

CHAPTER 1

INTRODUCTION

College is a time during which many students meet and grapple with issues of adulthood for the first time away from the context of family of origin. Designed for intellectual development, college courses may also address moral development in such areas as logic, ethics, and behavior. A course in human sexuality dispenses information, yet also challenges students' attitudes and asks them to consider the wide range of human cultural expectations for sexuality, as well as their personal behavior and choices. Students have diverse backgrounds, assumptions, levels of knowledge, and extent of experience. Instructors must offer a challenging yet not overwhelming educational experience to influence the formation of attitudes that respect diverse cultural expectations and responsible individual choices.

The purpose of this research was to examine the reactions of college students taking a human sexuality course, their attitudes toward specific topics of human sexuality, attitude change from the beginning to the end of the semester, and student level of moral development (Magolda, 1987; Magolda & Porterfield, 1985; Perry, 1970). Four specific topics in the domain of human sexual experience were considered: gender, sexual orientation, sex education, and sexual coercion. Attitude and attitude change during the semester course was measured by pre- and post-semester attitude surveys and end-of-class comments. Moral development is related to attitude research because sexuality attitude stability and change "triggers issues of rights and responsibilities in relationships and sexual situations, as well as issues of care to self and of partners" (Jadack, Hyde, Moore, & Keller, 1995, p. 167).

The sample for this research was drawn from the population of a human sexuality course offered at a Southeastern land grant university. Hypotheses were constructed regarding ranges of attitudes, the degree and direction of attitude change over the semester, level of moral development, and the impact of demographic characteristics and typical attitude influence factors on attitude scores and attitude change.

Development is a pattern of growth into a more complex form or system through a process of differentiation and reintegration of previous simpler forms. Moral development during the transition from adolescence to adulthood occurs as a shift from the accumulated social and moral knowledge of childhood to the more complex experiential knowledge of adulthood. Adolescents differentiate from their families and integrate real-life dilemmas with abstract beliefs of authoritative others (Gilligan, 1982; Gilligan & Attanucci, 1988; Gilligan, Murphy, & Tappan, 1990; Murphy & Gilligan, 1980). Both the content and the form of knowledge are affected (Perry, 1970) as the basis of moral reasoning changes from received knowledge to a dialectic of competing demands of care and justice (Gilligan et al., 1990).

College students, as a population in transition from late adolescence to young adulthood, are pressured to grapple with serious behavioral consequences of ongoing current choices. Past assumptions may no longer be adequate to meet the more complex demands of adult decision contexts. Attitudes about issues of sexuality were socially constructed within contexts of family, peers, and the larger culture. These attitudes are likely to be challenged in life as well as in this class.

Influences on attitudes include past experience with the issue and commitment to one's opinion. Attitudes may predict future behavior; however, research shows that past behavior is the primary predictor of future behavior (Eiser, 1994; Petty & Krosnick, 1995). A complex schema developed over time by experience, thoughtfulness, and committed decision-making behaviors will predict future behavior better than a novel or simplistic schema attending to immediate factors extraneous to the issue. Extraneous factors include highly variable aspects of the individual, the thinking context, and the message. Individuals who are able and motivated to consider a message of persuasion seriously are more likely to react in an objective manner, differentiate between high and low quality arguments presented in a message, and ignore factors peripheral to the message and issue (Petty & Krosnick, 1995).

Issues of gender discrimination and role expectations, sexual orientation, sex education, and sexual coercion are areas that challenge developing adults. These areas are topics of interest in a college course on human sexuality, presenting an opportunity to influence the formation of attitudes that respect diverse cultural expectations and individual choice.

CHAPTER 2

LITERATURE REVIEW

Social Construction of Knowledge

Social constructionism is a perspective on reality and meaning that embeds human ideas and activity in cultures of place and time. Social reality and symbolic meaning do not exist separately from human activity but are created by that activity. Sociohistorical context and the process by which behaviors are formed and understood, described, explained, and otherwise accounted for within that context are the focus of social constructionist inquiry (Gergen, 1985).

In the domain of human sexuality, the social construction of attitudes and values is critical to individual choices and behavior. For example, Thompson (1993) conceptualized gender as socially constructed:

Gender constructs emerge from and are enacted in the interactions of daily life.

Gender constructs vary across cultures and historical time. In every culture, however, gender is embedded in ideology and related to disadvantage, stratification, and hierarchy. (p. 558)

Public debate concerning issues of sexual orientation, sex education, and sexual coercion are also embedded in cultural expectations and judgment.

Gergen (1985) described four assumptions of social constructionism. First, language used to describe reality is already constrained by taken-for-granted beliefs about what reality is. Critiques of concepts like gender and emotion reveal their identifying criteria to be highly variable by culture and context. The symbolic system of language contains the cues and conventions for performance expectations in a particular place and time. Second, social and cultural meaning is situated in the time and space of interaction, not in the objects of description. Nature does not drive understanding, but understanding "is the result of an active, cooperative enterprise of persons in relationship" (p. 267). Third, social relationships sustain understanding separately from actual conduct. How a person or group defines or interprets an act constrains and gives meaning to how self and others expect and react to the observed behavior. Fourth, negotiated descriptions and definitions are not mere words but constitute social action, inviting certain behaviors and limiting others.

