still differences in the levels of approval of adolescent sex and sex education across the spectrum from conservative to liberal ideology. Ratings of both the appropriateness and the moral acceptability of CSE policy showed a gradient from liberal to moderate to conservative groups that is more linear than what self-reported preferences on sex education would suggest. This suggests that people's levels of acceptance or moral approval of CSE might not entirely predict what policy positions on sex education they would take when asked to pick from one of several discrete policy options. For example, people might have reservations about the appropriateness of a CSE curriculum for their children, but when asked to choose between a CSE curriculum and an abstinence-only curriculum, they would support the former. The results of this study suggest that this is especially true for the ideologically moderate. While moderates' ratings of CSE, moral or otherwise, fell directly between the liberal and conservative ratings, their ultimate policy positions tended to be pro-CSE to the same extent as liberals. This provides some support for the theory that moderates maintain a range of values, some which may be closer to those held by conservatives, while holding pragmatic policy positions akin to those held by liberals.

These findings support the hypothesis that the public debates over adolescent sex education do not continue because of a true dispute across a large portion of the public. Rather, the debate might indeed be fueled by small, vocal minorities who hold morally absolutist rather than morally pragmatic viewpoints on adolescent sex and sex education (Constantine, 2007; Constantine et al., 2007a).

Judgments in Context

There were large differences in the participants' responses to the adolescent sex scenario compared to the comprehensive sex education policy scenario, which were seen in the ratings as well as the open-ended responses. Overall, ratings were more positive for the policy scenario compared to the sex scenario for both appropriateness and moral acceptability ratings to a similar extent for all political ideologies. This suggests that, regardless of baseline ratings or political leaning, participants were more approving of policy related to issues of sex education than of the act of adolescent sex itself, even though their consideration of policy was anchored to their views on sexually active adolescents.

A possible explanation for this is that when queried about a hypothetical situation in which adolescents have sex, people might be more likely to orient toward their moral intuitions and emotional reactions to the thought of the act, which might encompass their moral disapproval of teenage pregnancy, sexually transmitted disease, violation of chastity and purity, or sex outside of marriage. When people are queried about a hypothetical policy scenario, they might be less likely to orient toward emotions and intuitions relating to teenage sexual activity and more likely to orient toward public policy concepts such as safety, effectiveness, cost and benefit, and feasibility. This is supported by findings in the open-ended responses: in comparison to the sex scenario, the policy scenario yielded fewer responses coded under the ethics of divinity for all political ideology groups, fewer or similar number of responses coded under the ethics of community, and more responses coded under the ethics of autonomy.

One key anxiety that adults have about sex education is that providing adolescents with information about condoms will encourage them to have sex. Depending on the

context in which the sex education issue is presented, this anxiety can be brought onto center stage or remain in the backdrop. One implication of the findings of this study is that although people carry with them certain intuitions and emotions that might influence their policy position-taking, the effects of such intuitions and emotions can vary depending on the context in which the issue is presented. It is not often clarified when talking about sex education policy whether the debate is over the conditions under which adolescent sex should or should not take place or the type of policy that should govern the sex education of adolescents. For better or for worse, people's expressed opinions on adolescent sex education appear to some extent to be subject to manipulation by the way the issue is framed.

Ideological Differences in Evidence Use

This study was designed with two judgment measures, appropriateness and moral acceptability, in order to examine how people's pragmatic views of adolescent sex education policy differ from their moral views. The appropriateness rating was intended to measure participants' general acceptability of a particular scenario, while moral acceptability rating was intended to focus judgment toward what participants' consider to be moral aspect of the issue; thus, the appropriateness rating was taking as a measure of participants' pragmatic considerations, while the moral acceptability was taken as a measure of participants' moral considerations. For the ratings of the two scenarios, appropriateness and moral acceptability ratings were highly correlated, but this was not the case for the ratings of the three research evidence conditions.

