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Conceptualizing and Measuring a Rights-Based Approach to Sexuality Education

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Conceptualizing and Measuring a Rights-Based Approach to Sexuality Education

by

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Abstract

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For more than a century, the question of how adolescents should be taught about their emerging sexuality and sexual health has been debated in schools, within communities, and across the public sphere. Today, most efforts to provide formal sexuality education fall under two models: abstinence-only programs, which promote the benefits of restraint from sexual activity, or abstinence-plus programs, which encourage abstinence and offer lessons on safer sexual practices. The lack of consistent, compelling evidence for these widely used approaches has reinforced the need, among some leaders in the field, to reconsider the paradigm as a whole. They advocate for a shift from a narrow emphasis on reducing the risks of adolescent sexual activity toward a positive, holistic emphasis on the healthy sexual development of young people. The term "rights-based" has become increasingly linked to this concept of a more comprehensive approach to sexuality education.

Discussions of a rights-based approach to sexuality education have become increasingly common in both international and U.S. contexts over the past decade. Among a small but growing group of program developers, funders, health educators, and scholars, the idea of addressing contextual factors such as gender norms, power differentials, and sexual rights within sexuality education has gained enthusiastic backing. While preliminary evidence from basic science and theoretical guidance lend support to this interest, there is little direct evidence for concluding that that this new approach is preferable to existing models. This dissertation was developed to offer a critical exploration of this new paradigm for sexuality education.

In the first paper, "A Rights-Based Approach to Sexuality Education: Conceptualization, Clarification and Challenges," I present a conceptual definition for a rights-based approach to sexuality education that is consistent with and gives structure for understanding the guidelines, curricula, research, and theory that have been cited as informing the approach. Based on in-depth qualitative interviews with experts, I propose a rights-based approach as the intersection of four elements: 1) an underlying principle guiding the provision of sexuality education to

youth as holders of sexual rights and responsibilities; 2) an expansion of programmatic goals beyond reducing unintended pregnancy and sexually transmitted infections; 3) a broadening of curriculum content to include issues such as gender norms, sexual orientation, sexual expression and pleasure, violence, and individual rights and responsibilities in relationships; and 4) a participatory teaching strategy that engages youth in critical thinking about their sexuality and sexual choices.

In the second and third papers, I focus on one construct – adolescents' underlying attitudes about their sexual rights in relationships – of particular importance for the development, implementation, and evaluation of future rights-based sexuality education programs. In "Adolescents' Attitudes about Rights in Sexual Relationships: Measure Development and Psychometric Assessment," I describe the development of self-report survey measures that address adolescents' attitudes about their rights in steady and casual sexual relationships, and assess their psychometric properties using both classical test theory (CTT) and item response modeling (IRM) approaches. The final measures show evidence of psychometric soundness, including reliability and validity, which encourages their use in both epidemiological studies of adolescent sexual behavior and evaluations of rights-based sexuality education programs.

In the third paper, "Understanding Adolescents' Attitudes about Rights in Sexual Relationships," I examine how adolescents' attitudes about their sexual relationship rights vary by demographic and behavioral characteristics, in contexts with a steady or casual sexual partner, and across the different dimensions of sexual relationship rights. Adolescents report strong support for sexual relationship rights across complex hypothetical situations, with some notable differences by individual characteristics and relationship contexts. I also investigate a theorized causal connection between attitudes about their sexual relationship rights and communication with sexual partners using a series of regression models. These analyses support a causal relationship between attitudes about rights to express sexual engagement needs and partner communication, net of plausible alternative explanations and partially mediated by comfort communicating with sexual partners. In contrast, there was no evidence to support an association between adolescents' attitudes about their rights to refuse sexual activity or rights to establish relationship autonomy and their communication with sexual partners.

As a whole, this dissertation provides a critical examination of the rights-based approach to sexuality education, asking research questions not previously addressed in the literature and suggesting a number of avenues for future sexual health promotion efforts.

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It is difficult to confine my gratitude to a page or two; my appreciation runs longer than this dissertation.

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TABLE OF CONTENTS

INTRODUCTION

For more than a century, the teaching of sexuality education has been formalized in schools and community settings across the United States (Goldfarb, 2009; Luker, 2006; Moran, 1996). While the content has changed greatly and the specifics hotly debated, the intention has long focused on providing a foundation of knowledge and values for the next generation. While many definitions of sexuality education exist in the research and programmatic literature, one of the most consistent in use is from the Sexuality Information and Education Council of the United States (SIECUS):

> *"Sexuality education is a lifelong process of acquiring information and forming attitudes, beliefs, and values about such important topics as identity, relationships, and intimacy… that addresses the socio-cultural, biological, psychological, and spiritual dimensions of sexuality."*
>
> (National Guidelines Task Force, 2004, p.13)

Notwithstanding the controversy that stems from this field, this is a straightforward starting point for considering sexuality education. The definition notes that learning about one's sexuality is not limited to the years of adolescence, but rather is a lifelong undertaking. It emphasizes that sexuality education is not solely about acquiring basic facts, but involves exploration of the attitudes, beliefs, and values that exist and change within individuals. The definition further notes that sexuality is more than the act of sex, but inextricably bound into a broader sense of ourselves and our connections with others. Finally, it describes sexuality as a multi-dimensional phenomenon that engages diverse parts of our lives.

In practice, sexuality education typically focuses on the adolescent years. Adolescence, which may be considered as broad as the ages of 10 to 21 years, is a time of great physical, cognitive, psychological, and social maturation (Steinberg, 2008). It begins with the process of puberty, that is, the hormonal and physical changes that give the body the ability to reproduce, and is a period of increasing sexual experimentation and expression. Recent national data find that 43% of female and 42% of male teens (ages 15-19) in the U.S. report having had sexual intercourse at least once (Martinez et al., 2011). Thus, adolescence is a time when many young people are in need of information and support about sex and sexual health. Adolescence is also a target for sexuality education due to the public perception of adolescent sex as inherently dangerous. While most sexually active adolescents have uneventful sex lives, widespread beliefs link adolescent sexuality to high-risk behaviors and a host of negative consequences, including unintended pregnancy, sexually transmitted infections, out-of-wedlock births, abortion, academic failure, and welfare dependency (Diamond & Savin-Williams, 2009). For all of these reasons, it is adolescents who are most likely to be targeted by formal sexuality education efforts.

Today, most efforts to provide formal sexuality education to adolescents fall under one of two models: 1) abstinence-only programs, which promote the benefits of restraint from sexual

activity until in a committed adult relationship, most notably in the context of marriage, and 2) the more common abstinence-plus programs, which rely on a harm reduction or disease prevention approach, encouraging abstinence while also offering lessons on safer sexual practices for adolescents who engage in sexual activity. Despite the heated debates about the merits of these two models, the public health goals are the same: to decrease unintended pregnancy and sexually transmitted infections (STIs). These efforts are directed explicitly at changing individual risk behaviors and are based on targeted lessons that aim to affect intermediate behavioral outcomes (e.g., delayed sexual initiation, fewer sexual partners, correct and consistent condom use, etc.) that lead to these public health goals (Kirby et al., 2007).

Numerous evaluation studies have examined whether specific programs have had an impact on adolescents' sexual behaviors; narrative, systematic and meta-analytic reviews have integrated these results in attempts to draw more definitive conclusions about the impact of these two models (e.g., Kirby, 2007; Kohler et al., 2008; Oringanje et al., 2010; Scher et al., 2006; Trenholm et al., 2008). Taken together, research efforts have found limited evidence supporting the effectiveness of abstinence-only programs. Among abstinence-plus programs, there is consistent evidence that discussions of contraceptive and condom do not increase adolescents' likelihood of having sex. However, evidence about decreasing risk behaviors among sexually-active youth has been less conclusive, and the question about the magnitude of the effect remains unanswered (Constantine, in press).

Reframing Comprehensive Sexuality Education

The lack of consistent, compelling evidence for the current and widely-used approaches to sexuality education has led some leaders in the field to reconsider the paradigm as a whole. They advocate for a shift from a single emphasis on reducing the risks of adolescent sexual activity toward a model that offers a positive, holistic emphasis on the healthy sexual development of young people – thus pushing the pendulum of the history of sexuality education away from disease prevention and back to a health promotion model (Halpern, 2010; Schalet, 2011). It has been voiced by key public health organizations both in the United States and internationally (AFY, n.d.; IPPF, 2010; FoSE, 2012; National Guidelines Task Force, 2004), although still remains largely outside of mainstream discourse where the debate focuses on the merits of specific curricula.

Since the 1990s, the U.S.-based advocacy organization SIECUS has promoted Guidelines for Comprehensive Sexuality Education to support the creation and evaluation of school-based programs for children and adolescents. In the most recent edition, SIECUS defined its vision of a comprehensive approach as one that:

> *"addresses the socio-cultural, biological, psychological, and spiritual dimensions of sexuality by providing information; exploring feelings, values, and attitudes; and developing communication, decision-making, and critical-thinking skills."*
>
> (National Guidelines Task Force, 2004, p.13)

This definition is much broader than what guides most "comprehensive" (i.e., abstinence-plus) programs developed and implemented today. It aims to expand the discussion of sexuality by addressing dimensions beyond biology, and supplements the provision of factual contraceptive information with discussions of emotions, values, and attitudes, the development of interpersonal skills, and an emphasis on responsibility. SIECUS further articulates that all people have a right to comprehensive sexuality education that addresses these issues in an age, developmentally, and culturally appropriate manner. Sexuality education should be oriented toward the future, with its primary goal as the promotion of adult sexual health and not solely as the prevention of disease and pregnancy among adolescents.

The International Planned Parenthood Federation (IPPF) articulated similar concepts in its Framework for Comprehensive Sexuality Education, stating that education must:

> *"equip young people with the knowledge, skills, attitudes and values they need to determine and enjoy their sexuality – physically and emotionally, individually and in relationships. It views 'sexuality' holistically and within the context of emotional and social development… It recognizes and accepts all people as sexual beings and is concerned with more than just the prevention of disease or pregnancy."* (IPPF, 2010, p.6)

Mirroring the broad goals presented in the SIECUS Guidelines, the IPPF Framework emphasizes the acquisition of accurate information, the opportunity to acquire interpersonal skills, and the nurturance of positive, non-judgmental attitudes and values toward sexuality.

<u>Defining a Rights-Based Approach to Sexuality Education</u>

In its Framework and supporting documents, IPPF expresses a vision that the ultimate goal of comprehensive sexuality education should be even larger than sexual health, but rather "to promote justice, equality and freedom" through the empowerment of young people (IPPF, 2009, p.2).

Specifically, IPPF defines five features in this vision of sexuality education (IPPF, 2009). First, it should be comprehensive in its inclusion of broad topics related to gender, sexuality, and sexual health. Second, it should be based on human rights principles and laws that guarantee human dignity and equal treatment, empower adolescents through meaningful involvement in planning, implementation and evaluation, and encourage adolescents to take action and claim their rights. Third, it should integrate an understanding of gender equality and social context as critical factors in sexual health and by offering opportunities for adolescents to think about, discuss and reflect on societal expectations. Fourth, it should be citizenship-oriented to encourage adolescents' responsible behavior, civic engagement, and skills to improve social conditions for sexual health and well-being. Fifth, it should employ a positive attitude toward sexuality, in all its forms, and emphasize the importance of sexual pleasure for personal well-being. Taken as a whole, the IPPF Framework serves as a directive to its affiliates, and guidance

for other organizations, to redefine and reframe the vision for comprehensive sexuality education. It is a radical shift in the underlying paradigm for sexuality education for adolescents to address concepts such as gender norms, pleasure, power dynamics, and one's rights and responsibilities in relationships.

It is important to note that the terminology and definitions used by IPPF are not universally established. Rogow and Haberland, for example, include an emphasis on gender norms, power differentials, and social context in their vision for sexuality education and refer to a "social studies approach" (Rogow & Haberland, 2005). The ACLU of Northern California refers to a "reproductive justice perspective" when considering how sexuality education can account for the influence of broader social factors – such as racism, sexism, homophobia, poverty, and immigration – while promoting sexual well-being for young people (ACLU of Northern California, n.d.). Advocates for Youth defines its core values as "The 3Rs" (Rights, Respect, Responsibility) based on lessons learned from Western European approaches. (AFY, n.d.). The International Sexuality and HIV Curriculum Working Group promotes "a unified curriculum on sexuality, gender, HIV, and human rights," which emphasizes gender sensitivity, civic engagement, academic growth and critical thinking, and equal rights (International Sexuality and HIV Curriculum Working Group, 2009).

Given the early phase of the development of this framework, it is not surprising that a lack of consensus of terminology exists. Discussions and debates on the appropriateness of language across time and place will no doubt follow. For now, the importance is the common focus on the social context in which attitudes and values are formed and in which choices are made in relationships. For the purpose of this dissertation project, this new paradigm is referred to as a rights-based approach to sexuality education.

Dissertation Project

Discussions of a rights-based approach have become increasingly common in both international and U.S. contexts over the past decade. While some basic science evidence and theoretical guidance lend support to this interest, there is little direct program effectiveness evidence for concluding that that this new approach is preferable to existing models. This dissertation was undertaken with the goal of helping to build a foundation for subsequent research to fill this knowledge gap, with each paper touching upon a different facet of the rights-based approach. It is guided by three main research questions, each addressed in an individual paper in this dissertation. A brief description of these research questions and the research aims and methods for each paper is presented here; these are described more fully in the relevant sections of the dissertation.

Paper 1: What are the goals, intended mechanisms of action, and assumptions underlying the rights-based approach to sexuality education?

To date, there has been little explicit documentation of consensus across the sexuality education field as to the goals, concepts, mechanisms, and assumptions underlying the rights-based approach. This paper examines the foundations of the approach through in-depth

qualitative interviews with 21 professional experts in advocacy, program development, funding, theory, and research in sexuality education across international, national, and local contexts. The paper aims to: 1) clarify the explicit and implicit goals, elements and assumptions of a rights-based approach to sexuality education; 2) provide a conceptual definition to guide future research and program development, 3) critique the proposed definition and elements in terms of its congruence with existing research and theory, its internal congruence, and its completeness, and 4) identify implications for research and practice.

Paper 2: How can adolescents' attitudes about rights in sexual relationships be defined and measured to create valid and reliable scales?

In order for rights-based sexuality education efforts to be evaluated rigorously, it is critical that its core constructs be defined clearly and measured in an accurate and consistent manner. The primary goal of this paper is to contribute self-report survey measures that address adolescents' attitudes about rights in sexual relationships. This paper describes the process of operationalizing this construct into measures using a deliberative, multi-step procedure according to established guidelines of instrument development and validation. It assesses the psychometric properties of the measures, including evidence of reliability and validity, with a large sample of Latino and African American adolescents (N=794). A second goal of this paper is to illustrate an application of advanced psychometric methods to studies of health behavior and health education. Currently, it is common for health researchers to assess the reliability and validity of their scales using techniques rooted in classical test theory (CTT); other social science disciplines – namely education and psychology – increasingly rely on probabilistic item response modeling (IRM) in their development and validation of scales for assessment of students and patients. This paper integrates findings from the two methodological approaches in the development and psychometric appraisal of the measures, with the goal of more fully assessing their utility for future studies of adolescent sexual behavior and evaluations of rights-based sexuality education programs.

Paper 3: What are adolescents' attitudes about rights in sexual relationships, and how do these attitudes affect their communication about sex and relationship with their partners?

To understand the potential impact of the rights-based approach, there needs to be a better, more formalized understanding of how adolescents think about sexual relationship rights and related constructs. Furthermore, there must be a more realized depiction about how the rights-based approach to sexuality education is theorized to work – that is, a model of the causal pathway and mechanisms by which changing attitudes about rights could affect sexual behavior and outcomes. This paper explores key questions of adolescents' attitudes about sexual relationship rights employing survey data collected from a sample of urban Latino and African American adolescents (N=794). Using a series of theory-driven regression models, this paper examines how these attitudes vary by demographic and behavioral characteristics, in contexts with a steady or casual sexual partner, and across different dimensions of rights. It further investigates evidence supporting a causal relationship between adolescents' attitudes about their sexual relationship rights and their communication about sexual decision-making with partners.

As a whole, this dissertation provides a critical examination of the rights-based approach to sexuality education, asking research questions not previously addressed in the literature. While more questions remain to be answered regarding the implementation and impact of the rights-based approach, this dissertation is intended to lead to new, promising opportunities to promote the sexual health and well-being of all adolescents.

PAPER 1: A RIGHTS-BASED APPROACH TO SEXUALITY EDUCATION: CONCEPTUALIZATION, CLARIFICATION, AND CHALLENGES

Abstract

Discussions about a rights-based approach to sexuality education have become increasingly common in international and U.S. contexts over the past decade. These are typically associated with hopes of developing a new paradigm to shape programs that aim to enhance adolescent sexual health. To date, there has been little explicit documentation of consensus across the sexuality education field as to the goals, concepts, and assumptions underlying this approach. Disagreement about the meaning of a rights-based approach to sexuality education can limit discussions about its expansion and evaluation, and can lead to jargon rather than supporting opportunities to explore and critique a new model for sexuality education for youth.

Based on in-depth qualitative interviews with 21 experts in the field of sexuality education, this paper proposes a rights-based approach as the intersection of four elements: 1) an underlying principle guiding the provision of sexuality education to youth as holders of sexual rights and responsibilities; 2) an expansion of programmatic goals beyond reducing unintended pregnancy and sexually transmitted infections; 3) a broadening of curriculum content to include issues such as gender norms, sexual orientation, sexual expression and pleasure, violence, and individual rights and responsibilities in relationships; and 4) a participatory teaching strategy that engages youth in critical thinking about their sexuality and sexual choices. The paper also addresses potential critiques of the proposed conceptual definition and discusses implications for research and practice.

Introduction

For more than a century, the question of how adolescents should be taught about their emerging sexuality and sexual health has been debated in schools, within communities, and across the public sphere (Goldfarb, 2009; Luker, 2006; Moran, 1996). While these efforts have been called by many different names – sex ed, family life education, teen pregnancy prevention, and many others – their presence is now nearly universal in some form within the secondary school system. National surveys find that more than 95% of adolescents (ages 15 to 19) have received some formal sexual health content in school, church or a community setting before age 18 (Martinez et al., 2010).

While the specific content varies by community and is often fragmented in presentation, most efforts to provide formal sexuality education to adolescents in U.S. schools fall under one of two models: 1) abstinence-only programs, which promote the benefits of restraint from sexual activity until in a committed adult relationship, most notably in the context of marriage, and 2) the more common abstinence-plus programs, which rely on a harm reduction or disease prevention approach, encouraging abstinence while also offering lessons on safer sexual practices for adolescents who engage in sexual activity.[1] Despite the heated debates about the merits of these two models, the public health goals are the same: to decrease unintended pregnancy and sexually transmitted infections (STIs). These efforts are directed explicitly at changing individual risk behaviors, and best practices are based on targeted lessons that aim to affect intermediate behavioral outcomes (e.g., delayed sexual initiation, fewer sexual partners, correct and consistent condom use, etc.) that lead to these public health goals (Kirby et al., 2007).

Numerous evaluation studies have examined whether specific programs have had an impact on the adolescents' sexual behaviors; narrative, systematic and meta-analytic reviews have integrated these results in attempts to draw more definitive conclusions about the impact of these two models (e.g., Kirby, 2007; Kohler et al., 2007; Oringanje et al., 2010; Scher et al., 2006; Trenholm et al., 2008). Taken together, research efforts have found limited evidence supporting the effectiveness of abstinence-only programs. Among abstinence-plus programs, there is consistent evidence that discussions of contraceptive and condom do not increase adolescents' likelihood of having sex. However, evidence about decreasing risk behaviors among sexually-active youth has been less conclusive, and the question about the magnitude of the effect remains unanswered.