Language is the driving force in the social construction of reality and as such exists as shared activities of conversation, communication, and story-telling. It is through these language processes that narratives of meaning are built. Institutional meanings gain the character of mythic knowledge and the daily dilemmas of living are played out as approximations of how to live perfectly. Attitudes are an indication of the collective judgment being negotiated at a given place and time.

Educators realize that the nature of meaning in "real life learning is intrinsically entangled with situations" (Brown, 1994, p. 6) rather than an abstract exercise of cognition. People learn through social construction — in context, in application, and in relationship with others. Educators (Bonwell & Eison, 1991; Brown, 1994) have found that classroom learning requires engaging students in an active process of knowledge construction, specifically, starting with what they already understand and building on it,

incorporating new understandings with "strategies such as questioning, clarifying, and summarizing to help them monitor their progress" (Brown, 1994; p. 6).

The human sexuality classroom learning environment, therefore, provided an opportunity to discuss contradictory experiences and encouraged a meaning-making process. Students reconsidered their own constructions of reality amid social and intellectual interaction with classmates.

The learning context of a college course on human sexuality is designed to engage students in active dialogue with others about attitudes concerning core values and moral reasoning related to issues of human sexuality. Stability and change of students' attitudes depend on the flexibility of their current narratives related to issues of gender and sexuality, and their willingness to participate in the process of learning.

College students are in transition from adolescence to adulthood as they differentiate their personal values from parental values and experience adult real-life dilemmas. Human sexuality is one key context for the value challenges and moral decisions of real life dilemmas.

Moral Development from Adolescence into Adulthood

Theorists describe moral development as a continuum of bases for knowing and deciding what is right. Kohlberg (1990) characterized moral development as six stages of justice reasoning progressing from egoistic to socially shared principles, culminating in late adolescence in a rational and universal value perspective. This progression follows Piaget's (1958) theory of cognitive development, which culminates in formal operations thinking. Gilligan and others (Gilligan, 1982; Gilligan & Attanucci, 1988; Gilligan et al., 1990; Murphy & Gilligan, 1980), however, charged that culmination in justice reasoning was inadequate to explain resolution of dilemmas involving demands of care and emotional connection in adult relationships. Actual dilemmas of daily life are not easily resolved by universalizable principles.

Schaie (1977) pointed out that adolescents need to acquire experience and awareness of multiple perspectives in order to explore the possibilities in life fully. The detached perspectives of relativity and rational logic enhance freedom to explore, but are temporary perspectives prior to adopting commitments of adulthood.

Pressures of logic and emotion eventually force adolescents and young adults to delete, reject, prioritize, or encompass competing aspects of life dilemmas. Transformations in moral thinking occur as more complex situations resist rational answers and individuals cope with dilemmas of care and connection inherent in human social relationships (Gilligan et al., 1990). These contradictions of care and justice are socially constructed, and open debate encourages consideration of multiple moral viewpoints (Baber & Allen, 1992; Thompson, 1991).

Perry (1970) postulated that moral development in adolescence and early adulthood progresses from a dualistic right or wrong way of knowing, to a relativistic view that all ways are equally right. Through a process of differentiation, dualisms of universal rights and wrongs give way to a situation morality of difference and relative rightness. As life decisions are made in realms of work and relationship, however, commitment to specific choices occurs, and a socially constructed context for self develops. Eventually, a reintegrative transformation occurs as the young adult commits to personal moral standards within a context of relativity (Perry, 1970). Alternatives to progression include temporizing, a temporary pause in growth; retreat, returning to more simplistic ways of thinking to control emotional challenges; and escape, avoiding responsibility by passive delegation to fate or submersion in activity without thoughtful consideration of choices (Magolda & Porterfield, 1988; Perry, 1970). Successful progression from a simple to a

more complex value system eventually enables individuals both to construct their own morality and accept as moral the presence of those who otherwise would be marginalized by claims of universal moral rightness (Gilligan et al., 1990).

Assumptions of right and wrong are challenged by dilemmas with no easy or obvious solutions. Ideas of justice and contracts (Kohlberg, 1963) among people become interpenetrated by responsibilities of care and emotional connections in human relationships (Gilligan et al., 1990; Labouvie-Vief, 1980; Murphy & Gilligan, 1980). Contradictions of justice and care in relationships with others invite transformation to a dialectic conceptualization of moral reasoning (Riegel, 1976) that incorporates both justice and care along with the tension between them (Gilligan et al., 1990; Murphy & Gilligan, 1980). A social construction framework provides a conceptual context for meaning-making about interpenetration of care and justice as adolescents interact with intimate others and the larger society.