The results suggest that pragmatic judgments of CSE policy for all political ideology groups are similarly sensitive to evidence, while moral judgments are not. For liberals, moderates, and conservatives, pragmatic judgments of CSE policy were responsive to evidence in support of CSE and more positive in the absence of evidence for either forms of sex education than when the evidence supported AO policy. It is unclear why conservatives' pragmatic judgment of CSE policy is lowest in the condition where neither form of sex education is supported. Such results need to be replicated with a sample containing a greater number of conservative participants before we can speculate about their implications.

In contrast to pragmatic judgments, moral judgments of CSE policy varied in their sensitivity to evidence for the three political ideology groups. For liberals and moderates, moral judgments of CSE policy were responsive to evidence in support of CSE. On the other hand, the moral judgments of CSE policy for conservatives were unresponsive to evidence compared to the other two political ideology groups.

These findings suggest that pragmatic judgments and moral judgments are not the same, at least not under certain contextual circumstances for certain groups. For liberals, pragmatic judgments and moral judgments were similarly influenced by evidence, which suggests that their moral considerations of sex education policy encompass the same domains as their pragmatic considerations of policy. Both types of judgments reflect the baseline preference for CSE in liberals. On the other end of the spectrum, conservatives showed sensitivity to evidence in their pragmatic consideration of CSE policy, but little willingness to compromise within the moral domain. This indicates that, for conservatives, the factors under consideration for the pragmatic judgment of CSE policy differ from those under consideration for moral judgment. Overall, these results support the idea that the

moral domain encompasses something different for different political ideologies while the pragmatic domain is more closely agree upon.

In contrast to the quantitative findings, the open-ended responses showed no significant differences among the political ideology groups in their consideration of evidence when self-reporting about on their reasoning about CSE policy. Although less than 30% of each political ideology group made mention of evidence or effectiveness in their consideration of CSE policy, all three political ideology groups voiced their consideration of evidence to similar extents. This suggests that people to some extent feel compelled to incorporate research evidence into their justifications for their preferences regardless of how such evidence actually affects their policy judgments, and that this is true regardless of political ideology. Thus, when people engage in debate over sex education, their incorporation of research evidence into argumentation is not necessarily an indication of how such evidence influenced the formation of their policy position, consciously or otherwise.

Ideological Differences in Moral Considerations

While previous studies have found that conservatives and liberals differed in their utilization of the ethics of autonomy and divinity (Haidt & Graham, 2007; Haidt & Hersh, 2001; Jensen, 1997), this study found that this was not the case for the issues of adolescent sex and sex education. All three political ideology groups had high utilization of the ethics of autonomy, with over 80% of all groups expressing this ethical cluster in both scenarios. In both scenarios, conservatives were dualistic in their use of the autonomy and community ethical clusters, but in the policy scenario they expressed similar levels of the three ethical

clusters as liberals and moderates. Overall, the study did replicate previous research findings that conservatives generally employ a more pluralistic set of moral considerations (Haidt & Graham, 2007; Haidt & Hersh, 2001), although this set included the ethics of community to a much greater extent than the ethics of divinity. This departure from previous findings may be a result of differences in the sample population between this study and previous studies or a result of the particular policy issue being studied.

A notable finding from the open-ended responses was the difference in the conservatives' utilization of the ethics of community between the two scenarios. A greater percentage of conservatives utilized the ethics of community compared to liberals and moderates, and this was much more pronounced in the adolescent sex scenario than it was in the policy scenario. On the other hand, the percentage of conservatives who utilized the ethics of autonomy was higher in the policy scenario compared to the adolescent sex scenario. These results suggest that differences in moral values regarding sexuality between conservatives and the other two political ideology groups are context-dependent: many conservatives hold values falling within the ethics of community regarding the idea of adolescent sex, but when they are oriented toward the more pragmatic issue of policy governing issues of adolescent sex education, they appear more likely to value the same set of moral goods as liberals and moderates.