The lack of consistent, compelling evidence for the current and widely-used approaches to sexuality education has reinforced the need, for some leaders in the field, to reconsider the

[1] Programs that incorporate abstinence, condoms, and contraception may also be referred to as "comprehensive" (see Kirby, 2007, for example). However, Goldfarb and others argue that abstinence-plus is a more appropriate term and makes the distinction with programs that began in the 1960s that addressed topics as broad as sexual fulfillment and life-long sexual health (Goldfarb, 2009; Goldfarb & Constantine, 2011). Most standards and guidelines for comprehensive sexuality education go well beyond these topics (e.g., IPPF, 2010; FoSE, 2012; National Guidelines Task Force, 2004; UNESCO, 2009; WHO Regional Office for Europe & BZgA, 2010).

paradigm as a whole. They advocate for a shift from a narrow emphasis on reducing the risks of adolescent sexual activity toward a positive, holistic emphasis on the healthy sexual development of young people (Halpern, 2010; Schalet, 2011). This view has been voiced by leading sexuality education organizations both in the United States and internationally (AFY, n.d.; Berne & Huberman, 1999; IPPF, 2010; FoSE, 2012; National Guidelines Task Force, 2004), although still remains largely outside of mainstream discourse where the debate focuses on the merits of specific curricula.

A Rights-Based Approach to Sexuality Education

The term "rights-based" has become increasingly linked to this concept of a more comprehensive or holistic approach to sexuality education for adolescents. As evidenced by its name, a rights-based approach to sexuality education is derived from the international commitments which recognize and reinforce human rights, including the sexual rights of young people (Kossen, 2012). It is further shaped by the major United Nations conferences of the 1990s that focused on the intersecting issues of human rights, gender equality, sexual and reproductive health, and HIV/AIDS. Most recently, the U.N. Commission on Population and Development reaffirmed these principles for adolescents, voicing support for their right to comprehensive sexuality education and calling upon governments to provide "*evidence-based comprehensive education on human sexuality, sexual and reproductive health, human rights and gender equality to enable them to deal in a positive and responsible way with their sexuality*" (CPD, 2012).

Over the past decade, the language of a "rights-based approach to sexuality education" that follows and aims to operationalize these principles has emerged. The terminology has been articulated in varied ways by different entities, although it is underscored by a common belief that issues of sexuality, sexual health, sexual rights, and gender need to be addressed together in order to prepare youth to make informed, responsible choices throughout their sexual lives. References to a rights-based approach to sexuality education have become widespread in international guidelines and standards for sexuality education (IPPF, 2010; UNESCO, 2009; WHO Regional Office for Europe & BZgA, 2010) as well as in some U.S. advocacy efforts (AFY, n.d.; Berne & Huberman, 1999). One of the most extensive attempts to guide development in practice has been It's All One, a resource kit of guidelines and activities that can be selected by curriculum developers, health educators or teachers to develop "a unified approach to sexuality, gender, HIV, and human rights education" (International Sexuality and HIV Curriculum Working Group, 2009). It has been praised for its ambition of providing guidance across cultures, for its scope of content, and for attempting to move HIV and sexuality education in a promising, new direction (Barker, 2011).

The inclusion of gender norms, human rights, and related contextual factors into comprehensive sexuality education is informed by a growing body of research that has found associations between these concepts and individual sexual attitudes, behaviors, and health outcomes (Harrison et al., 2006; Leech, 2010; Pulerwitz et al., 2010; Wingood & DiClemente, 2000). The underlying premise is that cultural and societal expectations about appropriate roles

for men and women are ingrained at a young age through explicit and implicit messages from individuals, families, communities, and institutions. Individuals internalize these norms and adopt attitudes and behaviors that, in turn, influence decisions about relationships and can encourage behaviors that place them at risk for negative sexual health outcomes (Amaro, 1995; Harrison et al., 2006; Leech, 2010; Pulerwitz et al., 2000; Pulerwitz et al., 2010; Wingood & DiClemente, 2000). Increasingly, programs are seeking to address gender norms and power dynamics as part of their theory of change. While proponents have described positive changes from these experiences (Pulerwitz & Barker, 2008; Rogow & Haberland, 2005), intervention research studies have just begun to address the question of whether incorporating content on gender, power and rights can lead to improved sexual health outcomes. These form the small but growing evidence base for a rights-based approach to sexuality education (Crepaz et al., 2009; DiClemente et al., 2009; Jewkes et al., 2008; Pulerwitz et al., 2010; Wingood et al., 2004), although the quality of this evidence has not been systematically reviewed.

Purpose of the Current Study

To date, there has been no systematic assessment that examines or compares perspectives across the field. Without a clearly articulated definition on which to base scholarly discussion and debate, it will prove difficult to guide program development, draw conclusions about effectiveness, or advocate for or against its expansion. It must be made clear whether disagreements within the field are based on the values and goals inherent in such an approach, the definition of the approach, or concerns about some other factor, such as its feasibility in practice. This paper was undertaken to examine the foundations of the rights-based approach, with the goal of proposing a conceptual definition that can be discussed and debated by the field. Specifically, its goals are to: 1) clarify the explicit and implicit goals, elements and assumptions of a rights-based approach to sexuality education among high-level advocates, program developers, researchers and funders; 2) provide a conceptual definition to guide future research and program development, 3) critique the proposed definition and elements in terms of its congruence with existing research and theory, its internal congruence, and its completeness, and 4) identify implications for research and practice.

Methods

As a first step, we thoroughly reviewed guidelines, frameworks, research studies, curriculum materials, and other documents that had been cited as informing the rights-based approach. Second, we conducted in-depth qualitative interviews with key informants to elaborate upon the foundational information gathered in the document review. Qualitative methods have a particular advantage in guiding the development and exploration of theory, particularly in emerging fields where limited research has been conducted (Maxwell, 2012). The principles of qualitative research – in which theory is inductively derived through an iterative process of data collection, analysis, and theory-building – informed all aspects of the study process.

The interview respondent sample was comprised of individuals with professional expertise in advocacy, program development, funding, theory, and/or research in sexuality education across international, U.S., or local contexts. The sample was not meant to be statistically representative of a larger population, but rather was determined through purposive sampling techniques to identify respondents who could provide the richness of data required of qualitative inquiry. Respondents were identified to meet the criterion of high levels of experience and expertise in the sexuality education field, to address preliminary hypotheses that emerged during the literature review, and through suggestions from colleagues and interview respondents (Patton, 2002). The final interview sample included 21 executive directors, policy and program directors, program officers, researchers, and consultants at key U.S. and international organizations focused on adolescent sexual health and related fields. One interview was conducted with two respondents, for a total of 20 interviews with 21 respondents.

Using a semi-structured interview guide, we asked respondents to discuss the primary topics of interest: the emergence and meaning of the rights-based approach; goals, objectives, and activities when applied in practice; theory or frameworks being used to guide the approach; and anticipated challenges in development or implementation, including feasibility in the U.S. The interview questions were modified and expanded throughout the interview process to test and probe emerging themes. While each of the primary topics was raised, the level of depth depended on the nature of the interview, the respondent's areas of expertise, and time constraints. The lead researcher conducted all interviews, by phone or in person, between June and September 2012; each lasted approximately one hour. We terminated data collection when no new themes were emerging and all questions had been comprehensively addressed, indicating that theoretical saturation had been reached (Bernard & Ryan, 2010). The interviews were digitally recorded and transcribed verbatim. The Committee for the Protection of Human Subjects at the University of California, Berkeley approved the study design and protocols.

The lead researcher thematically coded and analyzed the interview data in ATLAS.ti qualitative data management software (Version 6.2), following a multi-step approach (Bernard & Ryan, 2010; Lecompte & Schensul, 1999). During the first phase of the coding process, the lead researcher indexed sections of the interviews into categories for the primary topics of interest and developed structural codes to track respondents' professional discipline (advocacy, research, programs, etc.) and geographic focus (international, U.S. national, U.S. local). Second, the lead researcher coded themes within the indexed interviews. For example, the index of *anticipated challenges* included themes related to *lack of rights discourse in the U.S.*, *community opposition*, *funding*, and others. The lead researcher examined how these themes emerged within and across the interviews, including the frequency of themes, consistency with prior theory, omission of hypothesized themes, emergence of unanticipated themes, and divergence of themes across interviews. We used structural codes to compare responses across professional discipline and geographic focus. The third step of analysis aimed to make sense of thematic patterns and resulted in the creation of the conceptual definition. The lead researcher developed memos to capture and refine analytic thinking at each stage of the process.

Results

Interviews showed a perceived lack of clarity across respondents about what it means to use a rights-based approach to sexuality education. Even among experts working at the forefront of sexuality education, there was confusion, disagreement, and misunderstanding in how the term is used. When asked whether there is agreement across the field about the meaning of a rights-based approach, responses varied from "*I bet there is a lot*" to "*No, absolutely not,*" with others admitting "*I am not really sure*." As one respondent stated:

> *"Well, I don't hear many definitions of it, which is the problem. People throw out the term all the time, and we all think we know what we mean, but we don't mean the same thing."*

However, through further analyses, a foundation of congruence was identified. Four underlying themes, or core elements, emerged about the meaning of a rights-based approach to sexuality education from the interviews: 1) an underlying principle guiding the provision of sexuality education to youth as holders of sexual rights; 2) an expansion of programmatic goals beyond a framework of reducing unintended pregnancy and STIs; 3) a broadening of curriculum content to include issues such as gender norms, sexual orientation, pleasure, violence, and individual rights and responsibilities in relationships; and 4) a participatory teaching strategy (pedagogy) that engages youth in critical thinking about their sexuality and sexual choices. A fifth theme centered on the feasibility of implementing the rights-based approach to sexuality education in practice, with particular emphases on the current U.S. context.

While differences were found regarding specific aspects of these principles across respondents, the overarching themes held true in nearly all cases (see Table 1-1). These themes are supported by, and make sense of, the varied standards, frameworks, curriculum guidelines and materials, research literature, and theory that have been cited as informing the rights-based approach. These themes are discussed below, with consistencies and discrepancies noted throughout.

1. <u>A Rights-Based Approach to Sexuality Education is Guided by the Principle that Youth Have Sexual Rights that are Embedded in a System of Individual and Societal Responsibilities</u>

For most respondents, a rights-based approach implies an underlying, guiding principle of sexual rights that should inform all work with youth, including sexuality education. It entails a core belief that young people have inalienable rights, expressed in international human rights law, that must be recognized and accounted for when considering access to and content of sexuality education. These include their right to accurate and complete sexuality education and information. One U.S.-based advocate described it as follows:

> *"When I think of a rights-based approach, I think of it as, this is not just nice to have. This is something that is intrinsically part of who we are as human beings. It is my fundamental human right to have access to information and to services*

that protect my rights to my self-determination related to my sexual and reproductive health."

Respondents emphasized that these rights are not inconsequential, but rather of the highest importance. Another respondent described the right to information regarding one's sexuality as on par with "*a right to have water and food and clothing and housing"* in that it is critical for a healthy and fulfilling life. This support for youth's right to scientifically-based information about their sexuality was voiced consistently by experts across professional disciplines in both international and U.S. contexts. While a few respondents did not explicitly mention this right as core to the rights-based approach, no contradictions were noted.

Several respondents further described the approach as recognizing young people's right to self-determination, including their right to express their sexuality, to decide whether and when to engage in sex, whether and when to have children, and to pursue a safe and pleasurable sexual life. As such, a rights-based approach to sexuality education is guided by the view of adolescent sexual development as normal and healthy. It puts sexual rights in the hands of adolescents, aiming to instill knowledge, skills, and sense of agency so that youth can determine and voice their own needs while also understanding their corresponding responsibility to respect the rights of others. In a rights-based approach, it is this frame of mutual respect – the balance of individual rights and responsibilities – that is used to guide relationships and decision-making. While fewer experts explicitly described these rights as core to the approach (relative to the more prominent right to information), these concepts were implicitly supported by many others. The concept was not refuted by any of the respondents, and its invocation was consistent across professional disciplines and geography.

As described by the international respondents in particular, the human rights framework provides a foundation of common values for the development of sexuality education. They argue that sexuality education cannot, and should not, be presented as values-free, but rather as guided by universal values of dignity, equality, fairness, respect for diversity, social justice, and freedom from discrimination as the means for achieving sexual health. Moreover, these ethical principles can act in concert with scientific principles of rigorous program effectiveness research; they are not mutually exclusive. Most U.S. respondents did not express values underlying sexuality education in human rights language; their focus tended to be at the individual or interpersonal, rather than societal, level.

For many experts, the recognition of youth as having sexual rights implies consequent obligations for adults and society. Given the premise that adolescents have such rights, it is the responsibility of governments and organizations to facilitate access to sexuality education. One respondent described this as "*our responsibility as a community*" to provide tools to youth so that they can protect their health and rights and those of their sexual partners. In human rights parlance, adolescents are considered rights-holders, and entities bear the duty to protect, respect, and fulfill these rights and, as such, not withhold needed information. For these respondents, this professional responsibility underlies the rights-based approach to sexuality education:

> *"As a society, you don't get to say, 'Well, we are going to withhold this, or we are going to give you this, or we are going to promote that.' It's as unalienable as any other right to education or information that has to do with your health and well-being. I just think that's the very essence of [a rights-based approach]."*

2. A Rights-Based Approach to Sexuality Education Expands the Goals of Sexuality Education

According to nearly all interview respondents, a rights-based approach to sexuality education encompasses an expansion of programmatic goals beyond the current emphasis on preventing sex outside of marriage, pregnancy, and STIs. In part, this involves the use of a health promotion framework that aims for more than the absence of negative reproductive health outcomes, but "*results in a healthier young person"* overall. It further aims to affect other realms of well-being, because issues of sexual health "*are central to [youth's] ability to exercise their human rights and their own ability to be agents of change."* One international expert described the potential for youth participating in a rights-based sexuality education program:

> *"We would have young people who feel empowered to make decisions about their bodies, who are able to decide if, when, and with whom they have any kind of sexual relationship… [who] feel like they have plans for what they want for themselves in the future… [and who are] able to think critically about the world around them and advocate for changes that would make their community and the world better."*

For these experts, a rights-based approach to sexuality education aims to affect a breadth of goals related to empowerment, sexual assertiveness, future expectations, and even civic engagement. Similar concepts regarding sense of agency, leadership, responsibility, and the ability to "*navigate decisions and opportunities in their lives*" are reflected in others' comments. Some noted the potential for sexuality education to impact LGBTQ bias, bullying, violence, and other areas related to school climate. A few respondents did not explicitly describe these expanded outcomes as core to the rights-based approach; of these, only one seemed to contradict the inclusion of this theme in the conceptual definition and argued instead for the strict goals of preventing disease and pregnancy.

A key point made by many U.S. respondents that the emphasis on these broader goals does not necessitate the exclusion of more specific public health outcomes. As one U.S. expert stated, "*You've got to put reducing unintended pregnancies and STDs in your logic model…. It would be inappropriate to not worry about those outcomes"* given their impact on youth's lives. However, they argue, it need not be the only focus for sexuality education programs as often expressed in the public health research literature. The rights-based approach questions, in principle, the disease prevention model that drives this single focus to the exclusion of other aspects of adolescent sexual health and dictates that program activities focus on decreasing sexual risk behaviors that lead to those goals. Additionally, it questions the causal pathway typically invoked to reach these goals (i.e., individual behavior change based on individual rational

decision-making), with some experts suggesting that the rights-based approach would more strongly impact the outcomes related to pregnancy and STIs:

> *"There are folks who would tell you that even though you weren't being driven by it, that your sexual heath morbidity rates would be much, much lower because so much of what drives those rates is this inability to accept yourself as a sexual being and therefore to plan for healthy sexual behavior."*

That is, they argue that a stronger causal pathway to reducing rates of pregnancy and STIs would be found through the positive, health promotion, and empowerment orientation of the rights-based approach and its expanded set of goals for sexuality education.

3. A Rights-Based Approach to Sexuality Education Broadens Curriculum Content to Address Contextual Factors, Including Gender

As described in nearly all interviews, a rights-based approach to sexuality education is broad in its content. It reaches beyond current programming that emphasizes pregnancy and disease prevention topics, most notably abstinence, contraception, and condoms, and aims to address larger contextual issues that affect adolescents' sexual decision-making. According to the experts, this expansion is driven by the guiding principles and expanded goals of the rights-based approach. If sexuality education is to be guided by the values of human rights and aims to achieve a much larger set of goals related to health, equality, and empowerment, then it follows that curricula need to address additional content. The idea, as one expert stated, is "*to really think about all of the areas that both affect and are affected by sexuality."* Rather than focusing on individual behavior change, it *"acknowledges there is a community that [adolescents] are part of that has norms and attitudes"* and develops content that addresses *"the cultural and social dynamic of sexuality for young people."* The theme of expanded content as inherent to the rights-based approach was noted in all interviews with international experts and nearly all with U.S. experts; the exceptions were among U.S. based policy experts whose work focused on teen pregnancy prevention issues more specifically.

Primarily, this expanded content was focused on issues related to gender: "*The main thing is that you can't run away from talking about gender as an explicit topic within sexuality education and HIV prevention education."* There was consensus across the interviews that issues of gender – particularly gender equality and gender norms – were a core component of a rights-based approach. This was described consistently by both international and U.S. based experts, across professional disciplines. As one international program developer stated:

> *"[We reached] kind of the obvious conclusion that you couldn't simply talk about these issues without talking about how masculinities are constructed in the lives of boys and young men…. All this stuff is connected. We have got to include it all."*

This reasoning was driven by the sense of connection between gender equality and sexuality. Some experts referred to evaluations that have purportedly found that sexuality education programs which include discussions of gender have a greater impact on sexual behavior relative to those programs that exclude this topic. A few cited the Theory of Gender and Power, developed by sociologist Robert W. Connell and applied to HIV prevention by Wingood and DiClemente (2000), as supporting the expansion of sexuality education content to include gender-related issues.

In addition to gender, interview respondents described other content areas inherent to the rights-based approach (see Table 1-2). International experts were more likely to cite content on gender-based violence, human rights, citizenship, and social justice, while U.S. based experts were more likely to mention issues of race and class, as well as conflicting messages that youth receive about sexuality from peers, families, schools, and media. Both international and U.S. experts were likely to mention healthy relationships and gender norms as part of the expanded content of a rights-based sexuality education program.

4. A Rights-Based Approach to Sexuality Education Uses Participatory, Youth-Centered Teaching Strategies that Offer Opportunities for Critical Thinking

For nearly all respondents, a rights-based approach necessitates a change in how sexuality education is taught, going beyond the more common didactic model to one that is participatory, interactive, and youth-centered. While many existing programs engage youth in skills-building exercises (such as role plays to practice partner communication, holding methods of contraception, or visiting a clinic), the teaching is primarily focused on the provision of information by teachers to students. As described in these interviews, the rights-based approach aims to go further, by promoting experiential learning that engages adolescents actively in the education process. It aims to incorporate their experiences and environments, build on their existing knowledge, and engage them as agents of change in their communities. It requires a "*commitment to pedagogy that fosters critical thinking."*

The emphasis on teaching strategies builds off of the core themes of expanded content and goals of a rights-based approach to sexuality education. As described in interviews, engagement in these complex issues – confronting the intersection of issues of race/ethnicity, culture, gender, and sexuality; recognizing and dealing with social norms; addressing conflicting images about masculinity and femininity, etc. – warrants a more participatory approach. It allows youth to "*bring their whole selves to the classroom."* Some respondents described this teaching style as essential for dealing with conflicting messages about sexuality; it gives adolescents "*the tools to be able to combat these other voices that are coming at them about how they should be and who they are.*" Changing attitudes about something as entrenched as gender norms, they say, can only be addressed with discussion and critical reflection. As one international expert described, it is not enough to inform people about their rights:

> *"There's a lot of materials that say: 'You have rights, you have rights, you have rights' and kind of repeat them and [say] here's the laws…. What we try to do is to*

promote this critical reflection about why is it that we are not allowed to use other people as objects, why is it that we are entitled to a set of rights and other people exist and deserve them, and what do those mean in terms of my sexual behavior, my access to health services, my use of violence, my experiences of violence."