In the social construction of reality, shared activities of conversation, communication, and story-telling allow institutional meanings to gain the character of mythic knowledge. Ongoing narratives of meaning are constructed, challenged, and revised. The daily dilemmas of living are played out as approximations of ideas about how to live perfectly. In a social construction framework, the universalized justice thinking of the purely rational person no longer exists. There is no such person and no such thinking. Justice is situated in sociohistorical contexts and negotiated through processes of human interaction and relationship, not outside them (Gergen, 1982; Gergen, 1985). In the transformation process of moral development, young adults begin to comprehend a location for self within diverse meanings. The college environment is a setting for this activity.

Attitude Theory

Attitude is socially constructed knowledge, rooted in cultural narratives developed and shared among others to make sense of the world (Gergen, 1985; Hoffman, 1990). Attitude emerges from the sociohistorical context (Hareven, 1987) of the attitude holder's experience of and location in intersections of gender, race, class, ethnicity, and sexual orientation (Baber & Allen, 1992; Collins, 1990; Komter, 1989).

Attitude historically has been studied as a property lying within the person, a voice of evaluation or judgment to the external world. Social psychology researchers studied the interplay between social structure and the individual's attitudes and behavior (George, 1990). As early as 1928 Thurstone described the attitude continuum of favorable-unfavorable and recognized the cultural embeddedness of attitudes by elaborating on the importance of issue selection and manner of presentation of these issues (Eiser, 1994). Increasingly over the past 20 years, the formation and maintenance of attitude is understood to be a complex, dynamic process reflecting the rhythms of the social context (Eiser, 1994). A particular attitude is not simply a property of the individual, but an act of being part of a shared and relational world. Just as a word alone has no meaning, an attitude does not exist alone, but develops in and impinges on the cultural narrative (Gergen, 1994, July).

This understanding of the cultural context of attitude development is important to understanding the process of attitude stability and change in a postmodern world. Communication barriers have dropped. No longer consisting of relatively insular communities with relatively stable narratives elucidating expected attitudes and behaviors, the world has exploded into multiple and competing narratives over the second half of the 20th century (Gergen, 1985; White, 1991).

Research of attitude phenomena provides understanding about how evaluative narratives, or attitude conversations, create the values of the communities in which people

live. Social movements acting to defend and preserve particular interests sometimes define themselves in terms objectifying and rejecting otherness. White (1991) proposed instead a political environment that not only tolerates and protects diversity of evaluative narratives, but actively fosters and supports diversity as an answer to "the question of how to act and yet remain attentive to otherness" (p. 98). Research on college student attitudes in a context of teaching and learning is an opportunity both to understand students' evaluation of their own attitudes and to participate in the active construction of an enlightened and responsible community.

Sexuality Attitudes

Attitudes about sexuality are constructed from earliest family of origin experiences and reinforced in the wider culture. Contradictions of conflict and cooperation appear in issues of power and gender regulation (Glenn, 1987; Osmond & Thorne, 1993). These issues and the contradictions they inspire are the context in which a basic sense of body integrity and social identity are developed. Interactions with family members create a powerful emotional field in which ideas about sexuality are forged (Schnarch, 1991).

Historical and cultural context of community—people, institutions, and the wider culture—engage and refine family-derived expectations of social and sexual norms. Choices are opening up, especially for women. Education, economic opportunity, and the feminist movement have challenged gender stratification and women's relegation to the less visible private sphere (Lopata, 1993). Sexual scripts across cohorts have changed as women's sexual lives become more complex and autonomous, less dependent on marriage and male financial support. Sexuality and reproduction have been separated, enabling women to have more control over their sexual and reproductive lives. Differences among people are more respected than feared, and similarities of gender, race, ethnicity, and sexual orientation are bridges to mutual support rather than divisions between groups (Baber & Allen, 1992).

At the same time that diversity among people is more respected, a homogenization of culture is occurring. The increasingly pervasive mass media—television, radio, movies, and Internet—influences developing ethics and morals. For example, media sources emphasize protection of oneself from sexually transmitted disease. This way of thinking, although positive from a health care perspective, limits consideration of protection of partner or of larger social or public health issues. Moral reasoning is restricted to personal harm.

Although the ideology of two spheres, public and private, is losing ground (Lopata, 1993), other processes are occurring subtly to disempower individuals within the modern state (White, 1991). Family and immediate community influences have been challenged by the intrusiveness of potentially toxic, and at the very least confusing, messages about sexuality and sexual norms over the past 25 years (Garbarino, 1995). The mass media deluge of sexualized identity messages to adolescents, particularly girls, is of major concern to therapists (Pipher, 1994) and families (Elkind, 1981; Gordon & Gordon, 1989) who are interested in "providing women with the personal resources to build complex social life spaces" (Lopata, 1993, p. 185). Public awareness of sexuality research increasingly is dominated by the "sex sells" message of print and electronic media. Sensational sexuality has become central to political and economic interests. Sex education that could meet the needs of the ordinary child, adolescent, and adult gets lost in political controversy (Tiefer, 1994).