This also provides a potential explanation for conservatives' lack of responsiveness to research evidence in the moral domain regarding CSE policy. Conservative's moral judgments of CSE policy might be more grounded in their views on adolescent sex, which draw upon values that fall into the ethics of community. However, when asked to make

pragmatic judgments on CSE policy, they focus more on the ethics of autonomy and less on the ethics of community, which primes them to be more sensitive to research evidence.

The results of the open-ended responses indicated that moderates and liberals are very similar in their expression of moral considerations in making judgments about both adolescent sex and sex education policy. In contrast to the findings from the scenario ratings, this does not support the theory that moderates are distinct from other political ideology groups in that they hold a range of values from traditional to liberal while remaining pragmatic when it comes to policy.

Contrary to expectation, conservatives did not focus on divinity to an appreciable extent. Although, a greater percentage of conservatives than moderates or liberals utilized the ethics of divinity in both scenarios, the percentage of each political ideology group expressing the ethics of divinity was less than 15% in both scenarios. Unlike other family policy issues such as abortion or homosexuality, judgments about issues of adolescent sex and sex education appear to infrequently employ the ethics of divinity. Instead, the main group of ethics in conflict is the community cluster, which encompasses, in this case, consideration and value of marriage, the environment of sex education, and consequences to the greater society.

The overwhelmingly high utilization of the ethics of autonomy compared to that of the ethics of community and divinity suggests that when it comes to adolescent sex and sex education, most people are concerned with issues relating to the adolescent as an individual, such as individual health and safety, age and maturity, and need for information. Issues relating to societal burden or benefit, marriage, and religious values play less important, supporting roles when people reason about adolescent sex education policy.

Limitations

This study has several limitations. The study was conducted in a convenience population of graduate students who are mostly young adults. Although recruitment aimed for a balanced sample of political identification by recruiting from different academic departments at both the University of California Berkeley and Texas A&M University, the sample of this study was composed mainly of those who self-identified as liberals with far fewer conservatives. Furthermore, it is likely that moral values vary not only by political ideology but also by age and social relationship to the issues of adolescent sex education. Because a great portion of advocates, activists, and policy influentials in adolescent sex education policy is made up of parents, educators, and politicians, who tend to be older in age than the participants of this study, the results of this study might not accurately reflect the behavior and beliefs of those actually involved in the adolescent sex education policy debates. Future studies should oversample for those who identify as politically conservative. Additionally, future studies should aim to examine the roles of moral values and evidence consideration populations more socially and politically invested in the issues of adolescent sex education policy, such as parents or policy advocates.

Another limitation of this study is that it is unclear how the concepts of "moral acceptability" and "appropriateness" were interpreted by the participants. The two concepts were chosen to examine differences in pragmatic versus moral judgments. However, it is likely that "moral acceptability" and "appropriateness" encompass overlapping realms of individuals' judgments, such that moral considerations contribute to individuals' appropriateness ratings and pragmatic considerations contribute to individuals' moral

acceptability ratings. Though it may be impossible to separate these two concepts completely, the differences between the appropriateness versus moral ratings found in the results of this study suggest that these two concepts are interpreted by individuals to be different on some level. The analysis assumes that moral ratings focused the participants toward whatever they consider to be moral beyond what is included their judgment of appropriateness.

Additionally, there might be some violation of the ANOVA normal distribution assumption for the rating scale dependent variables, as the rating distributions were negatively skewed. Yet because the ratings were elicited on a seven-point Likert scale, there were no outliers and thus significance tests were not likely to be highly distorted.