Respondents across professional disciplines and location focused on the importance of critical thinking and time for reflection as part of sexuality education. A few international experts specifically mentioned critical pedagogy and the work of Brazilian educator Paulo Freire. They were particularly interested in participatory, action-oriented experiences that engage youth in issues of social justice and citizenship. U.S. experts were no less impassioned about the importance of teaching strategies for reshaping sexuality education, although their language focused on individual empowerment (making change in one's own relationships) over social empowerment (making change in politics and society). As such, they were less likely to cite the influence of Freire, critical pedagogy, or related philosophies of education. The few experts who did not discuss teaching strategies or pedagogy at all were U.S.-based policy experts working more specifically on issues of teen pregnancy prevention, rather than those particularly immersed in sexuality education advocacy or program development.

Challenges of a Rights-Based Approach to Sexuality Education in the United States

Distinct from the four core elements that emerged defining a rights-based approach to sexuality education was a fifth theme centered on its feasibility in practice. These discussions emphasized, in particular, the potential challenges of promoting and implementing this approach in the U.S. It was generally agreed upon, by both U.S. and international experts, that there were unique challenges to the rights-based approach in this context. This section briefly describes a few of these potential challenges; further research and programmatic experiences will be needed to assess the likelihood of each of these.

Language and View of Youth Rights

A primary challenge voiced in the interviews is that the language of rights does not resonate in the U.S. as it does elsewhere, where it is "*more at the essence of who that country is."* As expressed by respondents, the idea of young people's rights tends to raise conflicts in the U.S. regarding whose rights take priority within a family, with many people believing that "*whoever pays the bills has the rights."* One expert explained that parents "*feel it's their job, it's their responsibility to protect young people. And in trying to do that, they feel like sometimes they can make better decisions and they can withhold information."* This runs counter to many of the tenets of the rights-based approach.

Some respondents expressed concern that the rights language is so weighted that it could derail efforts toward furthering the approach in the U.S. The language was described as potentially "*overwhelming*" and even "*threatening*." One expert noted that broad support could be generated for much of the content included in the rights-based approach – such as healthy relationships, partner communication, mutual consent, fairness, respect – but

questioned the particular terminology: *"People could make assumptions about what it means that may or may not bring them into the conversation…. It may color how people perceive it."*

Working with Schools and Teachers

A second challenge emerged when considering implementation of a rights-based sexuality education program in public school settings. Beyond existing challenges of integrating sexuality education in schools, respondents wondered if a rights-based program would face additional obstacles. One expert described the need to change schools' perceptions and understandings of sexuality education with a model that aims to reach beyond discussions of pregnancy and disease prevention: "*Because I could see them [saying], "Well, this isn't health, this is social studies. We're talking about structural inequality or gender bias. Why is this here?"* A few respondents with experience implementing rights-based programs framed it as an opportunity to help meet school needs. One program, for example, aligned its lessons and activities with state education standards in non-health areas such as English/Language Arts and assessed program impact on academic outcomes, generating support from school administrators.

Some respondents further noted that the participatory, student-centered philosophy underlying the rights-based approach may itself bring new challenges. Being able to engage students in open dialogue about complex issues related to sexuality requires high-level facilitation skills, personal comfort with issues of gender and sexuality, and additional content knowledge than required for a more typical, information-based curriculum. Respondents described a critical need for professional education and training for the implementation of the rights-based approach. Whether a rights-based sexuality education program could be taught by current teachers of health courses without such specific training was an unresolved question and a cause of concern.

Debates within the Field

Further questions of feasibility focused inward, on the state of the professional field of sexuality education, teen pregnancy prevention, and HIV/STI prevention programs. Both international and U.S. respondents noted disagreements about the current orientation of the field, as well as its future. They described a dichotomy of professionals who promote pragmatism built on the current abstinence-plus models vs. those who push for a more comprehensive vision of sexuality education. This has created disagreement within the field about the future. As one advocate of the rights-based approach stated,

> *"There's pushback in some quarters that we're asking for too much. [They say,] Let's not rock the applecart. We really need to keep the focus on exactly what works because the rug could be pulled out from under us at any point. And isn't what we have now much better than [abstinence-only]?"*

There were also undercurrents of disagreement about whether gender – the primary content area of the rights-based approach – matters in U.S. settings. A few experts explicitly questioned the need to address issues of gender equality and norms, given that girls are doing substantially better than boys on many indicators of success. One felt the enthusiasm for gender content

was "*a little of another time or place.*" Among this group there was support for addressing issues of norms of masculinity with adolescent boys, particularly those in ethnic minority communities, but there was also belief that "*there's not quite the same motivation to apply the thinking and theory of gender to males to help them benefit."* With limited resources, classroom time and evidence of effectiveness, they questioned whether discussions of gender should displace the known, existing content of abstinence-plus programs.

Problem-Focused Funding and Evidence-Based Interventions

A further question of feasibility from within the field focused on current mechanisms of program funding. Many of the respondents noted that that governments get involved with – that is, provide funding for – an issue when there is a crisis to be solved and a reason for intervention. Respondents suggested that it would be more difficult to find support for programs framed as meeting broader outcomes such as healthy sexual development, youth rights, empowerment, or citizenship, in comparison to the public health problems of unintended pregnancy and STIs.

A related issue raised by many respondents involved the current focus on the compilation of evidence-based interventions (EBIs) that met some standard of effectiveness evidence concerning reduction of sexual risk behaviors, unintended pregnancy, and/or STIs among youth. Over the past decade, the field has focused strongly on developing an evidence base for interventions, and lists of these interventions now form the basis for much federal government funding. Respondents described the challenge for any new model that has not yet been rigorously evaluated and does not focus on the common pregnancy and disease prevention measures required by these lists. One expert described the dilemma of wanting to change the paradigm for sexuality education away from disease prevention, while needing to remain within that framework to secure the financial support to do so:

> *"There is some movement in the field towards saying, wait a second, we need to re-evaluate, we need to broaden the frame, but then there's always the push back of, "Yeah, but… where's the evidence?" The evidence base is on this other piece. That's all well and good to say that you want to do something that's rights-based, but it needs to be proven. So we find ourselves caught in that trap."*

Discussion

Building a Conceptual Definition

This paper proposes a conceptual definition for a rights-based approach to sexuality education as comprising four essential elements. Underlying all efforts is the guiding principle that young people hold inalienable sexual rights, and that these rights exist within a system of individual and societal responsibilities that dictate the provision of sexuality education and behavior within intimate relationships. This core principle is foundational to the other three elements, which inform how a rights-based sexuality education program is developed and implemented in

practice. It drives the expansion of programmatic goals that place emphasis on young people's sexual health, rights, and empowerment, rather than their risk behaviors, unintended pregnancies, and STIs. It necessitates the inclusion of content addressing the larger contextual issues that affect adolescents' sexual decision-making. It further requires the use of teaching strategies that engage youth in critical thinking about how these complex topics affect their sexual lives.

These concepts are depicted in two figures. Figure 1-1 demonstrates that the conceptual definition is not a linear process; rather, three practice elements influence each other as well. As described by the interview respondents, for example, the complexity of the expanded content in a rights-based approach also drives the need for pedagogies that emphasize participation, action, and critical thinking. Similarly, the enhanced engagement of youth in their learning experience affects their sense of agency and empowerment, thus informing many of the expanded goals of the rights-based approach. Moreover, the conceptual definition proposes that all four elements must be in place to be considered a rights-based approach to sexuality education. Each is necessary, but not sufficient, for the model. Figure 1-2 further visualizes the conceptual influence, described by the interview respondents, of the four different elements on each other. While set up in a more linear fashion, the arrows are not meant to imply evidence of causality, which must be further examined through research. This figure may, however, provide a useful base on which to consider programmatic logic models and evaluation designs.

While not all experts used the same language to describe a rights-based approach to sexuality education, the consistency of these four general elements across interviews was remarkably potent and outweighed the differences. Each of the four main elements arose, explicitly and in a consistent manner, in more than 80% of the interviews (see Table 1-1), and were described similarly across professional disciplines and geography. Differences in the specific aspects of each element were noted, but none seemed central to the underlying elements included in the conceptual definition. This was particularly remarkable given respondents' strong perceptions of disagreement and lack of consensus across the field. This contradiction, as well as the concern that "rights-based" terminology is at risk of becoming jargon, highlights the need for a clear conceptual definition at this time.

The primary discrepancies across the interviews focused not on issues of definition or meaning of the rights-based approach, but rather those of feasibility in practice. These are equally important, but distinct, issues. The perceived lack of consensus about the meaning of the approach appeared more related to disagreements about feasibility of application (e.g., Is the approach needed for all populations? Is it possible to implement in all contexts? How will it be funded?) rather than the four core elements themselves. Challenges of feasibility were voiced in all interviews, but most regularly and consistently by experts highly engaged in the larger field of teen pregnancy prevention in the U.S., and less specifically by those involved in the advocacy and development of sexuality education per se. While this may seem like a small distinction about professional subfields, it highlights important differences of frame under which experts conduct their work and form their perspectives.

The four elements inductively derived from the in-depth interviews with sexuality education experts are largely mirrored in existing standards, guidelines and program materials, lending support to the validity of the conceptual definition. This is not unexpected, as many of these materials come from organizations where our interview respondents are based. Nevertheless, this congruence provides some convergent validity for these elements. For example, materials as varied as the WHO Standards for Sexuality Education in Europe, Promundo's Project H and Project M curricula from Brazil, and Rights and Desire: A Facilitator's Manual to Healthy Sexuality from India expressly describe youth as rights-holders and cite international human rights agreements as motivation for their work (Ahmed & Menon, 2006; Instituto Promundo et al., 2002; Instituto Promundo et al., 2008; WHO Regional Office for Europe & BZgA, 2010). The It's All One curriculum materials express far-reaching goals of increasing decision-making abilities, participation in society, critical thinking skills, and sense of sexual well-being and enjoyment; these are paired with the public health goals of reducing unintended pregnancy, STIs/HIV, coercive sex, and gender-based violence (International Sexuality and HIV Curriculum Working Group, 2009). Planned Parenthood-Los Angeles has incorporated content on gender, sexuality, rights and responsibilities, media messages, negotiation, and decision-making in its Sexuality Education Initiative (PPLA, 2012). The International Planned Parenthood Federation is currently exploring teaching strategies for sexuality education, including critical and feminist pedagogy, as part of its effort to guide implementation of the rights-based approach across its affiliates (IPPF, 2012). These examples offer some positive support for the coherence and credibility of the proposed conceptual definition. Further research is required to fully explore their points of congruence and divergence.

Critiques to be Addressed

A new conceptual definition is proposed here for the first time. This section considers some likely questions that will need to be addressed to move the rights-based approach forward. We offer brief responses in anticipation of more dialogue in other forums.

1. *Are all four elements required for an approach to be considered rights-based?*

We propose this conceptual definition as the intersection of four elements that are each required to claim a rights-based approach to sexuality education. This was drawn from the high frequency in which each of the elements were noted across interviews, as well as the interconnected ways in which they were described explicitly or implicitly by the expert respondents. The requirement of four elements also helps to distinguish the rights-based approach from other approaches commonly used in sexuality education, sexual health, and related areas. We also found evidence of all four elements in the documents that organizations have developed in their use of or support for a rights-based approach. Others may conclude that a definition of "the more, the better" is preferable, in which some but not all of the elements are necessary to define a rights-based approach. While we did not this to be consistent with the results of these interviews, it will be an important question to consider in future discussions and research.

We recognize that in real world situations, there will always be partial fit with a conceptual definition. It is likely that interventions will emphasize some elements more than others, and there will be a need for consensus about whether such efforts should be considered "rights-based." The varied programs developed and evaluated by Wingood, DiClemente, and colleagues are a case in point. Rooted in the Theory of Gender and Power, their HIV prevention interventions engage adolescent women and girls through content on gender, relationships and sociocultural factors (Center for AIDS Research, 2012). While the content element of the proposed rights-based conceptual definition is met, the others do not seem to be. Their interventions are not explicitly motivated by sexual rights, focus primarily on the reduction of sexual risk behaviors and HIV/STI incidence as core goals (although psychosocial mediators are measured), and do not rely on critical thinking strategies. Should this be considered a rights-based program because of its strong emphasis on issues of gender and power? There's no clear answer. At this time, the authors do not use this language, although many rights-based proponents cite the evaluations of these interventions in support of the approach.

A related question concerns the conceptual overlap between this definition and program models that self-describe as "gender-focused," "gender-sensitive," or "gender-informed." These form a growing trend. For example, EngenderHealth, a non-profit organization that has focused internationally on issues of family planning, HIV/AIDS, and gender equity, recently received a federal Teen Pregnancy Prevention grant to develop its Gender Matters (Gen.M) project in Travis County, Texas. The program aims to delay sexual activity and increase contraceptive and condom use by advancing more equitable gender norms in relationships (OAH, 2010). It is not clear how these programs match with the elements we present here, or if there are conceptual differences that make these distinct models of sexuality education. This highlights the need for further dialogue about whether the terms are interchangeable and whether a unified framework should be considered.

2. How does this conceptual definition fit with existing theory?

Many of the ideas that form this conceptual definition are not new, and it is clear that the rights-based approach is influenced by existing theoretical work. The definition builds on the understanding of the normative psychosocial development that occurs during adolescence, particularly with regards to identity development, formation of intimate relationships, and expression of sexuality, as well as their underlying social, economic and cultural contextual influences (Lerner & Steinberg, 2009; Steinberg, 2008). It incorporates an ecological perspective to health promotion that recognizes and asks youth to reflect on the multiple levels of influence on behavior – individual, interpersonal, institutional, community, and policy (NCI, 2005). Our conceptual definition is also consistent with Connell's Theory of Gender and Power and its public health application put forth by Wingood and DiClemente, which provides theoretical explanation for the effect of gender-based inequalities on sexual health outcomes (Wingood & DiClemente, 2000). Additionally, it fits with known frameworks of human rights and social justice, including the U.N. Common Understanding of a "human-rights based approach" (HRBA) to development work and reproductive justice efforts in the United States (ACRJ, 2005; OCHCR & WHO, 2010). Taken together, we believe this definition highlights a unique approach to the development of sexuality education programs by integrating theories across the disciplines

adolescent development, public health, sociology, human rights, and reproductive justice. The specific areas of overlap and interaction of each of these frameworks need to be explored further.

3. *In light of the previously discussed challenges, will this view of rights-based sexuality education be useful to the field?*

While we have argued that feasibility is a separate issue from conceptualizing the rights-based approach to sexuality education, we concur that it is an important one. If it turns out that a rights-based program cannot be implemented for most youth in most settings, feasibility becomes a central critique of the conceptual definition. In the U.S., there likely will be challenges with the language of human rights, working with schools, enhancing teacher training, and building areas of consensus across professional subfields. We are heartened by the fact that there are rights-based programs in the U.S. currently addressing some of these challenges. Scenarios USA, for example, has brought its REAL DEAL curricula, professional development and films addressing gender, power, and relationships to public schools in places as varied as New York City, Cleveland, Miami, and the Rio Grande Valley. Planned Parenthood-Los Angeles has established rights-based efforts in the large Los Angeles school district, and selected lessons from It's All One are being used by groups in Utah. It is also possible that existing programs that do not currently self-describe as "rights-based" may meet all four elements in some form; one respondent suggested peer education as a possible example. Case studies of these existing programs would help answer questions of feasibility and highlight new areas of concern.

Study Limitations

The findings of this study must be considered in light of its limitations. It was designed as a qualitative study based on interviews of a select group of professional experts in the field of sexuality education. The findings should not be considered representative of the opinions of all advocates, program developers, educators or youth involved in sexuality education. The sample was deliberately defined to be those working on or directly interacting with the rights-based approach to provide a richness of perspective. Although generalizability was not a goal, it is intended that the concepts and themes identified have theoretical generalizability that applies more broadly (Maxwell, 2012). Further research is required to test the conceptual definition with other research methods, populations, and settings.

While all qualitative research involves subjectivity, we note that all data collection, coding, and analyses were conducted by the lead researcher. Efforts were made to address this and other common threats to validity, including acknowledging preconceptions about the topic, framing interview questions in an open manner, searching for discrepant evidence, and having colleagues review the conclusions as checks on credibility.

Implications for Research and Practice

This study offers a conceptual definition for a rights-based approach to sexuality education that is consistent with and gives structure for understanding the guidelines, curricula, research, and theory have been cited as informing the approach. This definition suggests a number of avenues for future work by advocates, researchers, program developers, and funders.

First, there is a need for open professional dialogue, if not consensus, on the definition of a rights-based approach. The use of human rights language, as well as gender-related concepts, in sexuality education is growing in some circles, but there is lack of clarity about what is and is not considered a rights-based approach. There are genuine concerns that the term is becoming the latest example of professional jargon with diminished meaning. Without an agreed-upon definition, it will be difficult to guide program development, draw conclusions about effectiveness, consider issues of feasibility, or discuss potential for expansion. A critical part of this discussion will be the question of framing the approach to U.S. audiences and, perhaps, considering other language that may be more acceptable.

Second, this particular conceptual definition needs to be tested through further study. No single piece of research can, or should, be expected to form a definitive conclusion; the process of theory-building is an ongoing one. Researchers will need to draw upon different methodologies, settings and disciplines to validate, contradict, amend, and expand the findings presented here. Possible avenues include content analyses of existing rights-based curricula and program materials for fit to the conceptual definition, interviews with experts on required elements and content, and meta-analyses of the interventions that incorporate rights-based concepts including, but not limited to, gender.

Third, there is need for thoughtful consideration about the definition's implications for program development and implementation. The ideas presented within this definition will be limited in reach unless tried and tested in practice by those who work directly with youth. While it is beyond the scope of this single study to dictate how a rights-based sexuality education should look, the conceptual definition does offer some guidance. As an initial step, program developers could review their existing intervention efforts with an eye toward the four core elements, as well as potential implementation challenges particular to the target population and setting. Some questions to consider include:

- What are the guiding principles behind our intervention? Why have we chosen our existing model of sexuality education? To what extent is our work youth-centered? How does a vision of youth rights and responsibilities fit with our organizational mission and the communities we serve?
- What outcomes are we currently trying to change with our intervention, and why? Could we expand our goals to beyond pregnancy and disease prevention? What are goals and the requirements of our funding sources?

- To what extent are our current topics aligned with rights-based concepts, such as gender and cultural norms, rights, sexual orientation, and positive sexual expression? What issues are most pressing for the youth we serve? What are potential challenges of incorporating these expanded content areas? To what extent are existing staff knowledgeable about and comfortable with these topics?
- How participatory and interactive are our current teaching strategies? How might be incorporate critical thinking activities in our intervention? Would further training be required to prepare staff for more engaged teaching strategies? How could our intervention help schools meet core standards?

Depending on the nature of an organization's current work, a rights-based approach may be similar to or quite different from existing interventions. Considering a rights-based approach might offer an exciting opportunity for growth and change, or be beyond the scope of an organizations' mission and philosophy. The operationalization of the rights-based conceptual definition into program-level logic models, with measurable objectives linked to targeted activities, will be a key task for future programmatic investigation. Additionally, funders could use it to appraise programs and support innovative rights-based efforts in diverse communities. Together, such efforts will yield critical experiences for the field in learning more about what the potential for the rights-based approach to sexuality education in practice.

Finally, this study points to the need for further reflection about issues of measurement and evaluation. Programs using elements of the rights-based approach will need to reassess their evaluation practices for alignment with the elements in this conceptual definition. This includes the development of indicators of positive sexual health beyond that of sexual risk behaviors, pregnancies, and STIs, as well as measures of adolescents' attitudes about gender and cultural norms, rights and responsibilities in relationships, communication assertiveness, and other major content areas that are hypothesized to be linked with sexual decision-making and behaviors. Furthermore, there will need to be consideration about how to incorporate findings from rights-based sexuality education programs into the existing lists of evidence-based interventions that guide much funding today. This includes, but is not limited to, the inclusion of results based in international settings into the U.S. knowledge base.