Researchers in sexuality echo the concerns of family researchers and have reported that attitudes about sexuality have been affected by "the larger issues of identity and rights raised by the massive social changes in work, family, and gender" (Tiefer, 1994, p. 365). Sexuality exists in issues of family and child development, aging, and family therapy, yet it

has been marginalized as an academic interest mainly because sexuality research has been dominated by scholars whose primary disciplines are not sexology (Tiefer, 1994). The political and academic base for sexology has been diffuse. Sexuality research has increasingly been split between psychosocial critiques, largely feminist, and medical pathology approaches. Tiefer (1994) argued that feminist and cultural critiques have raised important questions that sexologists must address. He protested the elevation of biological sexuality outside of personal and social context.

Assumptions regarding gender, sexual orientation, sex education, and sexual coercion have been challenged and redefined over the past 50 years. On the one hand, diversity and respect for individual lives and choices have been enhanced. On the other hand, pressures for competing universal standards are trumpeted from church pulpits and rock videos. College students struggle with these competing pressures as they question and define their emerging personal value systems. This research is a window on that struggle.

Topics in Human Sexuality

College students are in transition from adolescence to adulthood. Adolescent differentiation from parental values and experience of adult real-life dilemmas are reflected in these four topic areas, each of which contain multiple opportunities to explore an emerging value system: gender, sexual orientation, sex education, and sexual coercion. Each of these topics is pertinent to the day-to-day experience of the college undergraduate community, contains multiple opportunities to explore the dialectics of justice and care, reflects a range of ideas in the college population, and is an area for conceptual elaboration during a course on human sexuality.

Gender is a socially constructed cluster of social and sexual behavior expectations. Many college students are just beginning to challenge traditional or media assumptions about their own gender expectations and those of peers and others with whom they work or live.

Sexual orientation refers to the sex of one's partner, "to whom one is attracted, about whom one fantasizes, and with whom one falls in love" (Baber & Allen, 1992, p. 70). College students may have a clear idea of whether they are attracted to same-sex or opposite-sex partners, however, some may experience a mixture of attraction, fantasy, and love that may shift over time. The social construction of sexual orientation is particularly salient regarding social, economic, and political ramifications of compulsory heterosexuality. The resulting stratification of power and limited access to heterosexual privileges, such as family health insurance, is often noticed only by those negatively affected. Awareness of these complexities of privilege varies with willingness and ability to tolerate and appreciate difference.

Sex education occurs in most state-supported school systems in varying degrees of comprehensiveness in grades kindergarten through high school. Greydanus, Pratt, and Dannison (1995) and Croft and Asmussen (1992) reported that the large majority of parents, teachers, and students increasingly want comprehensive sexuality education in the schools. Media exposure of children to impersonal, extramarital, and exploitive sexuality is epidemic and most parents and children are uncomfortable talking about responsible sexuality (Garbarino, 1995; Ward, 1995). Debate, meanwhile, continues on what to teach, how much to teach, and when to start teaching it. Restrictions in the name of parental and religious rights often result in children not obtaining any or very limited sexuality education (Croft & Asmussen, 1992; Kaeser, 1994).

Sexual coercion is the "dark side of courtship" (Lloyd, 1991, p. 14) and is the extreme end on a continuum of stereotyped gender behaviors and "paradoxical gender injunctions ... that can explode in violence" (Goldner, Penn, Sheinberg, & Walker, 1990, p. 343). Women are socialized to maintain relationships and men to maintain control

(Lloyd, 1991), and stereotypes of female dependence and male independence often match the relationship experience socially constructed in the family, at school, and in the media (Walker, Rowe, & Quinsey, 1993). Themes of relationship responsibility and control play out in extreme situations to encourage women to stay in abusive relationships and men to use force to control the relationship (Lloyd, 1991).

Attitudes of college students regarding these four topics are constructed out of their experience of family and culture, as well as their exposure to novel or more complex rationales in the college environment. A college course on human sexuality specifically addresses these topics.

Elaboration Likelihood Model

By taking a social construction perspective, this research effort investigated not only the attitudes of students, but also the interactional context of attitude expression and potential influences on attitude change or stability. The Elaboration Likelihood Model (ELM), a social psychology conceptual model of social influence, was incorporated in an attempt to make explicit the varying influences on the interactional context. ELM has received empirical support in laboratory and clinical studies (Gilbert, Heesacker, & Gannon, 1991; Petty, Cacioppo, & Heesacker, 1984). The model is organized around the idea that multiple factors can enhance or detract from the likelihood of relevant and complex thinking about an issue.