Finally, the hypothetical policy scenario employed was framed in terms of comprehensive sex education policy rather than abstinence-only education policy. This was chosen because instruction on contraception and protection from unintended pregnancy and STDs is the disputed difference between CSE and AO approaches. However, it is possible that conservatives' moral judgments were insensitive to evidence as a result of the scenario having CSE policy as the target. Since moderates and liberals both support CSE more widely than conservatives, it is possible that their sensitivity to positive evidence for CSE was partly a factor of the evidence being congruent to their prior beliefs and preferences in sex education. It would be interesting for future research to explore such research conditions under the premise of abstinence-only education policy to elucidate whether the stability of moral opinion is a quality of conservative ideology or whether it is result of the type of policy being judged. One interpretation of these results is that individuals' opinions about adolescent sex education policy are amenable to change with exposure to research

evidence, though it remains unclear from this study to what extent such information interacts with the prior beliefs and preferences.

Implications

In the context of other social policy debates taking place in U.S., the alleged debate over adolescent sex education is hardly a debate at all. When given a choice between discrete policy options (abstinence-only and comprehensive sex education), the majority of all political ideology groups support inclusion of instruction on contraception and protection from unintended pregnancy and STDs as a part of adolescent sex education. However, the extent of agreement in this regard does not accurately reflect the diversity of values and moral considerations on the subject of adolescent sex. Consideration of adolescent sexual activity necessarily underlies considerations of adolescent sex education, even though it not often articulated as such. This study suggests that although there is variation in people's sexual morality, views on sex education policy do not uniformly coincide with varying sexual morality for different political ideology groups. Those who hold more traditional values with regards to sex, marriage, and family should not be assumed to be abstinence-only education supporters, and those who support sex education that includes information on condoms are not solely those are who have liberal views toward sex.

The findings of this study suggest that the continued policy debates over sex education do not arise from a real divide in sex education preferences nor do they result from absolute differences in moral values among political ideology groups. Instead, the

debates might result from different understandings of the terms of argument among adherents to different political ideologies. Understandings of what is considered relevant to the moral domain can differ between individuals and between groups. Issues of autonomy, harm reduction, and individual health and safety comprise a large portion of most individuals' moral domains with regards to the sex education issue. On the other hand, issues of community, marriage as an institution, and societal consequences are actively expressed mainly by conservatives when considering more provocative aspects of the sex education issue, such as the act of adolescent sex. When individuals engage in policy debate on this issue, they may fail to examine their assumptions about the terms of argument. Are they arguing about whether or not adolescents are suited for sexual activity and the implications of this for their sex education? Are they arguing about adolescents rights to information and empowerment? Or are they arguing about what research evidence supports on solely the grounds of public health and individual safety?

Those vocal in the policy debate would be well-advised to examine personal values, interests, and beliefs that contribute to their policy positions on sex education, including affective responses experienced when faced with the subject of adolescent sexual activity and sex education. This is especially important when engaging in debate over sex education, where social pressures and personal motivations to defend one's position can cloud one's sense of the sources of their arguments and justifications. In addition, the media can help tear down the façade of a public debate by changing its approach the discussion of the topic. Adolescent sex education is a nuanced topic and there are many diverse perspectives on the issue; accordingly, media should represent these complexities in the discourse on sex education, rather than continue to politicize it as a two-sided issue. Perhaps the most

important point to be taken from this study is that although individuals can disagree on various aspects of adolescent sex education policy on moral grounds, this does not preclude public agreement on what makes rational and acceptable public policy from a pragmatic perspective.

References Cited

Bleakley, A., Hennessy, M., & Fishbein, M. (2006). Public opinion on sex education in US schools. *Archives of Pediatrics & Adolescent Medicine, 160*(11), 1151-1156.

Chaiken, S., & Trope, Y. (1999). *Dual-process theories in social psychology.* New York: The Guilford Press.

Chen, S., & Chaiken, S. (1999). The heuristic-systematic model in its broader context. In S. Chaiken & Y. Trope (Eds.), *Dual-process theories in social psychology* (pp. 73-96). New York: The Guilford Press.

Chen, S., Duckworth, K., & Chaiken, S. (1999). Motivated heuristic and systematic processing. *Psychological Inquiry, 10*(1), 44-49.