While questions are still to be answered regarding the implementation and impact of the rights-based approach to sexuality education, it is clear that its reach is growing. Addressing these questions through research and practice may lead to promising opportunities in our work to promote the sexual health and well-being of all adolescents.

Table 1-1. Frequency of Four Core Themes, Overall and by Respondents' Geographic Focus

	Principle	Goal	Content	Pedagogy
US	8 of 12	10 of 12	9 of 12	9 of 12
International	7 of 7	6 of 7	7 of 7	7 of 7
Total	15 of 19	16 of 19	16 of 19	16 of 19

Based on 19 of 20 interviews. One interview was excluded here because the interview focused on a single theme.

Table 1-2. Potential Content Areas for Rights-Based Approach to Sexuality Education

Gender equality, gender norms, and expectations	*"A clear recognition of the role that gender norms play, and therefore emphasizing and really establishing more egalitarian gender norms, not only in terms of gender equality for girls, but in norms and roles that are less rigid for boys and less stringent for boys as well."*
Race, ethnicity, class	*"Getting people to look at the intersections between messages about sexuality and messages about race and messages about ethnicity. They're very potent in [U.S.] culture."*
Sexual orientation and diversity	*"[Leaving LGBTQ students out of the curriculum] not only does that impact the individual, but it also really impacts the campus climate. If you are just talking about heterosexuality then you are reinforcing this heteronormative climate that can be really harmful and hurtful for [LGBTQ] students."*
Violence	*"It includes gender-based violence… but also looking at the way violence plays out around homophobia, gang-related violence, the everyday school bullying and such that's part of the majority of young men's lives at some moment or another."*
Relationship rights and responsibilities	*"It's not like some international treaty, some arcane civil rights. It's about equality and it's about dignity and freedom from harm, but bringing it down to a very practical, personal, interpersonal level."*
Sexual expression and pleasure	*"Of course we can't demand sexual pleasure. You can't just say 'I have a right to sexual pleasure!', but you can insist that this is part of sexual being and of the whole realm of being able to experience something in a pleasurable way."*
Citizenship and advocacy	*"To give the kids the space to see, to look critically [at what the norms and messages are], and to say… that I am better than this and I can make a difference. I can change things. It doesn't have to be this way."*

Figure 1-1. Proposed Conceptual Definition for a Rights-Based Approach to Sexuality Education (1)

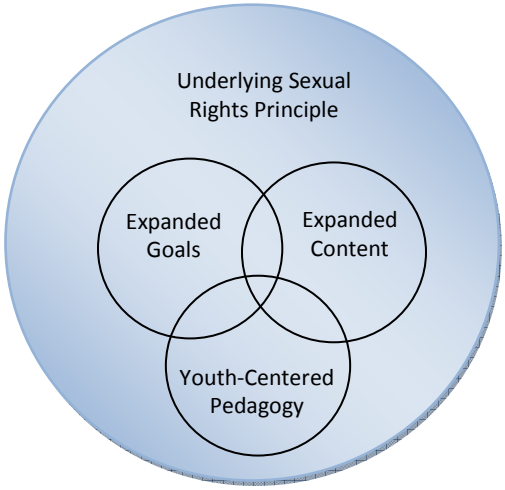
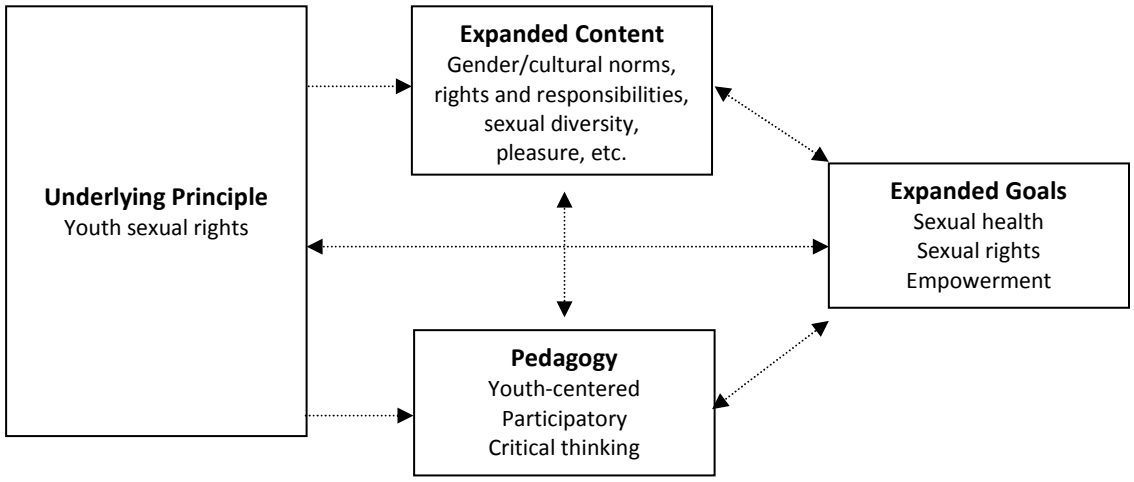


Figure 1-2. Proposed Conceptual Definition for a Rights-Based Approach to Sexuality Education (2)



Arrows depict conceptual connections rather than causal effects.

PAPER 2: ADOLESCENTS' ATTITUDES ABOUT RIGHTS IN SEXUAL RELATIONSHIPS: MEASURE DEVELOPMENT AND PSYCHOMETRIC ASSESSMENT

Abstract

This article describes the development and psychometric properties of new scales to measure adolescents' attitudes about rights in sexual relationships. A growing wave of sexuality education efforts has brought explicit attention to the importance of having a positive sense of one's rights with a sexual partner, seeing this as a critical pathway for improving adolescent sexual health. To date, little attention has been paid to issues of measurement, leading to gaps in our understanding of adolescents' underlying attitudes about their rights in relationships and the potential impact of the rights-based approach to sexuality education. In this study, we defined relevant constructs, developed scales to measure attitudes about rights in reference to both steady and casual sexual partners, and assessed these scales' psychometric properties. We employed both classical test theory (CTT) and item response modeling (IRM) methodological approaches in a sample of 794 urban Latino and African American adolescents. Analyses identified three conceptually distinct factors: adolescents' attitudes toward the rights to 1) refuse unwanted sexual activity, 2) express sexual engagement needs, and 3) establish autonomy within sexual relationships. These factors were consistent with reference to both steady and casual partners. The scales showed evidence of strong internal consistency and temporal stability. Correlations with conceptually-related scales were as hypothesized, supporting the case for the scales' validity. Analyses also detected limitations, including differential item functioning by gender for two items. While further research is needed to examine associations between attitudes about rights and sexual behaviors, these findings provide an important step in building a knowledge base for the field.

Introduction

Helping young people successfully navigate adolescence and become healthy adults is one of the core tasks of public health, and establishing strong methods for understanding this period is a critical goal for the research community. While a great deal about adolescent health behaviors has been learned over recent decades, "the successes of research involving adolescents are often overshadowed by persisting gaps in knowledge" (Santelli et al., 2003, p.397). One cause for such knowledge gaps is poor or inconsistent measurement of latent constructs that draw our interest, that is, the attitudes, norms, values, and intentions that, as expressed in theory, influence these behaviors. In evaluations of programs that aim to prevent adolescent pregnancies and sexually transmitted infections (STIs, including HIV), for example, measures are commonly developed on a study-by-study basis and rarely assessed for reliability and validity in a comprehensive, standardized manner (Basen-Engquist et al., 1999). High quality measures can tap into adolescents' underlying beliefs and motivations, benefiting our ability to understand our target population and make decisions on their behalf. In contrast, the consequences of poor measurement can be quite serious. Erroneous findings may bring harm to study participants, as well as their peers, schools, families, and communities for whom future programmatic and policy decisions are made.

This paper contributes to an emerging area in the understanding of adolescent sexual behavior: adolescents' attitudes about their rights when in a sexual relationship. Attention to sexual rights, in general and of adolescents in particular, has grown appreciably over recent decades, centered on international human rights commitments and United Nations conferences on issues of gender equality, sexual and reproductive health, and HIV/AIDS (Kossen, 2012). Much of this attention is focused on the duties of governments and social institutions as protectors of sexual rights; less attention has been given to the role of the individual in the realization of sexual rights. This issue of individual-level rights and responsibilities within interpersonal relationships has been conceptualized in two distinct ways: 1) as an ethical framework to guide sexual behaviors and 2) as a causal step in the development of sexual assertiveness to improve communication between partners. Both cases lend themselves to new avenues for sexuality education efforts.

Building on broader human rights work, Dixon-Mueller and colleagues proposed an ethical framework for sexual behaviors based on the principle that all individuals "must understand their own sexual rights and responsibilities and respect the equal rights of others − particularly those of their sexual partners" (Dixon-Mueller et al., 2009, p.111). For adolescents, this means learning that they have certain inalienable rights in their sexual decision-making, including to choose one's partner, seek sexual pleasure, expect partner cooperation regarding pregnancy and STI prevention, be safe from sexual violence, and have access to information and services. It further means understanding that these rights come with consequent responsibilities, most notably in acknowledging the same rights in their partners and the limits this can place on their own desires and actions.

Other research has noted the importance of having a positive sense of one's rights in sexual relationships as critical toward the development of sexual assertiveness, that is, the ability to state clearly and with confidence one's sexual values, desires, limits, and concerns. One of the first attempts to conceptualize and measure the construct of sexual assertiveness, by Morokoff and colleagues (1997), was based on a framework of human rights, specifically the right to autonomy over one's body and sexual experiences. That is, sexual assertiveness is more than learning skills to sound clear and confident – skills that would be beneficial in any type of personal or professional communication – but is also predicated on the belief that one has individual rights within the specific context of a sexual relationship. Sexual assertiveness, thus, requires a belief in one's own rights across varied and complicated sexual situations, in addition to the skills to express those beliefs to an intimate partner. Morokoff further notes that these rights include not just the rights to refuse unwanted sexual activity, but also the rights to initiate positive, desired sexual experiences, and to protect oneself from unintended pregnancy and STIs.

These intertwined constructs of sexual assertiveness and sexual rights have rarely been discussed in research on adolescents, although there is little reason to think they would not apply to this age group. The attention to assertiveness and rights aligns well with the changes in key domains of psychosocial development that take place during adolescence. It is a time when young people are discovering and expressing their identity, establishing their autonomy, forming intimate relationships with others, and expressing their sexuality. Compared to younger children, the cognitive development of adolescents allows them to contemplate abstract concepts, consider their own emotions, and understand the relativism of others' perspectives (Lerner & Steinberg, 2009; Steinberg, 2008). To date, one study was identified that specifically studied adolescents' beliefs about their sexual rights (Rickert et al., 2002). It found that many sexually active adolescent and young adult women (ages 14-26) perceive that they do not have the right to assert their needs to their partners or control key aspects of their sexual behavior, whether regarding their rights to refuse unwanted sexual advances or state their own sexual desires. The authors conclude that addressing perceptions of sexual rights could become a key strategy in interventions to reduce sexual risk behaviors and improve sexual health outcomes.

In fact, in recent years, these constructs have been brought to the forefront in new models of pregnancy/STI prevention and sexual health promotion programs. A number of major international entities have advocated for a "rights-based approach" to sexuality education that is guided by principles of young people's sexual rights (e.g., IPPF, 2010; UNESCO; 2009; WHO Regional Office for Europe & BZgA, 2010). Under this framework, programs aim to instill youth with the knowledge, skills, and sense of agency they need to assert their rights in their relationships, as well as the understanding that they have the responsibility to respect those same rights in others (see Paper 1). Part of the task for rights-based sexuality education programs, then, is to encourage positive attitudes about and assertion of rights across the complicated situations encountered in relationships and sexual decision-making.

The rights-based approach to sexuality education is growing both internationally and in the United States, with programs bringing explicit attention to the rights and responsibilities of young people in their sexual relationships (Instituto Promundo et al., 2002; International Sexuality and HIV Curriculum Working Group, 2009; PPLA, 2012). While not necessarily using the label of rights-based, other U.S. programs are emphasizing the roots of sexual assertiveness, by addressing the economic, physical, and social power differentials that often play into sexual relationships. For instance, two recent HIV prevention interventions for adolescent girls have been guided by the theory of gender and power (Wingood & DiClemente, 2000) and have encouraged female participants to develop sexually assertive beliefs and practices with their male partners.

Measuring Attitudes about Relationship Rights

With the growth of these efforts comes the need to measure attitudes about relationship rights accurately and consistently. As noted by the International Planned Parenthood Foundation in its new work to define indicators to measure the effectiveness of the rights-based approach to sexuality education, "Our measurements have to be just as complex as the interventions themselves" (IPPF, 2012, p.21). While measures have been developed on related issues – such as attitudes toward gender norms and relationship power (Harrison et al., 2006; Pulerwitz et al., 2000; Pulerwitz et al., 2008; Sherman et al., 2000; Stephenson et al., 2012) – few have specifically addressed constructs of sexual relationship rights.

Three previous studies are conceptually relevant, but have limitations with respect to their applicability for a broad population of adolescents. Lottes and Adkins (2003) developed a measure of support for sexual rights; however, it addressed macro-level perspectives about sexual rights (e.g., "low-income women should be given financial assistance for the purchase of contraception") but not an individual's rights within an intimate relationship. Morokoff's Sexual Assertiveness Scale (SAS) offers a guide in its use of items that address different aspects of rights, incorporating beliefs about rights to refuse unwanted sexual activity, protect against pregnancy or STIs, and assert sexual desires. However, it is largely based on studies of women's compliance with traditional gender norms for sexual behavior; thus, the measure was designed for and tested with samples of adult, sexually active women in heterosexual relationships (Morokoff et al., 1997). Rickert et al. (2002) addressed varied scenarios of asserting sexual rights with a younger sample of adolescent and young adult women. Here too, the perspective was that of sexually active women in heterosexual relationships. Moreover, the 13 items were assessed independently and not used toward the development of a single psychometrically-sound measure with evidence of reliability and validity.

Although each of these measures have yielded important findings on issues of sexual rights and sexual assertiveness, they are not directly applicable for use in observational studies of adolescent sexual behavior or evaluation studies of rights-based sexuality education programs. The transitioning cognitive abilities of adolescents can affect responses to items designed for adult populations. Previously tested measures may not be transferable to a younger age group if they require reflection that is more abstract or consideration of complex hypothetical

situations (Dashiff, 2001). The existing measures are further limited in their direct relevance to young men in that they focus on the woman's role in asserting her rights to a male partner. Rights-based sexuality education programs engage both young men and women in understanding their rights and responsibilities in relationships and in developing skills to assert with clarity their sexual values, limits and desires to a sexual partner. Additionally, the focus on heterosexual relationships and the assumptions of current and regular sexual activity make these existing measures less appropriate for understanding the beliefs and practices of a diverse adolescent audience.

Purpose of the Current Study

The primary goal of this study is to contribute to adolescent sexual health research and practice by offering self-report survey measures that address adolescents' attitudes about rights in sexual relationships. Based on existing research and theory, we operationalized new measures of these constructs using a deliberative, multi-step procedure according to established guidelines of instrument development (Groves et al., 2009). We then assessed the psychometric properties of the measures, including evidence of reliability and validity, with a large sample of Latino and African American adolescents in the U.S. These measures are among the first to address the rights-based constructs that are emerging in both epidemiological studies of adolescent sex and sexuality and the evaluation of new sexuality education programs. As greater attention is brought to these constructs, there is a need for concise, psychometrically-sound items and scales that can improve our understanding of adolescents' decision-making, emotions, and experiences.

A second goal is to illustrate an application of advanced psychometric methods to studies of health behavior and health education. Currently, it is common for health researchers to assess the reliability and validity of their scales using techniques rooted in classical test theory, such as Cronbach's alpha as a measure of the internal consistency reliability. Other social science disciplines – namely education and psychology – increasingly rely on probabilistic item response modeling (IRM) in their development and validation of scales. IRM has brought about "new rules of measurement" that allow for shorter scales (i.e., equivalent reliability with fewer items), provide more information about the range of respondents' support for an underlying construct of interest, and offer additional tools for understanding the psychometric properties of scales (Embretson & Reise, 2000). These models are beginning to be applied in health research and offer new opportunities to assess scales (Dunn et al., 2006; Edelen & Reeve, 2007; Mâsse et al., 2006; Wilson et al., 2006). In this paper, we integrate findings from the two methodological approaches in the development and psychometric appraisal of our measures, with the goal of more fully assessing their utility for future studies of adolescent sexual behavior and evaluations of rights-based sexuality education programs.

Methods

Study Setting

This study was conducted as part of the multi-year randomized evaluation of Planned Parenthood-Los Angeles' Sexuality Education Initiative (SEI), designed for 9th grade students in the Los Angeles Unified School District (LAUSD) and associated charter schools. The SEI includes four components: 12-session classroom curriculum, a parent education program, peer leadership activities, and access to clinical services. The curriculum incorporates content on gender norms, healthy relationships, rights and responsibilities, and other rights-based constructs, as well as sessions on pregnancy, STIs, abstinence, and birth control. The primary data source for the evaluation is the SEI Student Survey, completed by students in intervention and control groups at pretest, immediate posttest, and one year follow-up.

Survey Development

We developed a multi-step procedure to operationalize rights-based constructs into survey measures and support their content validity. First, we defined each construct and developed a matrix to ensure that survey items represented the breadth of each construct (Wilson, 2004). We identified existing items in the research literature and assessed them for appropriateness for the target population. If no adequate items were identified, we developed new items based on SEI objectives and formative research, including focus groups with adolescents and parents. Second, we asked researchers with expertise in adolescent sexual behavior and familiar with the SEI theory of change to critical review the items. Third, we compiled the items into a written (paper-and-pencil) survey, piloted it with adolescents from the target population, and conducted analyses to identify problem items, such as those with little response variation or higher than expected missing cases. Fourth, we administered the survey one-on-one to adolescents using cognitive interviewing techniques to evaluate quality of responses, ensure comprehension, and determine whether items were generating information as intended (Beatty & Willis, 2007). Fifth, we administered the survey to more than 700 students as part of the SEI's pilot implementation (2010-11), and conducted psychometric analyses to identify challenges. We then made final revisions to the items and measures before the survey was administered for the SEI's first full year of implementation (2011-12), which serves as the dataset for this analysis.

Survey Measures

This paper focuses on select rights-based constructs included in the SEI Student Survey. *Attitudes about Sexual Relationship Rights (RR)* considers adolescents' attitudes toward their rights regarding sexual decision-making. As presented on the final survey, the *RR* measure consisted of 17 items[2] about the rights of a hypothetical person in a sexual relationship,

[2] The test/retest reliability analysis relied on the pilot (2010-11) version of the SEI Survey, which used 12-item versions of the *RR-Steady* and *RR-Casual* measures.

including saying no to sex, insisting on using condoms or birth control, asking about a partner's sexual experiences, saying that they want to have sex, etc. The measure was presented separately in the context of a sexual relationship with a long-term, stable ("steady") partner (*RR-Steady*) and short-term, casual partner (*RR-Casual)*, based on hypotheses that attitudes and behaviors are expressed differently by relationship type with this age group (Collins et al., 2010; Manlove et al., 2011; Rosengard et al., 2005). All items were measured on 4-point Likert scales; no neutral category was offered based on cognitive interview findings that suggested respondents' confusion with this response option.