Ability and motivation to engage in attitude challenging activities may depend more specifically on the participant's ability or motivation to consider the issues involved, engage in higher order thought processes, and evaluate previously held attitudes. Attitude measures may reflect the strength of an individual's commitment to a particular set of values (Petty & Krosnick, 1995); however, a numeric attitude score may be shared by several individuals and reflect a different schema, or pattern, of meaning. In addition, an attitude change over time may occur for superficial reasons or as the result of considerable effort with resulting differences in persistence over time, resistance to persuasion, and impact on behavior (Petty & Krosnick, 1995). For example, the ability to engage in effortful thought may be affected by the student's presence or absence in class that day or by the need for cognition, a personal inclination to consider most issues in a thoughtful manner or not (Cacioppo & Petty, 1982). Motivation to engage in effortful thought may be biased by commitment to a particular value scheme, or may be mitigated by a lack of personal involvement in the issue. An intense personal experience may initiate reexamination of values and result in a stronger commitment to previously held values or result in questioning or rejection of those values (Petty & Cacioppo, 1984; Petty & Cacioppo, 1986; Petty et al., 1984; Petty & Krosnick, 1995).

Elaboration ranges from minimal thought to a thorough exploration of ideas with integration of a new and more complex conceptual schema. Likelihood of elaboration is the extent, considering motivation and ability, to which a person can think about issue-relevant information or arguments, attend to a message, access relevant internal and external information, scrutinize arguments, make inferences in light of other information, draw conclusions based on merits of analyses, and derive an overall evaluation of the issue or recommendation. If elaboration likelihood is high, then considerable cognitive effort is expended, including new arguments, translations, and integration of these into existing frameworks of belief. A high degree of elaboration may be considered more objective than a lower degree of elaboration, but also may be biased to the extent that the thinking is influenced by a strong initial set of beliefs.

Central route processing. The model is structured in a continuum of elaboration likelihood based in central and peripheral route thought processing. The ability and motivation to apply objective thoughtful consideration to relevant arguments contributes to

central route processing. Ability consists of message comprehension, inattention to external distractions, and the message recipient's application of existing issue-relevant information. Motivation consists of conscious intentions and goals; level of personal relevance; forewarning of attempt at persuasion; and message recipient's thinking habits, such as need for cognition, which is a personality-based inclination to consider relevant issues on any topic carefully. Objective processing infers an ability and motivation to set aside previously formed attitudes long enough to consider all relevant arguments.

Central route criteria applied in this study involved the following: (a) the opportunity and ability to consider the issue by attending class; (b) motivation to consider the issue as measured by low to moderate strength of initial commitment to one's opinion indicated in analysis of the end-of-class comments; and (c) favorability of resulting thoughts about the issue, as evidenced by positive or neutral reaction to the class presentation of the topic issues.

Peripheral route processing. Peripheral route thinking occurs when factors interfere with student ability to concentrate or motivation to consider the issues, or when factors encourage biased thinking (Petty et al., 1984; Petty, Haugtvedt, & Smith, 1995). Peripheral route criteria applied in this study involved the following: (a) lack of opportunity to consider issues, that is, did not attend class; (b) lack of motivation to consider issues as reflected by a high strength of initial commitment to one's opinion; (c) negative reaction to class activity or to the manner of topic presentation; or (d) attention to and elaboration about peripheral cues rather than relevant issues and the message at hand.

Biased processing. Positive cognitive bias enhances favorable thoughts, reduces negative thoughts, and results in greater attention to supportive arguments. Negative cognitive bias enhances negative thoughts, reduces favorable thoughts, and results in greater attention to arguments distracting or tangential to the message presented in class. Low elaboration likelihood differs from negative bias, in that with low elaboration there is little consideration of any part of an argument, favorable or not (Petty & Cacioppo, 1986).

Hypotheses

Influence of Moral Development on Attitudes

Attitude scale scores measured students' acceptance of diversity in the four specified areas of human sexuality. For example, the Sexual Orientation scale includes the item "I am (would be) comfortable working with a gay or lesbian individual of my own sex" with zero as "uncomfortable" and 100 as "comfortable."

Moral development scores measured students' consideration of a topic on a continuum from simplistic to complex. For example, moral development in the area of sexual orientation was scored as to how the class presentation panel members were viewed: as (a) one-dimensional other or undifferentiated exactly the same, either of which stances deny the individuality of the person; (b) human too, just different preference, minimizing the cultural context; (c) both tolerance of difference and appreciation of similarities among individuals and their experience; or (d) appreciation of diversity and its reward for all, .e.g., "we can learn from them."

In hypothesis 1 I predicted that attitude mean scale scores for each of the four topics—gender, sexual orientation, sex education, and sexual coercion—would differ between levels of moral development. In addition, I predicted that these differences would show a linear trend in a positive direction.

Influence of Classroom Experience on Attitudes

The design and presentation of the course material was directed at increasing students' appreciation of diversity and their ability to consider complexities of human

sexuality experience. I predicted that attitudes in each of the four topics would change in the direction of increased appreciation of diversity and complexity of experience, showing significant and positive difference scores between early and late semester measures. I also predicted that the degree of increase would differ by level of moral development, as students with a higher appreciation for the complexity of the issues would be more likely to change in attitude in the direction of a higher attitude score.

Hypothesis 2: Attitudes (a) will change in a positive direction from early to late in the semester, and (b) the degree of change will differ by level of moral development.