Constantine, N. A. (2007). Book review of [*When sex goes to school: Warring views on sex and sex education since the sixties.*]. *Sex Education, 7*, 441-445.

Constantine, N. A., Jerman, P., & Huang, A. X. (2007a). California parents' preferences and beliefs on school-based sexuality education policy. *Perspectives in Sexual and Reproductive Health, 39*(3), 167-175.

Constantine, N. A., Jerman, P., & Huang, A. X. (2007b). Evidence-b(i)ased policy deliberation: A motivated reasoning framework with applications to the sex education debates, *29th Annual Association for Public Policy Analysis and Management Research Conference.* Washington, DC.

Cushman, F., Young, L., & Hauser, M. D. (2006). The role of conscious reasoning and intuition in moral judgment: Testing the three principles of harm. *Psychological Science, 17*(12), 1082-1089.

Damasio, A. (1994). *Descartes' error: Emotion, reason, and the human brain.* New York: Penguin Books.

Davis, N. J., & Robinson, R. V. (1996). Are the rumors of the war exaggerated? Religious orthodoxy and moral progressivism in America. *The American Journal of Sociology, 102*(3), 756-787.

Eisenberg, M. E., Bernat, D. H., Bearinger, L. H., & Resnick, M. D. (2008). Support for comprehensive sexuality education: Perspectives from parents of school-age youth. *Journal of Adolescent Health, 42*, 352-359.

Elliott, S. (2007). Book review of [*When sex goes to school: Warring view on sex and sex education since the sixties.*]. *Gender & Society, 21*, 608-610.

Evans, J. S. B. T. (1984). Heuristic and analytic processes in reasoning. *British Journal of Psychology, 75*, 451-468.

Evans, J. S. B. T. (2003). In two minds: Dual-process accounts of reasoning. *Trends in Cognitive Sciences, 7*(10), 454-459.

García, A. E. V., & Ostrosky-Solís, F. (2006). From morality to moral emotions. *International Journal of Psychology, 41*(5), 348-354.

Greene, J., & Haidt, J. (2002). How (and where) does moral judgment work? *Trends in Cognitive Sciences, 6*(12), 517-523.

Greene, J., Nystrom, L. E., Engell, A. D., Darley, J. M., & Cohen, J. D. (2004). The neural bases of cognitive conflict and control in moral judgment. *Neuron, 44*, 389–400.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review, 108*(4), 814-834.

Haidt, J., & Bjorklund, F. (2007). Social intuitionists answer six questions about moral psychology. In W. Sinnott-Armstrong (Ed.), *Moral psychology, Volume 2: The cognitive science of morality: Intuition and diversity* (Vol. 2). Cambridge, MA: The MIT Press.

Haidt, J., & Graham, J. (2007). When morality opposes justice: Conservatives have moral intuitions that liberals may not recognize. *Social Justice Research.*

Haidt, J., & Hersh, M. A. (2001). Sexual morality: The cultures and emotions of conservatives and liberals. *Journal of Applied Social Psychology, 31*(1), 191-221.

Haidt, J., & Joseph, C. (in press). The moral mind: How five sets of innate intuitions guide the development of many culture-specific virtues, and perhaps even modules. In P. Carruthers, S. Laurence & S. Stich (Eds.), *The innate mind* (Vol. 3).

Haidt, J., Koller, S. H., & Dias, M. G. (1993). Affect, culture, and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology, 65*(4), 613-628.

Haidt, J., Rozin, P., McCauley, C., & Imada, S. (1997). Body, psyche, and culture: The relationship between disgust and morality. *Psychology & Developing Societies, 9*(1), 107-131.

Hauser, M. D. (2006). *Moral minds: How nature designed our universal sense of right and wrong.* New York: HarperCollins Publishers.

Hunter, J. D. (1991). *Culture wars: The struggle to define America.* New York: Basic Books.