This study included demographic and behavioral variables as well. *Gender* was measured as a dichotomous variable, using males as the reference group. *Age* was measured in years as an ordered categorical variable. Race/ethnicity was measured as a categorical variable, with seven response options. Due to small cell sizes, this variable was dichotomized, comparing *Hispanic* students – the largest group – to non-Hispanic students as the reference group. *Relationship experience* with a steady partner was measured dichotomously, with respondents reporting no previous relationship as the reference group. *Sexual experience* was measured dichotomously, with respondents reporting never having had sex as the reference group. Sex was defined as vaginal or anal intercourse. Other survey measures were used in this analysis for the purpose of establishing construct validity. These were developed expressly for the SEI evaluation, and included scales related to *communication comfort with a steady partner* (eight 4-point Likert items, mean scale, α=0.84), *communication comfort with a casual partner* (eight 4-point Likert items, mean scale, α=0.83), history of *communication with sexual partners* (9 yes/no topics, summative scale, α=0.82), history of *communication with parents/guardians* about sex (15 yes/no topics, summative scale, α=0.91), *sexual health services knowledge* (four 4-point Likert items, mean scale, α=0.65), and *protection self-efficacy* (six 4-point Likert items, mean scale, α=0.77).

Subjects and Procedures

The SEI Student Survey was administered to 9th grade students attending eight Los Angeles public charter schools during the 2011-12 school year. Because of survey length and time constraints, two versions of the survey were prepared. *RR* measures were included on both versions of the survey, with a random half of students responding to questions about steady (*RR-Steady*) or casual sexual partners (*RR-Casual*). Most analyses in this study rely on pretest data collected from students participating in SEI intervention and control groups. The test/retest reliability analysis relies on a separate sample of 10th grade students drawn from one participating school; these students completed the pilot version of the survey twice in Spring 2011, with the second administration (retest) following the first (test) by two weeks. All study protocols were approved by the University of Southern California's Health Sciences Institutional Review Board. The analyses for this paper were approved by the Committee for the Protection of Human Subjects at the University of California, Berkeley.

Analyses

This paper examines the extent to which the *RR-Steady and RR-Casual* measures show evidence of item fit, reliability, and validity – key properties of a psychometrically-sound scale – using analytic techniques based on two methodological approaches. Classical test theory (CTT) posits that the observed total score across items in a scale is composed of the individual's true score and some amount of error; its methods are common in studies of health behavior and education. Item response theory models (IRM) the relationship between an individual's latent trait (that is, their unobservable proficiency for or endorsement of the construct) and their responses to specific items. It offers tools to examine item performance and assess whether items function differentially for groups of individuals. Readers interested in IRM are referred to other sources (Embretson & Reise, 2000; Wilson, 2004; Wilson et al., 2006). Analytic plans were developed to be consistent with common guidelines for testing new measures (AERA et al., 1999). Data management, item analyses, and CTT analyses were conducted using Stata 11.0 (College Station, TX). IRM analyses were conducted using ACER ConQuest 3.0 (Adams et al., 2012). The following steps were completed for each of the two *RR* measures:

1. Item Analysis

We examined missing item responses to gauge acceptability for students. We examined the distribution of students' responses to individual items to understand the discrimination ability of the response categories and the skew of the total scores.

2. Exploratory Factor Analysis

We used exploratory factor analysis to uncover the internal structure (factorial) validity of the items, using oblique rotation to allow for correlated factors. Factors were based on eigenvalues greater than 1 and rotated item loadings of 0.5 or more, and then reviewed for theoretical plausibility, correlation with other factors, and internal consistency reliability. We further examined internal structure validity by reviewing responses to each item relative to overall mean scores on the scale, with the expectation that students who agreed more strongly to the item (i.e., had a higher response on the 4-point scale) would also have greater scores on the full scale.

3. Classical Test Theory Analysis

Reliability – We assessed internal consistency of the scales using Cronbach's coefficient alpha (α), setting 0.7 as the cutoff for acceptable reliability (Cronbach, 1990; Streiner & Norman, 2005). We examined the consistency of each item with the scale overall omitting that item (item-total correlation), setting 0.2 as the cutoff to indicate contribution to the homogeneity of the scale (Streiner & Norman, 2005). We assessed test-retest reliability in the separate sample using the Pearson correlation coefficient (r), setting 0.5 as the cutoff to indicate acceptable temporal stability over the two-week period (Streiner & Norman, 2005).

Validity – We examined construct validity by examining the relationship between the scales and theoretically-related variables based on convergent and discriminant hypotheses, using the Pearson correlation coefficient. We hypothesized that attitudes about relationship rights would

correlate positively with measures of communication comfort, history of communication with a sexual partner about sex, and protection self-efficacy. For example, a student who reported more positive attitudes toward relationship rights would report greater comfort communicating with partners about sex and greater sense of being able to protect oneself using condoms or birth control. We hypothesized there would be a lower, but still positive, correlation with measures of sexual health services knowledge and communication with parents/guardians about sex.

4. Item Response Theory Analyses

Model Fit – We fit one parameter probabilistic models for polytomous (multiple-category) response categories to allow for comparison of respondent (θ) and item (δ) parameters. Based on results of the exploratory factor analysis, which indicated a three-factor structure across 14 items, we fit each measure using a multidimensional random coefficients multinomial logit (MRCML) model to allow for simultaneous modeling of the dimensions. The MRCML extends the Rasch family of item response models to situations where a measure is conceptualized as having more than one dimension (Briggs & Wilson, 2003).[3] In our case, multidimensionality was considered to be between items (i.e., each item was assigned to a single dimension); there was no empirical or conceptual evidence to conclude items were measuring more than one dimension.

We further examined whether students used the Likert response categories consistently or not across items within a dimension by comparing model fit between the rating scale model (Andrich, 1978) and partial credit model (Wright & Masters, 1982). The rating scale model is intended for Likert items that share the common polytomous response categories (as is the case with these measures), and provides a more parsimonious model. In practice, however, it rarely fits the data well, and the partial credit model's allowance for different thresholds for different items is needed. For each of the *RR* measures, the multidimensional partial credit model showed better overall model fit than the rating scale model, as assessed by the difference in deviance using a log-likelihood ratio test[4] [G^2=97.19, df=26, p<0.001 for *RR-Steady* and G^2=71.41, df=26, p<0.001 for *RR-Casual*] and relative Akaike Information Criterion (AIC) values, as well as better item fit statistics for the step parameters (see Table 2-7). All subsequent analyses relied on the multidimensional partial credit model.

Item Fit – We examined fit of the item and step parameters to understand the models' ability to predict variations in observed item responses. We used weighted mean square fit (infit) statistics to compare the ratio of the observed item score variance to the variance predicted by the model, with an ideal value of 1. Bounds of 0.75 to 1.33 were used for determining if responses were less or more random than expected; infit statistics outside this range were considered unacceptable (Wilson, 2004). These findings were corroborated through weighted t-

[3] In addition to being conceptually appropriate, the multidimensional approach showed better model fit than the equivalent unidimensional model, based on a log-likelihood ratio test of the difference in deviance between the nested models, as well as a lower Akaike Information Criterion (AIC) value (see Table 2-7).

[4] The χ^2 distribution does not apply at the boundary of the parameter space, requiring a correction to the sampling distribution. Here, the p-value is corrected by dividing by 2.

statistics between -1.96 and 1.96. Because large sample sizes can result in non-meaningful statistical significance, we used infit as our primary measure of item fit (Wilson, 2004). We also graphed item characteristic curves (ICCs), which plot the frequency of response category endorsement by overall score (θ) to determine how response categories are used by respondents at different levels of support for relationship rights.

Reliability – We assessed internal consistency using the person separation reliability coefficient, setting 0.7 as the cutoff for acceptable reliability. The separation coefficient is similar conceptually to Cronbach's alpha but uses the respondent scores rather than the CTT sum across items. It was calculated using *expected a posteriori* estimation based on plausible values (EAP/PV) scores, rather than MLE scores, to include respondents who had perfect scores across items. We examined Wright Maps as another means of comparing the distribution of respondents relative to specific item response categories on the same linear metric, using a logit scale mean-centered at zero.

Validity – We assessed differential item functioning (DIF), also known as statistical item bias or measurement non-invariance, as a possible threat to validity. Items with DIF show different measurement properties for respondents with equal levels of construct due to the respondent's membership in a particular subgroup. We assessed items for DIF by gender using multidimensional partial credit models that included an interaction term between item and gender. We reviewed the item*gender difficulty estimates for statistical significance, as well as the absolute difference in male and female respondents' estimates as a standardized effect size (Wright & Masters, 1982). A difference of less than 0.426 is considered negligible, between 0.426 and 0.638 is considered intermediate, and greater than 0.638 is considered large. We also conducted separate models for male and female respondents to compare the correlations across the three dimensions within each gender.

Final Sample

Due to the study design, the psychometric analyses relied on a subsample of the total 833 adolescents who completed the survey at pretest. As discussed, two versions of the survey were used to reduce survey length; a random half of the study sample completed each version. Following deletion of cases with missing responses to more than one item within the two measures, the final sample sizes were 392 for the measure regarding rights with steady partners (*RR-Steady*) and 402 for the measures with casual partners (*RR-Casual*). There were no statistically significant differences in demographic or behavioral characteristics across these samples, as expected due to the randomization of the survey form assignment.

Across all respondents [N=794], just over half (52%) of respondents were female. Most (84%) reported their racial/ethnic background as Hispanic, 9% as African American, and 7% as another race or ethnicity. As fitting for the target population of 9th grade students, 92% were 14 or 15 years old. Most students (76%) reported having been involved in a steady relationship with a

boyfriend or girlfriend, and 20% reported having had vaginal or anal sexual intercourse[5] (see Table 2-1).

Results

Item Analysis

Missing response rates were low, indicating acceptability and clarity of the items for the respondents. Fewer than 5% of cases (39 of 833) were deleted for more than one missing item response of the 17 items on their given survey. There were no notable differences in missingness for the steady vs. casual partner items. Overall, students largely agreed with the statements about rights in intimate relationships whether with a steady or casual partner. As such, the distribution of students' total scores showed a ceiling effect. The mean total raw score was 38.0 (s.d.=7.4) across the 17 *RR-Steady* items and 36.1 (s.d.=7.8) across the 17 *RR-Casual* items, out of possible range of 0 to 51 (see Figure 2-1).

Table 2-2 shows the distribution of responses across the steady and casual partner items. It highlights limited variability of responses: on average, 3% of respondents used the "strongly disagree" category, and 11% used the "disagree" category. The distribution of responses varied by item. For example, students reported strongest support for their right say no to sex, with 92% agreeing or strongly agreeing in situations with a steady partner and 94% with a casual partner. They reported lowest – but still high – support for their right to ask about a partner's past sexual experiences (78% in situations with a steady partner; 74% with a casual partner).

Internal (Factorial) Structure

Within each set of items on attitudes about relationship rights (*RR-Steady, RR-Casual*), exploratory factor analyses indicated three factors based on eigenvalues and rotated factor loadings (see Tables 2-3a and 2-3b). Initial factor analyses of all 17 items identified a two factor solution. None of the items loaded highly on more than one factor. The items with sufficient loadings were reviewed and inductively labeled as: 1) Sex Refusal, consisting of five items that addressed the right to refuse unwanted sexual activity and 2) Sex Engagement, consisting of four items that addressed the right to express sexual engagement needs. The remaining items (i.e., those that had not loaded highly) were reviewed; five of eight addressed common issues of relationship rights unrelated to sexual decision-making. Factor analyses of these five items loaded on one distinct factor with a high eigenvalue. This third factor was labeled as: 3) Relationship Autonomy, consisting of five items that addressed the right to space, privacy and autonomy within an intimate relationship. The pattern of findings from the exploratory factor

[5] While the test/retest sample was drawn from the same school population as the main sample, there were some demographic differences. Relative to the pretest sample [N=794], the test/retest sample [N=83] was more likely to be older [0% age 14, 44% age 15, 55% age 16, $p<0.001$] and all students were Hispanic [$p<0.01$]. There were no statistically significant differences between the samples by gender, relationship experience, or sexual experience.

analyses was consistent across the items about rights with a steady partner and with a casual partner, lending support for a stable three-factor structure. For both the steady and casual partner samples, three of the initial 17 items did not load on any factor; these were removed from subsequent analyses.

Table 2-4 displays the intercorrelations of these dimensions, using mean subscales created by summing the items and dividing by the total number of items (raw scores) and as parameters of the multidimensional item response models. Correlations between the Sex Refusal and Sex Engagement subscales provided further empirical support for their distinctiveness (raw score: 0.40 steady partner, 0.37 casual partner; IRM: 0.56 steady partner, 0.51 casual partner). The correlations between Relationship Autonomy and the other two subscales were higher (on average, raw score: 0.64; IRM: 0.85). The patterns of these correlations were consistent for the two methodologies; the multidimensional correlations are higher because they are not attenuated due to measurement error. While empirical support for the distinctiveness of this third factor was not as strong, it was included based on its conceptual importance to the understanding of relationship rights as a broad construct that includes non-sexual rights within intimate relationships.

All subsequent analyses took into account this multidimensional structure. Thus, six subscales – measuring rights about sex refusal, sex engagement and relationship autonomy, in separate situations with a steady or casual partner – are considered in the findings presented below.

Reliability

Internal consistency reliability for each of the six subscales was within acceptable range (see Table 2-5). Item-total correlations were high, indicating that the items were measuring the same underlying latent construct. Cronbach's alphas for each subscale were high, ranging from 0.70 to 0.81. Results were similar by gender, Hispanic ethnicity and sexual experience (results not shown). The person separation reliability coefficient, generated through the IRM models, was high for each of the six subscales, ranging from 0.82 to 0.89. Test/retest reliability for the 12-item[6] versions of the relationship rights items on the pilot survey was also acceptable; the Pearson correlations across the two-week period were 0.52 and 0.66 for the steady and casual partner items, respectively.

Item Fit

At the item level, weighted mean square (infit) statistics fell within the acceptable range (ranging from 0.85 to 1.24 for the steady partner items and 0.84 to 1.21 for the casual partner items). Three of 28 t-statistics indicated greater than expected deviance (see Table 2-8). At the step level (i.e., for each response category), two of 56 steady partner item steps and two of 56 casual partner item steps were outside of acceptable range (results not shown). While some

[6] Because of differences in the pilot and final versions of the SEI Survey, test/retest reliability analyses were conducted using mean scales across all 12 relationship rights items, rather than the identified subscales.

item steps indicated greater than expected deviance according to the t-statistics, there was no clear pattern that indicated a particular problem with the items or scales.

The findings of the item fit statistics and lack of variability in response distribution were replicated through the examination of Item Characteristic Curves (ICC). As an example, two are presented in Figure 2-3. The first asks about the right to say no to a steady partner to sexual activities that make them uncomfortable; the second asks about the right to ask about a casual partner's past sexual experiences. Both have acceptable item fit (0.93 and 1.14, respectively). The first ICC shows how rarely the two lowest response categories – strongly disagree and disagree – are used for this item; only those students with the lowest support for the concept of relationship rights disagreed with this item. That is, this item is not able to distinguish well among most students. In contrast, the second item shows greater distribution for respondents with average support for the latent trait (mean θ).

The Wright Maps in Figures 2-2a and 2-2b display the distribution of students' overall scores relative to specific item responses. This visual depiction indicates that respondents' attitudes about their relationship rights are often greater (i.e., more positive) than the "difficulty" of items included in these measures; that is, the items are relatively easy to agree with. For both the steady and casual partner measures, the items make distinctions at lower (.1 and .2) thresholds only among the respondents with the least support for relationship rights. While the .3 thresholds are able to distinguish among respondents to some extent by separating agreement from strong agreement, a notable gap exists in the Wright Maps at the center of the respondent distribution, where most respondents' latent attitudes about relationship rights are based. The precision in estimating latent attitudes about relationship rights – as measured by the standard error of measurement– among most respondents is therefore lower than might be possible. The Wright Maps also make clear that respondents with the highest scores (i.e., strongest agreement) are not covered by items or response categories to make fine distinctions among their attitudes about relationship rights; this makes the error around these estimates relatively high as well.

Validity

Evidence supporting the content validity of the measures was provided as part of the description of survey development (see Methods). The multi-step procedure of construct definition, item identification, expert review cognitive interviews, and pilot testing all provided support for the content validity of the *RR-Steady* and *RR-Casual* measures. As previously described, exploratory factor analysis provided insight into a multidimensional (three-factor) structure of the *RR* measures that was consistent for items about rights with a steady partner or with a casual partner. Further evidence supporting the internal structure validity of the measures was found with respondents' mean scores for each of the six *RR-Steady* and *RR-Casual* subscales increasing with each response category for all items (results not shown) within each dimension.

Evidence of construct validity is presented in Table 2-6 with correlations between the six subscales and theoretically-related measures. Because the multidimensional structure was identified during the analysis phase of the study, we did not specify hypotheses about the Sex Refusal, Sex Engagement, and Relationship Autonomy subscales in advance. Adolescents' attitudes about relationship rights were most highly correlated with their sense of communication comfort, followed by their protection self-efficacy, and least correlated with partner communication about sex and knowledge of sexual health services. This pattern was consistent for attitudes about rights with a steady or casual partner, but the strength of the correlation was consistently greater for the steady partner scales. For example, respondents' protection self-efficacy was more strongly correlated with their attitudes about relationship rights with a steady partner (mean r=0.32) than rights with a casual partner (mean r=0.19). Patterns were also noted across the subscales, with stronger correlations found between the Sex Engagement subscales and the theoretically-related measures than for the Sex Refusal and Relationship Autonomy subscales. For example, the correlation between respondents' attitudes about rights to express sexual engagement needs and their communication comfort with a casual partner was stronger (r=0.36) than for rights related to refusing sex (r=0.20) or relationship autonomy (r=0.12).

The DIF analyses found that most items functioned in the same way for male and female respondents with the same latent endorsement about relationship rights (see Table 2-9). Two items, however, showed evidence of bias by gender in the item difficulty parameters. For respondents at the same level of support for relationship rights, females were more likely to support item j ("Right to talk about condoms and birth control") than their male peers, and males were more likely to support item k ("Right to tell partner that they would like to have sex") than their female peers. The DIF for these two items was noted in particular regarding rights with a steady sexual partner. In that sample, both item j and k showed DIF that was statistically significant (z=5.41 and -4.21, respectively) and of at least intermediate effect size (absolute difference=0.822 and -0.610, respectively). In the sample asked about rights with casual partners, the DIF was statistically significant for item j and k (z=2.04 and -3.13, respectively), but of negligible effect size.

Table 2-10 shows intercorrelations across the three dimensions, derived from separate multidimensional partial credit models for male and female respondents. The general pattern of these correlations (shown previously in Table 2-4 for all respondents) is repeated here. Notably, the correlations are quite similar for male and female respondents when asked about rights with casual sexual partners. For example, the correlations between the Sex Refusal and Sex Engagement subscales are 0.56 and 0.53 for female and male respondents, respectively. In the steady partner sample, these correlations differ more by gender, with correlations across the dimensions tending to be higher for male than female respondents. For example, the equivalent correlations between the Sex Refusal and Sex Engagement subscales in the steady partner sample are 0.53 and 0.70 for female and male respondents, respectively.

Discussion

This paper describes the development and psychometric assessment of two sets of measures of adolescents' attitudes about their sexual relationship rights, in parallel contexts of steady or casual relationships. Through use of both classical test theory and item response modeling approaches, the analyses revealed a number of critical properties about these measures that highlight their potential applicability for studies of adolescent sexual health.

Exploratory factor analyses provided information about the internal structure of these measures, finding that adolescents' attitudes about rights in sexual relationships cannot be considered a single, unidimensional construct. The larger construct we had defined as "attitudes about sexual relationship rights" yielded three correlated, but separate, ideas. Adolescents made distinctions between their attitudes about: 1) the right to refuse unwanted sexual activity, 2) the right to express sexual engagement needs, and 3) the right to autonomy within an intimate relationship. Notably, our factor analysis results were consistent for items about rights with a steady partner and items about rights with a casual partner, lending support to the convergent validity of these findings. In addition to being conceptually relevant for understanding the beliefs of adolescents, the findings of the exploratory factor analysis had empirical implications for our subsequent analyses. Without the identification of a multidimensional structure, it is likely that our confidence in the validity of these measures would be weaker. For example, a principal cause of identified item bias is the misspecification of an underlying construct as unidimensional, when, in fact, multiple constructs are being measured (Ackerman, 1992).