Comparison of Moral Development with Cognitive Effort

Cognitive effort in attending to the message of the class presentation is different from moral development. Moral development is reflected in capacity to consider the complexity of issues. Cognitive effort is willingness to attend to a particular message and consider it thoughtfully. I predicted that those who are more issue- and message-oriented are also more attuned to the complexities of the issues, as shown by a higher moral development score. The cognitive effort values are categorical and describe the comment as (1) irrelevant to issue, (2) within own prior issue schema, (3) message relevant, or (4) issue and message relevant.

Hypothesis 3: Cognitive effort relevant to the class message and issue will be associated with level of moral development.

Influence of Cognitive Effort on Attitudes

Cognitive effort is the ability of the student to attend to the message regarding the issues at hand without being distracted by peripheral topics or ignoring the message and simply reiterating a previously held schema. I predicted that attitudes at the beginning and end of the semester and the attitude difference scores would vary by whether the participant's end-of-class comment was (1) irrelevant to the message, (2) concentrated on a previously held schema, (3) addressed the message presented in class, or (4) addressed the message and elaborated on the topic issues. Direction of variation was not relevant as the values are categorical in nature.

In addition, the end-of-class comments were coded for other ELM-derived variables: the presence of distractions; report of repetitive exposure to the topic, that is, previous classes or discussions; favorability toward the class presentation; and degree of perspective taking in the gender end-of-class comment. Distractions were coded (1) for whether there was any indication of attention to an event or concern other than the class presentation, for example, behavior of other students, concern about absences, or tangential commentary completely off the topic; or (2) for no indication of distraction. Repetitive exposure was coded for (1) no mention of previous exposure, (2) novelty of topic, (3) some prior consideration mentioned by the participant or inferred by the researcher, (4) consideration prior exposure to the topic and issues involved, or (5) overload to the point of being sick of hearing about the topic. It was expected that these construct's scores would also show variance among the attitude scores.

Hypothesis 4: Attitudes at the beginning and end of the semester and degree of attitude change from beginning to end of the semester will differ by level of cognitive effort directed at the class message.

Comparison of Multimedia Treatment Difference Scores with Semester Difference Scores

Participants answered the attitude items on a total of four occasions. In the early semester multimedia computer survey session, they answered the questions (Time 1), viewed some 2-minute videos and answered some reflective questions about each video's content, and then answered the attitude questions again (Time 2). At the end of the semester

the entire process was repeated to obtain Time 3 and Time 4 attitude results. Semester attitude change was assumed to be reflected in the Time 1 scores, prior to any exposure to the topics in class or the survey videos, and Time 3, after the class semester but prior to the second video exposure. The videos were designed to prompt thinking about the topic and attitude issues. I predicted that the videos could prompt some reconsideration of attitude, reflected in attitude change from Time 1 to Time 2, or Time 3 to Time 4, but that the semester course would prompt significantly more thinking and reconsideration of attitude and that this increased possibility for attitude change would be reflected in a greater difference in attitude scores from Time 1 to Time 3 than in the differences in attitude scores for the individual multimedia sessions, from Time 1 to Time 2 and from Time 3 to Time 4.

Hypothesis 5: Attitude change over the semester will be larger than attitude change over the individual multimedia sessions.

Attitude Variability Across Human Sexuality Topics

Human sexuality is a topic that encompasses a wide range of concerns about human behavior, ethics, emotions, legal codes, health, intergenerational relationships, cultural expectations, and many more. People do not have a single attitude on human sexuality itself, but tend to hold opinions on specific topics within the domain of human sexuality and these opinions may be more or less consistent or patterned (Patton & Mannison, 1995). The four topics in human sexuality selected for this research were gender, sexual orientation, sex education, and sexual coercion. Although the attitude scale scores of 0 to 100 reflected a range of increasing respect for diversity among people, cultures, and individual choice, the pattern and range of scores were expected to vary among the topics. A particular score in one topic was not expected to predict a highly similar score in the other three topics. For this reason, it was not expected that an overall human sexuality attitude score could be calculated.

Hypothesis 6: Attitude score patterns and degree of attitude change will vary across the four topics of gender, sexual orientation, sex education, and sexual coercion.

Influence of Commitment to One's Opinion on Attitude Change

Strength of commitment to attitude is expected to influence the persistence of an attitude over time, the resistance to messages or efforts to change the attitude, and the ability to predict future behavior from current attitude (Petty, Haugtvedt, & Smith, 1995). In a schema derived from the ELM, end-of-class comments were coded for expressions of commitment or uncertainty about one's opinion, ranging from (1) no mention, (2) unsure of opinion and open to new ideas, (3) previous certainty but willingness to entertain new ideas, or (4) previous certainty that continues into the present.

In addition, the end-of-class comments were coded for other ELM derived variables: the presence of report of life experience involving the topic, report of or inference of affect level, and the degree of personally felt relevance to the topic. Life experience was coded as (1) no mention of any life experience, (2) abstract experience through media or literature, (3) knowledge of the personal experience of another person, or (4) one's own personal experience. Affect level was coded as (none apparent, (2) low, (3) medium, or (4) high. Personal relevance of the topic was coded as (1) none apparent, (2) disclaimer of personal relevance or identification as relevant only to others, (3) hypothetical relevance, (4) personally felt anticipation of relevance, and (5) personally felt historical relevance. It was expected that these construct's scores would also show variance among the attitude scores.