Irvine, J. (2002). *Talk about sex: The battles over sex education in the United States.* Berkeley, CA: University of California Press.

Irvine, J. (2006). A conservative in liberal's clothing: Book review of [*When sex goes to school: Warring view on sex and sex education since the sixties.*]. *Women's Review of Books, 23*(6), 10-12.

Ito, K. E., Gizlice, Z., Owen-O'Dowd, J., Foust, E., Leone, P. A., & Miller, W. C. (2006). Parent opinion of sexuality education in a state with mandated abstinence education: does policy match parental preference? *Journal of Adolescent Health, 39*(5), 634-641.

Jensen, L. A. (1997). Culture wars: American moral divisions across the adult lifespan. *Journal of Adult Development, 4*(2), 107-121.

Kahneman, D. (2003). A perspective on judgment and choice: Mapping bounded rationality. *American Psychologist, 58*(9), 697-720.

Lord, C. G., Ross, L., & Lepper, M. R. (1979). Biased assimilation and attitude polarization: the effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology, 37*(11), 2098-2109.

Luker, K. (2006). *When sex goes to school: Warring views on sex and sex education since the sixties* (1st ed.). New York: W.W. Norton & Company.

Maio, G. R., & Olson, J. M. (1998). Values as truisms: Evidence and implications. *Journal of Personality and Social Psychology, 74*(2), 294-311.

Maternal and Child Health Bureau. (1997). *Application guidance for the abstinence education provision of the 1996 Welfare Law.* Rockville, MD: Maternal and Child Health Bureau.

National Guidelines Task Force. (2004). Guidelines for comprehensive sex education: Kindergarten through 12th grade (3rd ed.): Sexuality Information and Education Council of the United States.

National Public Radio, Kaiser Family Foundation, & Kennedy School of Government. (2004). Sex education in America: General public/parents survey.

Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review, 84*(3), 231-259.

Pizarro, D. A., & Bloom, P. (2003). The intelligence of the moral intuitions: Comment on Haidt (2001). *Psychological Review, 110*(1), 193-196.

Pizarro, D. A., Uhlmann, E., & Bloom, P. (2003). Causal deviance and the attribution of moral responsibility. *Journal of Experimental Social Psychology, 39*(6), 653-660.

Saltzstein, H. D., & Kasachkoff, T. (2004). Haidt's moral intuitionist theory: A psychological and philosphical critique. *Review of General Psychology, 8*(4), 273-282.

Shulevitz, J. (2006). Teach your children well: Book review of [*When sex goes to school: Warring view on sex and sex education since the sixties.*], *The New York Times*. New York City.

Shweder, R. A., & Haidt, J. (1993). The future of moral psychology: Truth, intuition, and the pluralist way. *Psychological Science, 4*(6), 360-365.

Shweder, R. A., & Haidt, J. (2000). The cultural psychology of the emotions: Ancient and new. In M. Lewis & J. M. Haviland-Jones (Eds.), *Handbook of emotions, 2nd Edition* (pp. 397-414). New York: The Guilford Press.

Shweder, R. A., Much, N. C., Mahapatra, M., & Park, L. (1997). The "big three" of morality (autonomy, community, divinity) and the "big three" explanations of suffering. In A. M. Brandt & P. Rozin (Eds.), *Morality and health* (pp. 119-169). New York: Routledge.

Sloman, S. A. (2002). Two systems of reasoning. In T. Gilovich, D. Griffin & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 379-396). Cambridge: Cambridge University Press.

Slovic, P., Finucane, M., Peters, E., & MacGregor, D. G. (2002). The affect heuristic. In T. Gilovich, D. Griffin & D. Kahneman (Eds.), *Heuristics and biases: The psychology of intuitive judgment* (pp. 397-420). Cambridge: Cambridge University Press.