Overall, the final six subscales – measuring rights about sex refusal, sex engagement and relationship autonomy, in situations with a steady and casual partner – were shown to function well psychometrically. Each presented strong evidence of reliability. Classical test theory item analyses, based on Cronbach's alpha and item-total correlations, indicated that each of the subscales had high internal consistency. Person separation reliability indices generated by the item response models mirrored these results, with even higher reliability scores because the models account for correlations across the three dimensions (Briggs & Wilson, 2003). Test-retest reliability across a two-week period indicated that there was adequate temporal stability of the pilot version of the measures. Together, these lend confidence to the reliability of the final subscales.

Furthermore, the subscales showed acceptable item and step parameter fit, indicating that responses were neither too random nor contaminated by local dependence for the probabilistic item response model. A high degree of randomness can be an indication of ambiguity in item wording; too little randomness may indicate clichéd items that produce little variation in responses (Wilson, 2004). Neither was a cause for concern with our final subscales, which we attribute to two causes. First, our deliberative, theory-driven process of measure development (including expert reviews, cognitive interviews, and multiple rounds of pilot testing) likely reduced common challenges with vague or confusing item language. Second, our considered process of selecting a measurement model (i.e., comparing models using single vs. multiple

dimensions, and rating scale vs. partial credit step structure) resulted in appropriate fit of our data to our model prescriptions.

The pattern of validity evidence for the six subscales was positive, although not unequivocal. In particular, some concerns about internal structure emerged in the results of the EFA and Wright Maps. Although the EFA led to the important identification of the multidimensional structure, the results were somewhat ambiguous. Empirically and conceptually, we were able to identify two distinct factors related to adolescents' attitudes about sexual relationship rights (Sex Refusal and Sex Engagement), each of which showed good internal consistency reliability, a strong factor structure, and moderate correlation with each other. With the perspective that factor analysis is a statistical tool in understanding dimensionality that should be used in concert with theory and experience, we considered the items had not shown high factor loadings and as such did not fit with these subscales. We identified five items conceptually related to autonomy rights within sexual relationships, an area which we felt was critical to promoting a broad-based understanding of relationship rights. The subsequent factor analysis of these items and their internal consistency reliability lent support to the decision to label this as our third factor (Relationship Autonomy). Nonetheless, we acknowledge that this third factor was moderately correlated with the others. While we argue its conceptual distinctiveness is meaningful, we recognize that the empirical evidence is not definitive.

A further challenge in these subscales was identified on the Wright Maps generated through the item response models. The visual comparison of the respondent distribution (θ) and item difficulty estimates (δ) highlight gaps in the existing subscales. Notably, there are too few items with step difficulty estimates at the center of the respondent distributions, where most adolescents' latent attitudes about relationship rights are located (i.e., the peak of curve of latent responses). This gap exists among respondents with the most positive attitudes (i.e., the highest scores) as well. The measurement error in estimating attitudes among many respondents is therefore higher than it might be, and additional items or response categories would be needed to increase precision. Given the strong evidence for reliability, however, we conclude that this concern is not serious enough to warn against the measures' use.

The differential item functioning (DIF) analyses identified another concern about the measures. It is important to recall that the purpose of the DIF analysis is not to describe differences in support for relationship rights for male and female adolescents; this is a substantive question that should be considered in its own right. Rather, the DIF analysis asks whether items are functioning in the same way for adolescents with the same latent level of support for relationship rights (as we would want), or if there is evidence of statistical item bias based on gender. For most items, in both the steady and casual partner samples, no bias was found. Two items asking about rights with a steady sexual partner showed evidence of DIF. The "right to talk about condoms and birth control" (item j) was more likely to be endorsed by female respondents; the DIF was statistically significant and large in magnitude. The "right to tell a partner that they would like to have sex" (item k) was more likely to be endorsed by male respondents; the DIF was statistically significant and intermediate in magnitude. The same two items showed statistically significant DIF by gender when asking about casual partners;

however, it was of negligible effect size. Both of these items are part of the second factor about the right to express sexual engagement needs, which may indicate specific item content that functions differently for male and female students. In contrast, the items about the right to refuse unwanted sexual activity and the right to autonomy within an intimate relationship showed no evidence of DIF by gender. At this time, we do not suggest removing the two items with evidence of DIF from the scales, but rather consider testing their properties further in future studies.

Our separate samples analyses examined whether the correlations across the three relationship rights subscales were different for male and female respondents. Differences were apparent for the steady partner subscales, but not the casual partner subscales. That is, when asked about rights with casual sexual partners, male and female respondents considered the three dimensions similarly. When asked about rights with steady sexual partners, however, male respondents made fewer conceptual distinctions across the types of rights than their female peers. For males, attitudes about one's rights with a steady partner may be considered more of a unidimensional concept. This is an interesting finding that may warrant further investigation. However, we submit that it does not substantively alter our conclusions about these measures or their proposed use, given the overall consistency of findings.

Evidence for the construct validity of the new subscales was encouraging, with patterns of correlations with theoretically convergent and discriminant measures consistent with our initial hypotheses. It must be noted, however, that our initial hypotheses did not account for the multidimensional structure of the measures identified by the EFA; we did not establish separate hypotheses *a priori* about correlations for the Sex Refusal, Sex Engagement, and Relationship Autonomy subscales. Nonetheless, as expected, adolescents' attitudes about sexual relationship rights were most highly correlated with their sense of comfort communicating with a sexual partner and least with their knowledge of sexual health services in their community. We additionally found that, across the validity correlations, the magnitude of the correlation was consistently greater for the steady partner subscales compared to the casual partner subscales. While the substantive implications need to be further investigated, this finding does support our decision to consider attitudes about one's rights in a long-term, more stable, steady relationship and short-term, casual relationship as separate constructs. Overall, we find the evidence of construct validity to be sufficient, in the absence of a gold standard to which these new subscales can be compared.

While we take confidence in the development and utility of these measures of adolescents' attitudes of relationship rights, more work is needed. The study findings make clear that, for this population, more difficult and nuanced items (e.g., rights that might be more difficult to support) would allow for the instrument to measure this construct more precisely by reducing the standard error of measurement for respondents with above average endorsement. This paper was largely exploratory in nature, and future work should emphasize a more confirmatory approach that could test whether these measures operate in the same ways with other adolescent populations.

Study Limitations

There are several potential limitations to this study that must be considered. First, social desirability bias might explain the distribution of adolescents' support for relationship rights (Groves et al., 2009). To the extent that adolescents' responses may be based on expectations of appropriateness, we will not be able to accurately understand the functioning of this measure and, subsequently, the connection between these attitudes and sexual behaviors. This study used protocols in order to promote a confidential environment for adolescents and promote survey quality; nonetheless, the effect of social desirability bias may need to be investigated in further studies.

Second, these results rely on a single administration of final SEI Survey and its measures of adolescents' attitudes about sexual relationship rights. The SEI Survey is being administered with a new cohort of 9th grade students during the 2012-13 school year; the data will be used for cross-validation purposes. While evidence for temporal stability was available through the test/retest reliability analysis, the use of a briefer, pilot version did not allow for direct comparability of results. This was particularly true with regard to the multidimensional structure of the measures. Additional studies will be necessary to examine the stability of the three factors across populations.

Third, the use of two parallel versions of the SEI Survey restricted our ability to directly compare respondents' responses to scenarios about relationship rights in steady and casual partnerships. The randomization of the survey form assignment allowed for indirect comparisons that offered some evidence to validate of our findings, but additional studies will be necessary to include both sets of measures.

Fourth, the generalizability of these findings beyond this sample of low-income, urban, primarily Hispanic adolescents is unknown. One of the benefits of item response modeling is the invariance of the model parameters; that is, these statistics are not dependent on the specific sample population. Of course, our evidence is restricted to the sample investigated, and so we suggest caution when making inferences to other groups of youth. Testing the subscales with other populations will be necessary to provide further support for their reliability and validity.

Implications for Research and Practice

This study offers new measures for understanding adolescents' attitudes about sexual rights in intimate relationships, which has emerged as a critical construct in discussions of both sexual ethics and sexual assertiveness. This area has not been widely investigated, but is growing with the development of new rights-based approaches to sexuality education that directly address these ideas with youth.

This paper has implications for health education and behavior researchers, with regard to bringing powerful psychometric methods into our scale development work. While this point has

been made before – most notably in a 2006 supplement of the journal *Health Education & Research* (Dunn et al., 2006; Mâsse et al., 2006; Wilson et al., 2006) – uptake of these methods has been slow. In this study, item response models served two functions: both to confirm our CTT-based conclusions, as well as offer more detailed analyses that integrated respondent and item parameters. Beyond the analyses already discussed, the item response modeling approach was critical to the pilot phase of our survey development. These preliminary analyses identified critical challenges with earlier version of the Relationship Rights measures, specifically with regard to our need to develop more challenging items to enhance measurement precision and to eliminate items that showed poor fit. In this paper, the models provided support to our exploratory factor analyses work and highlighted potential issues of differential item functioning that would not have otherwise been identified. By incorporating these methods into our work, we have more confidence in the measures' utility in future studies. Stronger evidence on measurement properties is important to advancing research.

While this paper is focused on methodological innovation, substantive implications for the understanding of adolescents' sexual decision-making emerged that suggest avenues for future research and practice. First among these is the strong support that respondents showed for the varied rights situations presented to them in these surveys. Whether considering rights in a steady or more casual sexual partnership, adolescents reported strong support for the concept of individuals' having rights. These included complicated situations of sexual refusal, such as "the right to refuse to have sex, without giving a reason why," as well as rights to have personal space and autonomy in long-term sexual relationship. To some extent, these results may be considered surprising. Prior research has noted a considerable lack of sexual assertiveness – that is, confidence in one's ability to affirm rights to a partner – among adolescent and young adult women (East & Adams, 2002; Rickert et al., 2002). This may be an indication of an important disconnect, between one's general support for sexual relationship rights vs. the confidence required to put those rights into practice. Building a link between concepts and behaviors will be a complicated, but essential, task for rights-based sexuality education programs.

A second substantive implication is drawn from the multidimensional structure of the measures. While we had initially envisioned a unidimensional construct of "adolescents' attitudes about sexual relationship rights," we found in our sample instead that young people's beliefs are more complex. There are foundational differences in how adolescents think about their rights to refuse in sexual activity, express their sexual engagement needs, and establish their personal space within their relationships. Although these are correlated concepts, it is an important finding that they are not the same. This multidimensional structure has implications for developing educational programs that reflect how young people think about issues of sexual rights. While the endorsement of rights to refuse unwanted sexual activity has been emphasized in various types of programs to young people (e.g., the inclusion of "no means no" messaging), few have engaged in discussions of their rights to initiate wanted sexual activity or addressed broader concepts of relationship autonomy. Furthermore, this study points to new directions for research that examines more closely attitudes across the varied dimensions of relationship rights. Quantitative studies can examine how such attitudes may vary across

different communities of youth, such as by age, gender, race/ethnicity, culture, or sexual experience. Qualitative research will be critical for providing a rich, nuanced perspective of these complicated issues.

In sum, this study described a set of new measures of adolescents' attitudes about rights in sexual relationships. The final subscales showed evidence of psychometric soundness, including reliability and validity, which encourages their use in both epidemiological studies of adolescent sexual behavior and the evaluation of sexuality education programs.

Table 2-1. Characteristics of SEI Survey Respondents

	Sample A Steady Partner Items n=392		Sample B Casual Partner Items n=402		Total Sample N=794	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Age						
12	0	0	1	<1	1	<1
13	22	6	21	5	43	5
14	266	68	274	69	540	68
15	87	22	100	25	187	24
16	15	4	4	1	19	2
Gender						
Male	181	47	202	50	383	48
Female	208	53	199	50	407	52
Race/Ethnicity						
African American	32	8	38	10	70	9
Asian/Pacific Islander	1	<1	0	0	1	<1
Hispanic	328	85	329	84	657	84
Native Amer./Alaska Native	6	2	10	3	16	2
White	1	<1	2	1	3	<1
Multi-Ethnic	19	5	16	4	35	4
Ever in Steady Relationship						
Yes	292	75	298	76	590	76
No	95	25	95	24	190	24
Ever Had Sexual Intercourse						
Yes	78	20	82	20	160	20
No	308	80	319	80	627	80

* No statistically significant differences for any variables, χ^2 tests between samples.

Table 2-2. Item Responses

	Steady Partner n=392				Casual Partner n=402			
	Strongly Disagree	Disagree	Agree	Strongly Agree	Strongly Disagree	Disagree	Agree	Strongly Agree
a. Right to say no to sex.	4%	4%	45%	47%	2%	5%	40%	54%
b. Right to know if partner is having sex with someone else.	2%	6%	42%	50%	3%	15%	45%	37%
c. Right to stop having sex with partner at any time.	2%	5%	51%	42%	3%	10%	51%	36%
d. Right to insist on using condoms or birth control.	2%	5%	48%	46%	4%	6%	47%	44%
e. Right to insist that partner get tested for STDs or HIV	1%	5%	42%	52%	3%	10%	44%	44%
f. Right to say what they need or want in the relationship.	2%	5%	48%	45%	2%	8%	58%	32%
g. Right to ask about partner's past sexual experiences.	7%	15%	49%	29%	4%	22%	50%	24%
h. Right to talk about what they want to do when having sex.	4%	10%	51%	35%	4%	16%	57%	23%
i. Right to end the relationship for any reason they choose.	5%	17%	46%	32%	4%	16%	51%	29%
j. Right to talk about condoms or birth control.	2%	7%	53%	38%	1%	14%	59%	26%
k. Right to tell partner that they would like to have sex.	4%	11%	56%	30%	8%	24%	49%	18%
l. Right to talk about what feels good/doesn't feel good during sex.	3%	7%	56%	35%	6%	19%	52%	22%
m. Right to have time away from their partner.	3%	14%	58%	25%	4%	16%	59%	21%
n. Right to have equal say in all decisions about sex.	2%	6%	57%	36%	2%	12%	55%	31%
o. Right to say no to sexual things that make them uncomfortable.	2%	4%	49%	46%	2%	10%	45%	44%
p. Right to refuse to have sex, without giving a reason why.	3%	13%	45%	39%	3%	11%	43%	43%
q. Right to stop what they're doing during sex at any time.	4%	8%	52%	37%	3%	12%	51%	35%

Table 2-3a. Factor Analysis Summary, with Oblique Promax Rotation (17 Items)

	Steady Partner n=392			Casual Partner n=402		
	Factor Loading		Communality	Factor Loading		Communality
	1	2		1	2	
a. Right to say no to sex.	0.58		0.34	0.62		0.33
b. Right to know if partner is having sex with someone else.			0.33			0.37
c. Right to stop having sex with partner at any time.	0.60		0.38	0.66		0.43
d. Right to insist on using condoms or birth control.			0.46			0.34
e. Right to insist that partner get tested for STDs or HIV			0.36			0.32
f. Right to say what they need or want in the relationship.			0.46			0.44
g. Right to ask about partner's past sexual experiences.			0.24			0.31
h. Right to talk about what they want to do when having sex.		0.77	0.51		0.70	0.48
i. Right to end the relationship for any reason they choose.			0.16			0.29
j. Right to talk about condoms or birth control.		0.58	0.53		0.52	0.48
k. Right to tell partner that they would like to have sex.		0.83	0.51		0.79	0.47
l. Right to talk about what feels good/doesn't feel good during sex.		0.75	0.50		0.75	0.49
m. Right to have time away from their partner.			0.26			0.32
n. Right to have equal say in all decisions about sex.			0.49			0.50
o. Right to say no to sexual things that make them uncomfortable.	0.59		0.53	0.74		0.47
p. Right to refuse to have sex, without giving a reason why.	0.80		0.50	0.75		0.46
q. Right to stop what they're doing during sex at any time.	0.79		0.49	0.81		0.56
Eigenvalues	5.85	1.18		5.89	1.18	
Percent of variance	79%	16%		79%	16%	

All factor loadings greater than 0.50 are shown.

Table 2-3b. Factor Analysis Summary, with Oblique Promax Rotation (5 Relationship Autonomy Items)

	Steady Partner n=392		Casual Partner n=402	
	Factor Loading 1	Communality	Factor Loading 1	Communality
b. Right to know if partner is having sex with someone else.	0.53	0.28	0.62	0.38
f. Right to say what they need or want in the relationship.	0.64	0.41	0.67	0.45
g. Right to ask about partner's past sexual experiences.	0.50	0.25	0.62	0.39
m. Right to have time away from their partner.	0.47	0.22	0.55	0.30
n. Right to have equal say in all decisions about sex.	0.66	0.44	0.62	0.38
Eigenvalues	1.60		1.90	

All factor loadings are shown.

Table 2-4. Correlations across Dimensions

	Steady Partner n=392			Casual Partner n=402		
	Sex Refusal	Sex Engagement	Relationship Autonomy	Sex Refusal	Sex Engagement	Relationship Autonomy
Sex Refusal	1.00	0.56	0.88	1.00	0.51	0.89
Sex Engagement	0.40	1.00	0.87	0.37	1.00	0.76
Relationship Autonomy	0.65	0.65	1.00	0.69	0.57	1.00

Values below the diagonal are based on raw scores and above the diagonal are parameters of the multidimensional item response models.

Table 2-5. Reliability Analysis

	Steady Partner n=392				Casual Partner n=402			
	Number of Items	Internal Consistency Reliability	Item-Total Correlations	Person Separation Coefficient	Number of Items	Internal Consistency Reliability	Item-Total Correlations	Person Separation Coefficient
Sex Refusal	5	0.78	0.47-0.62	0.82	5	0.81	0.49-0.70	0.85
Sex Engagement	4	0.80	0.60-0.66	0.85	4	0.80	0.55-0.64	0.82
Relationship Autonomy	5	0.70	0.43-0.54	0.88	5	0.77	0.48-0.58	0.89

Table 2-6. Construct Validity Evidence, Pairwise Correlations with Other Measures

	Steady Partner n=392				Casual Partner n=402			
	Sex Refusal	Sex Engagement	Relationship Autonomy	Mean	Sex Refusal	Sex Engagement	Relationship Autonomy	Mean
Communication Comfort/Steady Partner	0.35	0.55	0.49	0.46	N/A	N/A	N/A	N/A
Communication Comfort/Casual Partner	N/A	N/A	N/A	N/A	0.12	0.36	0.20	0.23
Protection Self-Efficacy	0.25	0.39	0.31	0.32	0.15	0.23	0.20	0.19
Partner Communication	0.00	0.25	0.11	0.12	0.04	0.19	0.09	0.11
Parent/Guardian Communication	0.25	0.22	0.26	0.24	0.07	0.12	0.11	0.10
Sexual Health Services Knowledge	0.07	0.17	0.16	0.13	-0.02	0.11	0.06	0.05

Table 2-7. Comparison of Item Response Model Fit

	Steady Partner n=392			Casual Partner n=402		
	Deviance	AIC	Number of Parameters	Deviance	AIC	Number of Parameters
Unidimensional Rating Scale	9572.78	9606.78	17	10290.50	10324.50	17
Unidimensional Partial Credit	9504.51	9590.51	43	10212.99	10298.99	43
Multidimensional Rating Scale	9345.85	9389.85	22	9948.93	9992.93	22
Multidimensional Partial Credit	9248.65	9344.65	48	9877.52	9973.52	48

Table 2-8. Overall Item Difficulty Estimates and Item Fit Statistics (Multidimensional Partial Credit Model)

	Steady Partner n=392				Casual Partner n=402			
	Item Difficulty		Weighted Fit		Item Difficulty		Weighted Fit	
	Estimate	Error	Mean Sq.	T-Statistic	Estimate	Error	Mean Sq.	T-Statistic
Factor 1 – Sex Refusal								
a. Right to say no to sex.	0.067	0.066	1.17	1.8	-0.535	0.071	1.18	2.0
c. Right to stop having sex with partner at any time.	-0.211	0.069	1.04	0.5	0.251	0.069	1.21	2.4
o. Right to say no to sexual things that make them uncomfortable.	-0.290	0.069	0.93	-0.8	-0.142	0.069	0.93	-0.8
p. Right to refuse to have sex, without giving a reason why.	0.162	0.065	1.06	0.8	0.156	0.067	1.01	0.1
q. Right to stop what they're doing during sex at any time.*	0.272	0.135	1.06	0.7	0.271	0.138	0.84	-2.1
Factor 2 – Sex Engagement								
h. Right to talk about what they want to do when having sex.	0.200	0.073	1.12	1.4	-0.110	0.065	0.98	-0.3
j. Right to talk about condoms or birth control.	-0.466	0.076	1.03	0.4	-0.753	0.068	1.01	0.2
k. Right to tell partner that they would like to have sex.	0.296	0.074	1.15	1.7	0.612	0.063	1.08	1.1
l. Right to talk about what feels good/doesn't feel good during sex.*	-0.029	0.129	1.07	0.8	0.251	0.113	0.50	0.3
Factor 3 – Relationship Autonomy								
b. Right to know if partner is having sex with someone else.	-0.325	0.065	1.06	0.7	-0.120	0.062	1.09	1.3
f. Right to say what they need or want in the relationship.	-0.355	0.067	0.91	-1.1	-0.304	0.067	0.95	-0.6
g. Right to ask about partner's past sexual experiences.	0.588	0.061	1.24	3.0	0.311	0.063	1.14	1.9
m. Right to have time away from their partner.	0.368	0.065	1.13	1.5	0.364	0.065	1.05	0.7
n. Right to have equal say in all decisions about sex.*	-0.276	0.129	0.85	-1.8	-0.252	0.129	0.89	-1.5

* Constrained item difficulty parameter within each dimension.