Hypothesis 7: Attitudes of individuals indicating strong commitment to their opinion in the end-of-class comment will change less over the semester than those indicating a lack of strong commitment to their opinion.

CHAPTER 3

METHOD

Sampling

College students attending a large southeastern land-grant university and enrolled in either of two sections of a single semester human sexuality course volunteered for participation in an attitude survey. They were then asked for permission to use their class writings for further analysis. Those who opted both to complete the attitude survey and to allow their comments to be used were the participants in this study. Participants were dropped from the study if they appeared to have misunderstood the survey instructions by answering all attitude items as either 0 or 100 instead of along the continuum of 0 to 100. Attitude responses were dropped if the participant was not in attendance at the class session for that topic as no comment was provided for analysis.

College Course in Human Sexuality

The course was designed to encourage consideration of cultural, physiological, and relationship issues of human sexuality. Competing or different frames of reference or opinion were presented to encourage understanding of the diversity of human sexuality in both behavior and meaning. The instructors considered the primary goals of the course to be expanded awareness of issues and greater toleration for diversity. Students wrote comments in response to class presentations to promote active reflection.

The class on gender centered on the social construction of gender expectations. Definitions of the difference among the concepts sex, role, identity, orientation, and stereotype were augmented by a provocative video showing the results of male and female testers applying for a job, negotiating an automobile purchase, pricing dry cleaning fees, and scheduling a tee time (Nelson, 1993). The students were asked to write (a) stereotypes aimed at their own sex, (b) their reaction to the video, and (c) what their reaction might have been if they were the opposite sex.

The class on sexual orientation was entirely conducted by volunteers from the campus Lesbian, Gay, Bisexual Association (L. B. G. A.). Panel members each talked briefly about their experience and accepted questions from the class. Students were asked to write a reaction to the panel presentation and note anything new they learned.

The class on sex education involved childhood and adolescent sexual development and issues of sex education at different ages and among different cultures. Students were asked to write about the topics they would emphasize in a middle school sex education program.

The class on sexual coercion emphasized a definition of sexual activity consent in different contexts. Stories of experiences encountered by the instructor and several video segments were presented: an interview with a man who as a boy had been raped by other boys (1991), a television broadcast reporting the aftermath of a bar gang rape (Osha, 1996, April 9), scenarios of date rape (Fisher, Sperling, & Bolling, 1989), and a presentation on the connection between some popular music videos and attitudes about rape (Jhally, 1995). Students were asked to comment on their experience of the lecture and note anything new they learned.

Data Collection

Class Comments

Comments written by students at the end of four separate class sessions corresponding to the four selected topics were collected, transcribed, and coded by me for variables reflecting cognitive effort and commitment to one's opinion.

Demographic Data

Information was collected during the attitude survey on student demographic background and included participant's sex, age, major, current and permanent residence, romantic relationship status, family demographics during adolescence, religious and ethnic background, sources of information regarding sexuality, and influences on values regarding sexuality. Attitude differences can correspond to sex differences. The difference is thought to be related to socio-cultural sensitivities and power vulnerabilities rather than a biological difference (Hare-Mustin & Maracek, 1990). Attitude changes can occur with age and the correspondence of moral development with chronological development is of interest in this population. A student's major will influence whether issues of diversity and responsibility, such as those addressed in the human sexuality class, will get addressed in other courses taken by the student. Living independently will influence moral development and attitudes as the student engages in more real life situations on her own. Residence and romantic relationship status are examples of independent living for students. Family structure during adolescence and religious and ethnic background can reflect family and cultural influences on students. Finally, sources of information about sexuality and influences on values regarding sexuality are important in understanding what the student sees as important prior to the human sexuality course.

A complete listing of the demographic items and response choices is in Appendix A. These independent variables were compared to attitude scores and comment analysis to determine associations among demographic group membership or attributes and the attitudes and comment characteristics.

Attitude Survey

An attitude survey was designed to elicit student attitudes about gender, sexual orientation, sex education, and sexual coercion. The survey was administered via a modular multimedia computer program and accessed by students at several locations around campus. The multimedia survey instrument was developed collaboratively by me and two researchers in instructional design. The instrument designers developed demographic questions, truthfulness items, and items regarding participants' response to the survey instrument itself (Hergert, 1997). The human sexuality items were based on my review of the human sexuality literature.

Survey administration occurred at the beginning of the semester and was repeated at the end of the semester. The 24-item survey was offered twice in each administration, once at the beginning of the multimedia program and again after the participant viewed some vignettes and answered questions reflecting on the attitudes portrayed in the scenarios. The 24 attitude items were, therefore, administered four times: Time 1 and Time 2 early in the semester, Time 3 and Time 4 late in the semester. Time 1 and Time 3 were selected as indicators of semester change for the purposes of this research, which focused on the effects of the semester course, rather than the effects of the multimedia survey format (Time 1 to Time 2 and Time 3 to Time 4).