Smith, E. R., & DeCoster, J. (2000). Dual-process models in social and cognitive psychology: conceptual integration and link to underlyikng memory systems. *Personality and Social Psychology Review, 4*(2), 108-131.

Stanovich, K. E., & West, R. F. (2000). Individual differences in reasoning: Implications for the rationality debate? *Behavioral and Brain Sciences, 23*, 645-726.

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual Review of Psychology, 58*, 345-372.

Weiss, C. H. (1980). *Social science research and decision-making.* New York: Columbia University Press.

Weiss, C. H. (1983). Ideology, interests, and information: the basis of policy positions. In D. Callahan & B. Jennings (Eds.), *Ethics, the social sciences, and policy analysis* (pp. 213-245). New York: Plenum Publishing.

Weiss, C. H. (1991). Policy research: data, ideas, or arguments? In P. Wagner, C. H. Weiss, B. Wittrock & H. Wollman (Eds.), *Social sciences and modern states: National experiences and theoretical crossroads* (pp. 307-332). Cambridge: Cambridge University Press.

Weiss, C. H. (1995). The four "I's" of school reform: How interests, ideology, information, and institution affect teachers and principals. *Harvard Educational Review, 65*(4), 571-592.

Zajonc, R. B. (1980). Feeling and thinking: Preference need no inferences. *American Psychologist, 35*(2), 151-175.

Appendix A. Coding Scheme

Autonomy

1. **autonomy**
    a. responsibility, accountability for consequences
    b. recognition of individual's agency in decision for sex or knowledge use in protection
    c. right to information, should have information
    d. human rights
2. **harm, life outcomes, well-being, care**
    a. risk of contraception failure
    b. consequences-std, pregnancy, health, future
    c. promote health and well-being
    d. age, maturity level, emotional development
    e. relationship status/quality/commitment level
    f. partner characteristics
    g. support from parents, teachers, spirituality
    h. ability to support child (without mention of impact on society)
    i. sake of healthy marriage/relationship in future
    j. detract from education, future ambition, goals
3. **cost/benefits**
    a. likelihood of having sex, sex inevitable
    b. whether or not info will make a difference

c. quality of information, sources, educators availability and usage of info/condoms

d. research, beliefs on effectiveness

e. mistrust of quality of education system

4. **respect diversity**

a. cultural/environmental appropriateness

b. respect for diversity/differences in communities

c. varying needs of different communities/regions

d. depends on religion/beliefs/culture of teen

e. not to "put off" people

Community

1. **ingroup**

a. morals/religion/values of family, community (as opposed to those of the individual)

b. burden on family/friends/state (including ability to support child)

c. "social consequences"

d. future of society/community

e. family/social responsibility

f. feasibility/ease of public policy implementation

2. **hierarchy**

a. "family background"

b. "level of society they are from"

c. sex education is the role of a specific group parents/state/teachers

d. respect for parental consent and authority

e. school's purpose is academic, not sex education

f. whether they are married (without reference to individual consequences resulting from marriageor to religion)

g. sex should take place within marriage (excluding the goal of a *healthy* relationship or marriage; if mentioned in conjunction with religion, code as divinity)

h. value marriage as an institution

i. emphasizing gender roles or power distribution among gender, without reference to need for equality or rights

Divinity

1. **sacred order**

   a. sacredness of procreation

   b. respect for the "act itself", "sex as a gift"

   c. God (relation to anything)

   d. "religion" (without references to consequence for individual or society)

2. **chastity**

   a. chastity, resisting momentary pleasure (unless used to talk about health outcomes)

3. **purity**

    a. teen sex/condom education promotes "promiscuity"

    b. slippery slope to other sexually wrong acts

Consideration of Evidence

1. **Mention of evidence or effectiveness**

    a. Remarks effectiveness of "if something works"

    b. Expresses openness/willingness to change mind in face of new evidence/research

    c. Pays heed to scientific, statistical info

    d. Accurate, unbiased, factual information