Table 2-9. Differential Item Functioning Analysis: Estimated Item Difficulty Parameters by Item by Gender

	Steady Partner n=392				Casual Partner n=402			
	Estimate (Male)	Error	Absolute Difference	Z-Statistic	Estimate (Male)	Error	Absolute Difference	Z-Statistic
Factor 1 – Sex Refusal								
a. Right to say no to sex.	-0.107	0.064	-0.214	-1.67	0.117	0.071	0.234	1.65
c. Right to stop having sex with partner at any time.	-0.002	0.067	-0.004	-0.03	-0.011	0.069	-0.022	-0.16
o. Right to say no to sexual things that make them uncomfortable.	0.124	0.068	0.248	1.82	-0.039	0.069	-0.078	-0.57
p. Right to refuse to have sex, without giving a reason why.	0.060	0.064	0.120	0.94	-0.016	0.067	-0.032	-0.24
q. Right to stop what they're doing during sex at any time.*	-0.076	0.131	-0.152	-0.58	-0.052	0.128	-0.104	-0.41
Factor 2 – Sex Engagement								
h. Right to talk about what they want to do when having sex.	-0.100	0.072	-0.200	-1.39	-0.047	0.066	-0.094	-0.71
j. Right to talk about condoms or birth control.	0.411	0.076	0.822	5.41	0.139	0.068	0.278	2.04
k. Right to tell partner that they would like to have sex.	-0.305	0.074	-0.610	-4.12	-0.200	0.064	-0.400	-3.13
l. Right to talk about what feels good/doesn't feel good during sex.*	-0.007	0.128	-0.014	-0.05	0.108	0.114	0.216	0.95
Factor 3 – Relationship Autonomy								
b. Right to know if partner is having sex with someone else.	0.049	0.066	0.098	0.74	-0.001	0.061	-0.002	-0.02
f. Right to say what they need or want in the relationship.	-0.028	0.068	-0.056	-0.41	-0.017	0.065	-0.034	-0.26
g. Right to ask about partner's past sexual experiences.	-0.010	0.061	-0.020	-0.16	0.034	0.061	0.068	0.56
m. Right to have time away from their partner.	0.014	0.066	0.028	0.21	-0.005	0.063	-0.010	-0.08
n. Right to have equal say in all decisions about sex.*	-0.025	0.131	-0.050	-0.19	-0.010	0.125	-0.020	-0.08

* Constrained item difficulty parameter within each dimension.

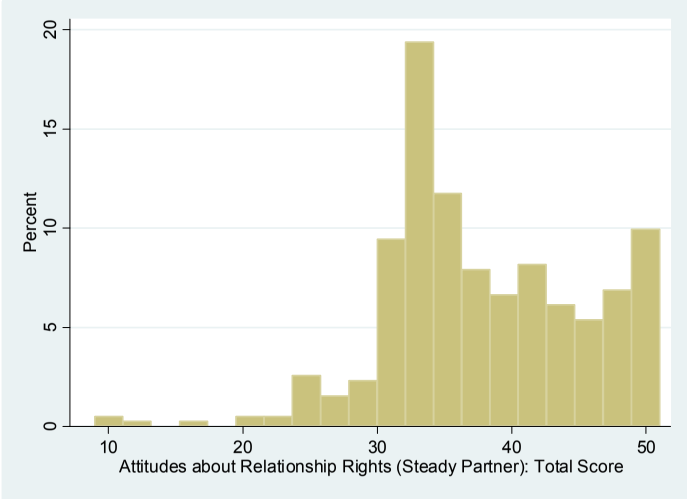
Absolute difference in male/female item difficulty parameters used as standardized effect size (<0.426 negligible, 0.426 - 0.638 intermediate, >0.638 large) (Wright & Masters, 1982).

Table 2-10. Correlations across Dimensions by Gender, using Multidimensional Partial Credit Model

	Steady Partner n=392			Casual Partner n=402		
	Sex Refusal	Sex Engagement	Relationship Autonomy	Sex Refusal	Sex Engagement	Relationship Autonomy
Sex Refusal	1.00	0.70	0.91	1.00	0.53	0.88
Sex Engagement	0.53	1.00	0.90	0.56	1.00	0.81
Relationship Autonomy	0.81	0.91	1.00	0.88	0.80	1.00

Values below the diagonal are for female respondents, and above the diagonal are for male respondents.

Figure 2-1. Histogram of Total Raw Scores, Steady Partner Items (n=392) and Casual Partner Items (n=402)



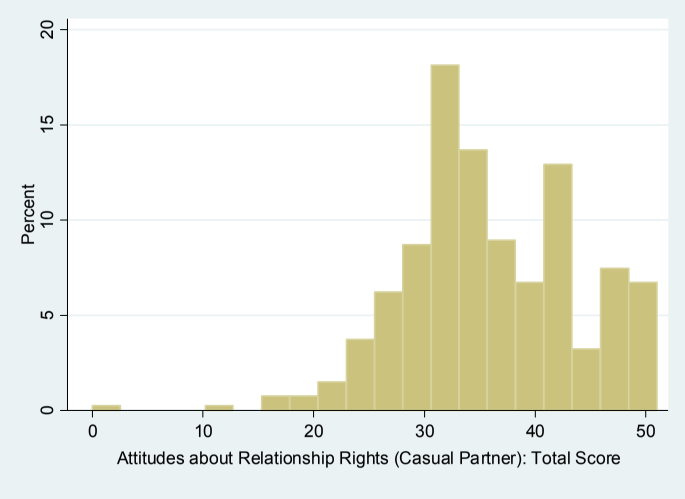
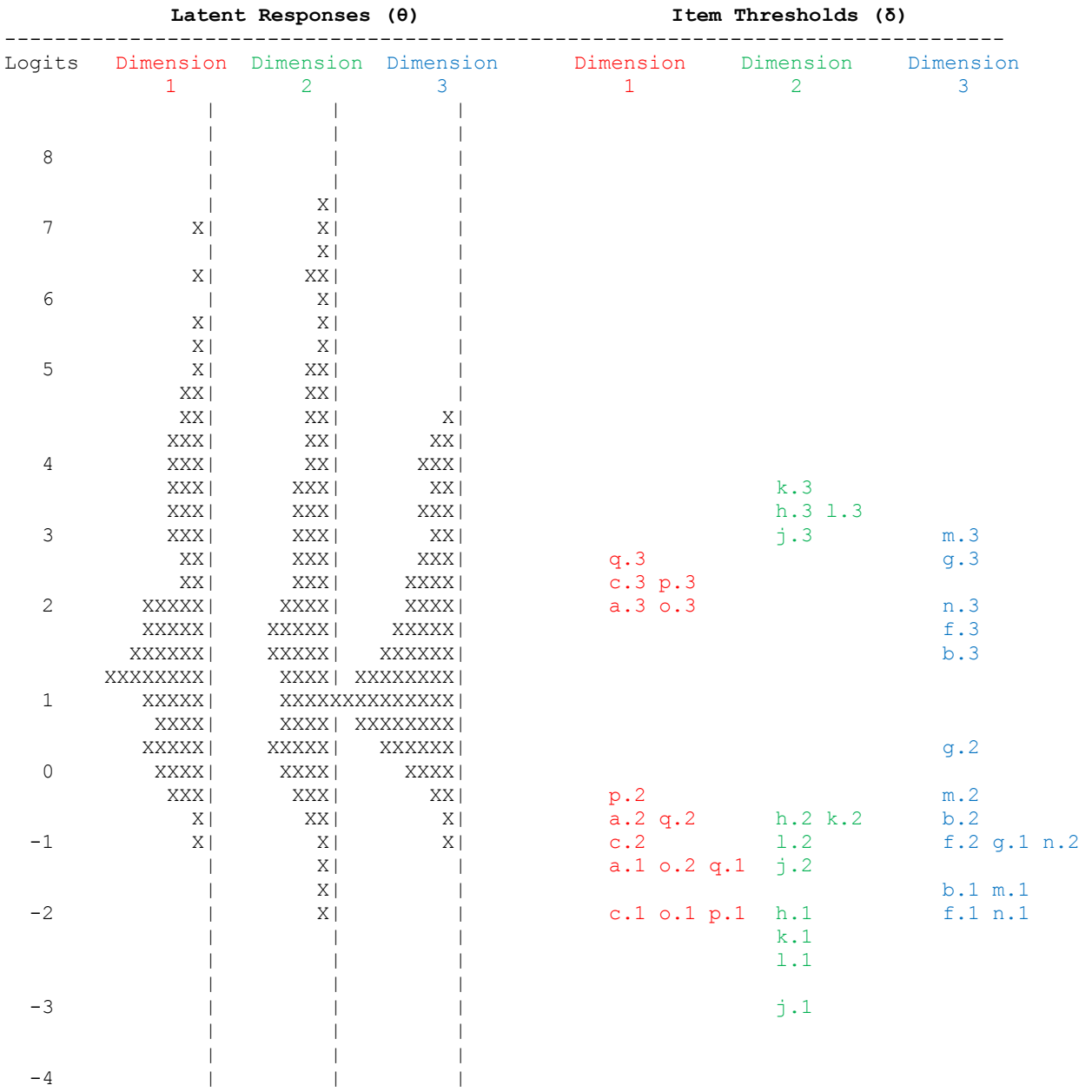
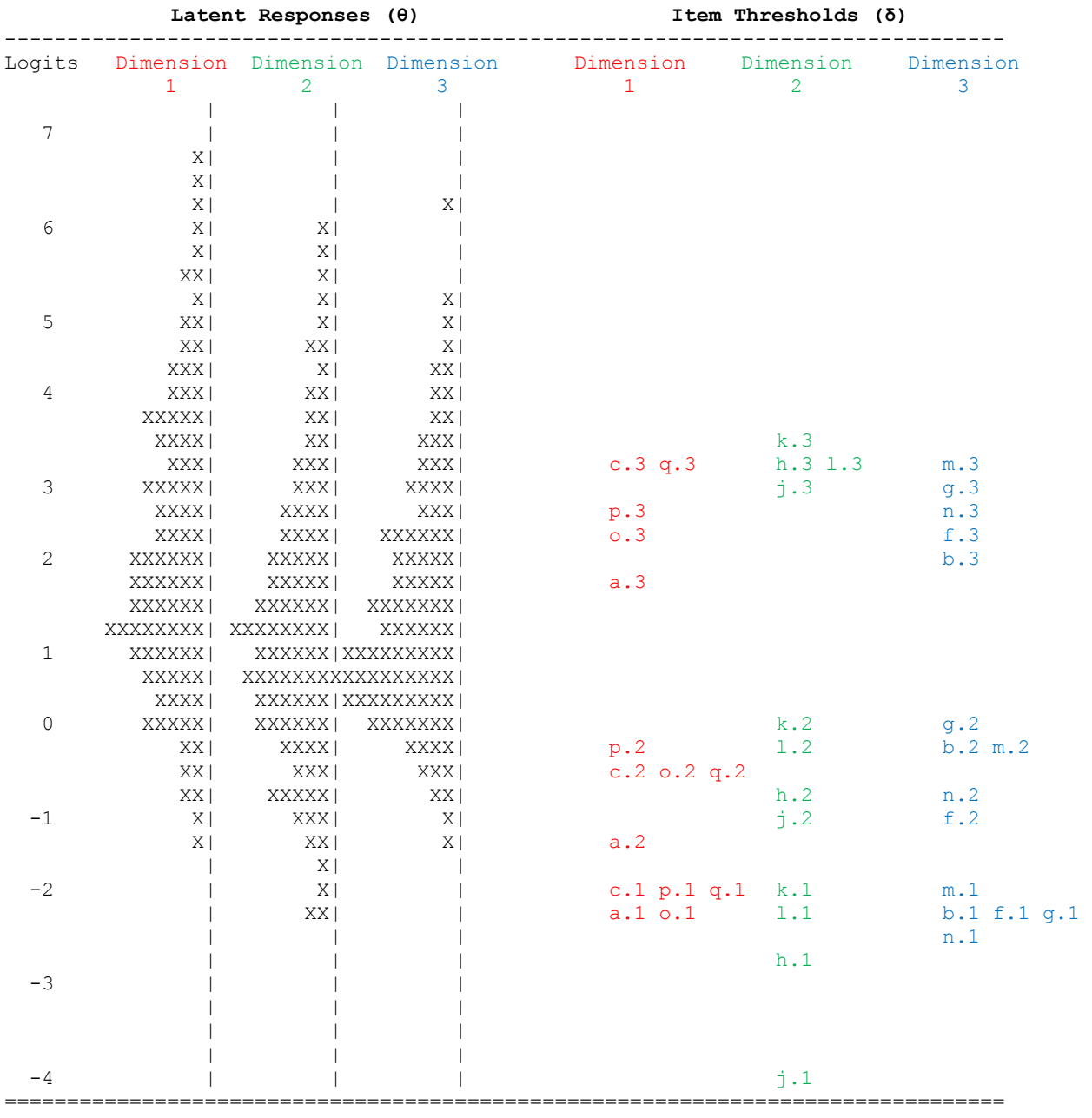


Figure 2-2a. Multidimensional Wright Map of Latent Distributions and Item Thresholds, Attitudes about Relationship Rights with a Steady Partner (n=392)



Mean θ (std. error):
Dimension 1/Sex Refusal: 2.07(0.10)
Dimension 2/Sex Engagement: 2.24(0.12)
Dimension 3/Relationship Autonomy: 1.55(0.07)
Note: Latent distributions should not be compared across dimensions since each is standardized (mean 0, standard deviation 1).

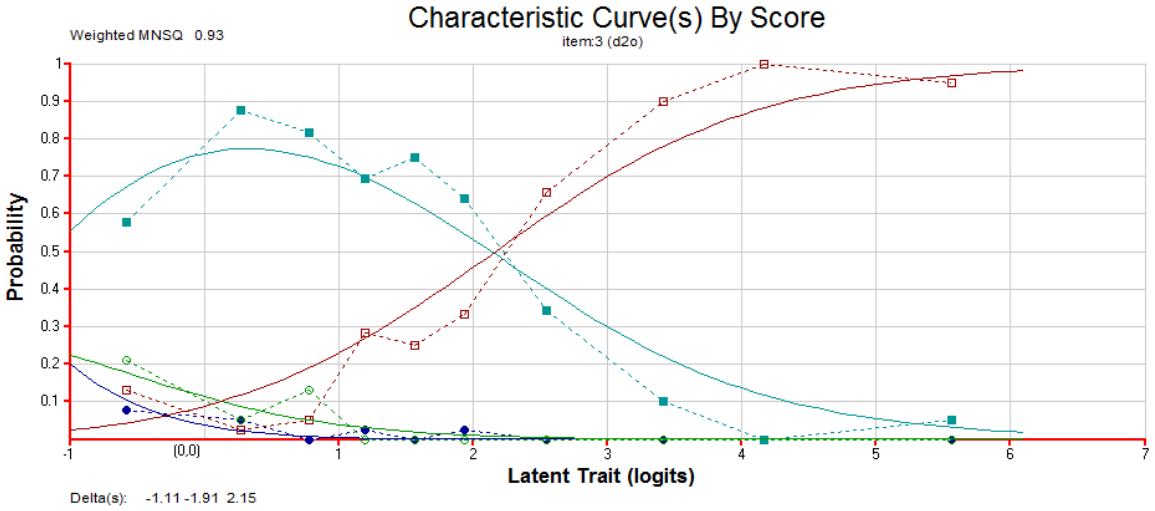
Figure 2-2b. Multidimensional Wright Map of Latent Distributions and Item Thresholds, Attitudes about Relationship Rights with a Casual Partner (n=402)



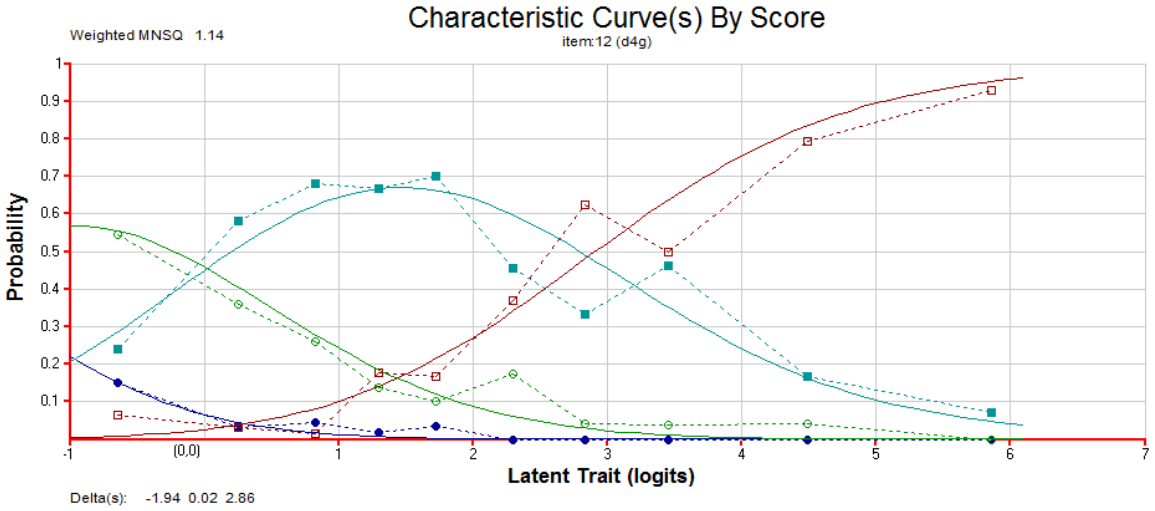
Mean θ (std. error):
Dimension 1/Sex Refusal: 2.27(0.10)
Dimension 2/Sex Engagement: 1.34(0.10)
Dimension 3/Relationship Autonomy: 1.50(0.08)
Note: Latent distributions should not be compared across dimensions since each is standardized (mean 0, standard deviation 1).

Figure 2-3. Item Characteristic Curves – Comparison of Two Items

Item: "With a steady partner, a person always has the right to say no to sexual things that make them uncomfortable."



Item: "With someone they just met, a person always has the right to ask about partner's past sexual experiences."



* The x-axis represents the total Relationship Rights score, converted into logits. The y-axis represents the probability of response. The smoothed lines represent the probability of endorsing each of the four response categories (strongly disagree, disagree, agree and strongly agree) on the items.