The multimedia computer interaction consisted of a series of modules: a brief demographic section; a 24-item attitude survey; five 2-minute video vignettes and reflective question modules; a repeat of the 24-item survey; a detailed demographic section; and open-ended requests for student reactions to the media interaction and the survey. Attitude and vignette item presentation occurred in random order within each module with a single item presented at a time. Participants used a mouse-operated slider to record a reply on a scale

from 0 to 100, with 0 indicating one extreme of attitude and 100 another. For each item, the participant had a choice of a substantive answer on the 0 to 100 scale or the option to not respond for one of 4 reasons: (a) Don't understand, (b) Topic is offensive, (c) Have no opinion, and (d) Insufficient knowledge. A choice not to respond was considered missing data.

Each audio-visual module consisted of a 2-minute film followed by five to eight questions about the events and ideas shown in the film. Video vignettes addressed the likelihood of answering questions about sexuality truthfully, and presented scenes related to gender, sexual orientation, sex education, and sexual coercion. Specific attitude items and module descriptions are in Appendix B.

Confidentiality

The computer program requested each participant's student identification number and randomly assigned a 4-digit number to each response set at the time of the computer session. The 4-digit numbers and the participant's student identification number were stored in a separate file for checking assignment completion and for consolidation of the data sets at the end of the semester. Course instructors knew only if a student was participating in the study for grading purposes and did not have access to the study data during the semester. A separate 3-digit number was assigned to each participant for the compiled computer survey data sets and the text analysis data.

Investigators Hergert and Galway took responsibility for ensuring that no identifying information existed beyond the single master list of names and randomly assigned identification codes. Quotations and references to specific individuals made during the open-ended answers or written text were screened and edited to delete identifying information from the final data set.

Attitude Scale Development

The six attitude items for each of the four topics were analyzed for internal consistency. The final four scales used in the analysis were created by deleting items that did not contribute to scale reliability as measured by Cronbach's Alpha (see Table 1). The sexual orientation scale had low but adequate reliability. The sex education, gender, and sexual coercion scales had questionable reliability. Any future use of this survey instrument should include revision and test administration of all scale items to insure improved reliability.

Table 1
Attitude Scale Reliability

Scale	Number of Items	Cronbach's Alpha	
		Time 1	Time 3
Gender	4	.38	.31
Orientation	5	.72	.74
Education	4	.59	.66
Coercion	4	.45	.50

Text Analysis

Each comment from the four pertinent class sessions was analyzed for moral development, cognitive effort, and commitment to one's opinion (Petty & Cacioppo, 1986; Petty et al., 1984; Petty & Krosnick, 1995). Absence of a comment indicated absence from the class on that day and was scored zero. Coding schema were developed from the research on attitudes developed over the past 20 years (Petty & Cacioppo, 1986; Petty et al., 1984; Petty & Krosnick, 1995). Once the construct was defined from the available research, each was refined to reflect specific characteristics of the four human sexuality topics. For example, favorability to the presentation was generally defined as negative, neutral, or positive. A negative reaction to the gender class presentation included a critique of the video rather than the issues it raised, but a negative reaction to the sex education class presentation included an insistence that abstinence was the only permissible topic for middle school sex education. Practice scoring by myself and volunteers refined the criteria. Final scoring was done by myself and another instructor. Three students with only one available comment out of the four possible comments were dropped from the study.

Self-reported influences included attending to a distraction, life experience, repeated exposure to the topic or class material, and favorable or unfavorable attitude toward the presentation. Researcher-inferred influences included moral development level, affect intensity, commitment to one's opinion, sense of personal relevance, and cognitive effort. Moral development was analyzed and coded on a scale of simplistic to complex. Cognitive effort was evaluated for each comment and further analysis noted the presence of influences enhancing or detracting from cognitive effort: distraction, repetitive exposure to the topic or class presentation materials, favorability toward the presentation, and perspective-taking. Commitment to one's opinion was also evaluated, with further analysis of influences strengthening or weakening the commitment: life experience, affect, and sense of personal relevance.

Moral Development

The identification of criteria to evaluate level of moral development was based in Perry's and Gilligan's descriptions of higher moral development as a dialectic of abstract knowledge and lived experience (Gilligan et al., 1990; Perry, 1970). Perry concentrated on the college-age population and Gilligan described intellectual development as continuing past the abstract reasoning of late adolescence described by Kohlberg (1969) to a more complex reasoning that included the uncertainties and dilemmas of lived experience. Both Perry's and Gilligan's conceptualizations described higher forms of reasoning about moral dilemmas as normally containing logical uncertainty and subjective tension and including awareness of diverse opinions and experiences. These ideas formed the bases for development of criteria for scoring moral development in each topic area (see Tables 2 through 5). An average score was calculated based on the number of comments the student provided.