PAPER 3: UNDERSTANDING ADOLESCENTS' ATTITUDES ABOUT RIGHTS IN SEXUAL RELATIONSHIPS

Abstract

While interest in promoting a rights-based approach to sexuality education is growing, the body of research supporting this promising model is still minimal. An understanding of how adolescents conceptualize their rights in sexual relationships is critical to developing appropriate and effective rights-based strategies. In this paper, we investigated adolescents' attitudes about sexual relationship rights using survey data collected from a sample of urban Latino and African American adolescents (N=758). Using a series of theory-driven regression models, we examined how these attitudes vary by demographic and behavioral characteristics, in contexts with a steady or casual sexual partner, and across different dimensions of rights. We further investigated evidence supporting a causal relationship between adolescents' attitudes about their sexual relationship rights and their communication about sexual decision-making with partners.

Results indicate that adolescents reported strong support for sexual relationship rights, whether with a steady or casual sexual partner. However, they made distinctions across different dimensions of rights. Rights to refuse unwanted sexual activity were equally supported whether with a steady or casual partner; in contrast, respondents expressed more positive attitudes about one's rights to express their sexual engagement needs and have personal autonomy within a steady partnership than a casual one. Differences in these attitudes were noted by respondents' gender, relationship experience, and sexual experience. Analyses offered support to our theorized causal relationship between sex engagement rights and partner communication, net of plausible alternative explanations. As hypothesized, this relationship was partially mediated by respondents' sense of comfort communicating with sexual partners. However, there was no evidence to support a theorized causal relationship between adolescents' attitudes about rights to refuse sexual activity or have relationship autonomy and their communication with sexual partners. These findings offer initial steps toward a knowledge base that can guide future rights-based sexuality education efforts and identify new avenues for sexual health research.

Introduction

Over the last three decades, an international human rights framework has increasingly been invoked by leading scholars, activists, and program developers as a means to advance the sexual health and rights of young people (Aggleton & Parker, 2010; Kossen, 2012). Rather than a strict focus on the prevention of sexually transmitted infections and unintended pregnancies, there has been a shift in these circles toward an affirmative view that unites discussions of sexuality, sexual health, and human rights. This work builds upon international commitments which recognize and reinforce human rights, as well as the United Nations conferences of the 1990s that brought together the intersecting issues of human rights, gender equality, sexual and reproductive health, and HIV/AIDS. It is further supported by the view that young people are guaranteed rights on their own accord, based on their evolving capacity to exercise rights on their own behalf.

Increasingly, these values are being integrated into a new paradigm for comprehensive sexuality education, generally termed a rights-based approach. References to a rights-based approach have become increasingly common in international standards and guidelines for sexuality education (IPPF, 2010; UNESCO, 2009; WHO Regional Office for Europe & BZgA, 2010), as well as in some U.S. advocacy efforts (AFY, n.d.; Berne & Huberman, 1999). While there is no formal definition of a rights-based approach to sexuality education, a common vision seems to underscore this work. It is driven by the view of young people as holders of inalienable sexual rights, which exist within a system of societal and individual responsibilities that dictate both the provision of sexuality education and behavior within sexual relationships (see Paper 1). Programs in varied countries have begun to apply the rights-based concepts into practice as they serve youth, and resources are available to guide the expansion of existing curricula to incorporate rights-based content and practice (International Sexuality and HIV Curriculum Working Group, 2009).

A critical issue to be addressed in the development of these programs is how to translate international doctrines that establish obligations for governments regarding sexual rights and gender equality to inter- and intra-personal levels. Dixon-Mueller and colleagues offered an application of human rights principles to individuals and couples through a framework of sexual ethics, namely that normative expectations for ethical sexual behavior should be based on equal rights and responsibilities among sexual partners (Dixon-Mueller et al., 2009). To this end, sexuality education programs using a rights-based model would incorporate messages that promote awareness of and encourage support for these rights, as well as the consequent responsibility to respect these same rights in one's partner. Part of the task for rights-based sexuality education programs, then, is to encourage positive attitudes about one's rights across the complicated situations encountered in sexual relationships. For adolescents, this means learning that they have certain inalienable rights in their sexual decision-making, including rights to choose one's partner without coercion, seek sexual pleasure, expect partner cooperation regarding pregnancy and STI prevention, be safe from sexual violence, and have access to information and services (Dixon-Mueller et al., 2009). It further means understanding

that these rights come with consequent responsibilities, most notably in acknowledging the same rights in their partners and the limits this can place on their own desires and actions.

This attention to relationship rights and responsibilities aligns well with the changes in key domains of psychosocial development that take place during adolescence. It is a time when young people are discovering and expressing their identity, establishing their autonomy, forming intimate relationships with others, and expressing their sexuality. Moreover, changes in cognitive development allow adolescents to contemplate abstract concepts, consider their own emotions, and understand the relativism of others' perspectives (Lerner & Steinberg, 2009; Steinberg, 2008). The inclusion of lessons and activities on sexual relationship rights would seem to be developmentally appropriate for young people in sexuality education programs.

An assumption underlying the development of rights-based sexuality education programs is that there is a clear understanding of how adolescents think about their rights in sexual relationships and how these attitudes may influence their sexual behaviors. In fact, the current research is minimal. One notable study found that many sexually active adolescent and young adult women (ages 14-26) perceive that they do not have the right to assert their needs to their partners, whether regarding their rights to refuse unwanted sexual advances or state their own sexual desires (Rickert et al., 2002). This study framed these young women's attitudes as a lack of sexual assertiveness, which negatively affects their ability to communicate their values, desires, and concerns to their sexual partners. It proposes that sexual assertiveness – predicated on assumptions that individuals have "rights over their bodies and to behavioral expressions of their sexuality" (p. 178) – exists on a causal pathway toward sexual health. More positive attitudes about one's rights in sexual relationships would improve communication between sexual partners, which in turn would lead to more positive and protective sexual experiences. To the best of our knowledge, there have been no other studies examining adolescents' attitudes about rights in sexual relationships, particularly among a broad population of female and male youth with varying levels of relationship and sexual experience.

Purpose of the Current Study

To fully understand the potential impact of the rights-based model of sexuality education, there needs to be a better, more formalized understanding of how adolescents think about sexual rights and related constructs. Furthermore, there must be a more realized sense about how the rights-based approach to sexuality education is theorized to work – that is, a sense of the causal pathway by which changing attitudes about rights and gender equality could affect sexual behavior and outcomes. The goal of this paper is to begin to build the knowledge base underlying this approach, in the hope of guiding future sexual health promotion efforts and identifying avenues for future research.

This paper explores key questions about adolescents' attitudes about sexual relationship rights using survey data collected from a sample of urban Latino and African American adolescents. First, we examine how adolescents' attitudes vary by their demographic and behavioral characteristics. Second, we assess whether there are differences in attitudes about rights in

situations with a steady sexual partner, like a boyfriend or girlfriend, compared to a casual sexual partner. Third, we review the dimensionality of the construct of adolescents' attitudes about sexual relationship rights; that is, we examine how adolescents consider different types of rights, such as those related to refusing unwanted sexual activity versus initiating desired sexual experiences. Fourth, we explore how adolescents' attitudes about sexual relationship rights may affect their communication about sexual decision-making with partners.

This last question is, fundamentally, a causal one. Because there is no way to randomize adolescents to different attitudes about relationship rights, assessing causality must account for many threats to internal validity. Babbie (2007), Aneshensel (2002), and others have described an elaboration method to investigate the theoretical relationship between variables when an experimental design is not possible. Aneshensel describes this approach as well-suited for testing theory – that is, the reasons *why* one variable is correlated with another – and outlines steps for conducting theory-based data analysis (TBDA). It brings attention to the focal relationship, "the heart of the theory," that is embedded within a network of other constructs and relationships (Aneshensel, 2002, p.12). It recognizes that an informed selection of regression models can help rule out alternative explanations and provide support for causal inferences, even though causality cannot be proven.

Critical to this approach is making a theoretical commitment upfront to the focal relationship of interest, because the analyses may support different interpretations. In this study, we hypothesized that having more positive attitudes about one's rights in sexual relationships (the focal independent variable) leads to greater communication with partners about sex and relationships (the focal dependent variable), which in turn would result in more protective sexual behaviors. Through a series of regression models, we tested *a priori* hypotheses about how these constructs fit into a larger conceptual model, ruling out some plausible alternative hypotheses and identifying potential causal pathways. This conceptual model is presented in Figure 3-1.

Methods

Subjects and Procedures

The study was conducted as part of the multi-year randomized evaluation of Planned Parenthood-Los Angeles' rights-based Sexuality Education Initiative (SEI), designed for 9th grade students in the Los Angeles Unified School District (LAUSD) and associated charter schools. The primary data source for the evaluation is the SEI Student Survey, completed by students in intervention and control groups. The present cross-sectional study relies on pretest data collected during the 2011-12 school year from students in at eight Los Angeles public charter schools. All study protocols were approved by the University of Southern California's Health Sciences Institutional Review Board. The analyses for this paper were approved by the Committee for the Protection of Human Subjects at the University of California, Berkeley.

Survey Measures

The SEI Student Survey was developed using a multi-step procedure of construct definition, item identification, expert review, cognitive interviews, pilot testing, and psychometric analysis (see Paper 2). It includes questions on varied topics, including demographic characteristics, sexual health knowledge, parent/guardian communication, partner communication, values about sex, self-efficacy, and personal sexual behavior. Because of time constraints in the classroom, two versions of the survey of equivalent length were prepared. Many questions were included on both versions of the survey, and data are available for all respondents. Other questions were included on one version of the survey, and thus are available for a random sample of half the respondents. This study relied on the following scales and items, described here and summarized in Tables 3-1 and 3-2:

– *Gender* was measured as a dichotomous variable, using males as the reference group. *Age* was measured in years as a categorical variable. Race/ethnicity was measured as a categorical variable, with seven response options. Due to small cell sizes, this variable was dichotomized, comparing *Hispanic* respondents – the largest group – to non-Hispanic respondents as the reference group. Generational status was not assessed for this study.

– *Relationship Experience* with a steady partner was measured dichotomously, with respondents reporting no previous relationship as the reference group. Respondents who reported having had a steady partner reported the *Relationship Length* with their current or most recent steady partner. A dichotomous measure was created to compare relationships of longer (more than six months) to those of shorter duration (six months or less), with the latter serving as the reference group.

– *Sexual Experience* was measured dichotomously, with respondents reporting never having had sex as the reference group. Sex was defined on the survey as vaginal or anal intercourse.

– *Attitudes about Sexual Relationship Rights* consisted of 17 items about the rights of a hypothetical person in a sexual relationship (e.g., A person always has the right to… say no to sex, insist on using condoms, ask about a partner's sexual experiences, tell their partner they would like to have sex, have time away from a partner, etc.). The measure was included on both versions of the survey, with a random half of students responding to questions about steady or casual sexual partners. All items were measured as 4-point Likert scales. Scales were created by taking the mean score across the 17 items, allowing for one missing value (α=0.89 for steady partner, α=0.90 for casual partner).[7] Exploratory factor analyses identified three conceptually distinct, but correlated, subscales with high factor loadings on 14 of the 17 items (see Paper 2). These separated adolescents' attitudes about the rights to: 1) refuse unwanted sexual activity (5 items, "Sex Refusal Rights"), 2) express sexual engagement needs and values (4 items, "Sex Engagement Rights"), and 3) establish

[7] The Technical Appendix uses different estimates of Attitudes about Sexual Relationship Rights that were generated directly from the item response models used in Paper 2, and compares results to the ones presented in this paper.

privacy, space and autonomy within relationships (5 items, "Relationship Autonomy Rights"). All subscales showed evidence of strong internal consistency (α range: 0.70-0.81).

– *Partner Communication* was measured among respondents who reported ever having been in a steady relationship. They were asked if they had talked with their most recent partner about nine topics related to sex and relationships. Items were measured dichotomously. Exploratory factor analysis confirmed a unidimensional structure; a scale was created by summing the number of topics discussed (α=0.82).

– *Communication Comfort* consisted of eight items about level of comfort talking with a partner in hypothetical situations (e.g., How comfortable would you be… asking about past sexual experiences, talking about condoms, insisting a partner get tested for STIs, talking about feelings, etc.). The measure was included on both versions of the survey, with a random half of students responding to questions about steady or casual sexual partners. All items were measured as 4-point Likert scales. Exploratory factor analysis confirmed a unidimensional structure. Scales were created by taking the mean score across items, allowing for one missing value (α=0.84 for steady partner, α=0.83 for casual partner).

– *Values about Teen Sex* consisted of five items regarding respondents' attitudes about teens having sex, adapted from previous research (Basen-Engquist et al., 1999). All items were measured as 4-point Likert scales. Exploratory factor analysis confirmed a unidimensional structure; a scale was created by taking the mean score across items, allowing for one missing value (α=0.76).

Analyses

A. Attitudes about Relationship Rights by Demographic/Behavioral Characteristics

We examined the bivariate association between respondents' attitudes about relationship rights and their demographic and behavioral characteristics. In separate models, we regressed the full (17-item) relationship rights scale on gender, age, Hispanic ethnicity, relationship experience, and sexual experience to calculate unadjusted coefficients.

B. Attitudes about Relationship Rights for Different Types of Rights (Dimensions)

Prior analyses distinguished between adolescents' attitudes about rights to refuse unwanted sexual activity ("Sex Refusal Rights"), express sexual engagement needs and values ("Sex Engagement Rights"), and establish privacy, space and autonomy within relationships ("Relationship Autonomy Rights") (see Paper 2). We used subscales created for each dimension to examine variation in respondents' attitudes for different types of rights. In separate models, we regressed each subscale on gender, age, Hispanic ethnicity, relationship experience, and sexual experience to calculate unadjusted coefficients.

C. Theory-Based Data Analysis of the Association between Sexual Relationship Rights and Partner Communication

We used Aneshensel's (2002) theory-based approach to model building and comparison to investigate the focal relationship between adolescents' attitudes about relationship rights and their communication with partners about sex and relationships, among a subsample of

respondents who reported having previously been in a steady relationship.[8] The full network of constructs is depicted in Figure 3-1. We hypothesized that more positive attitudes about one's rights in sexual relationships would be associated with greater communication with partners. We further hypothesized that this relationship exists controlling for other demographic and behavioral characteristics, independent of individual values about teen sex, is mediated by one's comfort communicating with a partner about sex, and is stronger for those with relationship experience and sexually experience relative to their inexperienced peers. The analysis followed these steps:

1. Focal Relationship: We examined the bivariate associations between each relationship rights subscale and the partner communication scale. We reviewed Pearson correlation coefficients and regression coefficients to confirm that the association was in the hypothesized direction and to examine its magnitude. To the extent there is a statistically significant relationship between a relationship rights subscale and partner communication, we elaborated it further in the next steps.

2. Exclusionary Strategy: We aimed to eliminate plausible alternative explanations for the statistically significant focal relationship association caused by confounding (spuriousness) or redundancy by including other variables in the regression models.[9] We hypothesized potential sources of confounding are age, gender, ethnicity, length of relationship experience, and sexual experience, which may influence both attitudes about relationship rights and partner communication. We hypothesized that a potential source of redundancy is personal values about teen sex, which may be associated with but distinct from attitudes about relationship rights, while also influencing partner communication. That is, respondents' values about teen sex were considered a "rival independent variable" that may correlate with attitudes about relationship rights but be causally responsible for the effect on partner communication. We hypothesized that the magnitude of the focal relationship would decrease, but not be eliminated, with the addition of these variables to the regression models. If the focal relationship did not persist following the addition of the confounding and redundant variables (that is, the regression coefficient for the relationship rights subscale was no longer statistically significant), we ended the analyses. If there was support for the focal relationship, we elaborated it further in the next steps.

3. Inclusive Strategy: We conducted a mediation analysis to test the hypothetical role of communication comfort as a mediator in the focal relationship between attitudes about sexual relationship rights and partner communication. We followed Baron and Kenny's

[8] Partner communication questions were answered only by respondents who reported having previously been in a steady relationship with a boyfriend or girlfriend (76% of sample).

[9] Aneshensel makes a distinction between confounding and redundancy. In confounding, the focal relationship exists because both the independent and dependent variables depend on a third variable; that is, the confounder causes both the independent and dependent variables. In redundancy, the focal relationship exists because of simultaneous occurrence of two independent variables, only one of which influences the dependent variable. The redundant variable is correlated with the focal independent variable, and is the source of the causal relationship with the dependent variable. It may also be referred to as a "rival independent variable" (Aneshensel, 2002).

causal steps approach and then assessed the statistical significance of the indirect effect (Baron & Kenny, 1986; MacKinnon et al., 2007). Figure 3-2 depicts the steps of mediation analysis visually: 1) We examined the association between relationship rights subscale and partner communication (path c); 2) We examined the association between each relationship rights subscale and communication comfort (path a); 3) We examined the association between communication comfort and partner communication, controlling for relationship rights (path b); 4) We examined the effect of adding the mediating variable to the focal relationship, by fitting a multiple variable model with both the relationship rights and communication comfort scales as predictors of partner communication (path c').[10] All models controlled for the confounding and redundant variables identified in prior steps. We expected the significant direct relationship between relationship rights and partner communication to become weaker when controlling for communication comfort. We evaluated the statistical significance of the indirect effect using the Sobel test, and determined the proportion of the variance attributable to the mediator (Sobel, 1982).

4. Conditional Relationships: We assessed whether the focal relationship is consistent under different conditions, specifically whether there is evidence of moderation (effect modification) based on the extent of respondents' relationship experience or their sexual experience. We included interaction terms in the regression models and assessed their statistical significance. We hypothesized a stronger association between attitudes toward relationship rights and partner communication for those who have had more relationship experience and for those who have had sex before, relative to their less experienced peers. If the interaction terms were not statistically significant, we did not include them in our final elaborated model.

5. Strategic Comparisons: We finalized our model of the focal relationship based on the above results. We compared the relationship rights coefficient in the final model to the simple regression equation in the first model to gauge the extent to which the focal relationship could legitimately be interpreted as causal. We calculated the percent change in the estimate to determine the proportion of the original association explained by the additional variables.

Statistical Models

We conducted our analyses in two distinct ways to account for the fact that a random half of respondents completed items about relationship rights with steady or with casual partners. First, we used the full sample of data and included a dummy variable in each model to control for whether the respondent answered items about rights with a steady or casual sexual partner. For variables found to have a statistically significant main effect, we included an interaction term between the steady/casual partner item type and the variables of interest to assess whether there was a statistically significant differential effect by partner type. Second, we conducted parallel models using the separate steady and casual partner samples. These

[10] Path b and path c' use the same regression model, but focus on the coefficients for different predictor variables.

generated coefficients for attitudes about relationship rights in the separate contexts. We looked for overlap in the confidence intervals as another means of assessing differential effects by partner type.

All proposed analyses were modeled using ordinary least squares (OLS) regression. Because the SEI Student Survey was administered to adolescents in a classroom setting at schools, we considered whether our data met the assumptions of independence across observations required for OLS based on both our conceptual reasoning and empirical evidence. Conceptually, we had no cause for believing that our variables of interest were correlated with classroom or school cluster; that is, we believe the hierarchy would not produce dependence across the observations. We calculated intraclass correlations (ICC) to determine the proportion of the total variance due to the classroom and schools clusters. In all models, the ICC was calculated to be nearly zero (<0.01), indicating that none of the total residual variance was due to the school or classroom clusters.[11] For all of these reasons, we proceeded with the more parsimonious OLS regression models without modeling the hierarchical nature of the data. All analyses were conducted using Stata, version 11.

To address potential concerns about measurement error, we conducted these same analyses using two other methods for estimating adolescents' attitudes about sexual relationship rights generated from the item response models in Paper 2. We compared the patterns of results presented here using mean scales with equivalent models using *Expected a posteriori* (EAP) and plausible values estimation. We present details about the purpose, methods, and results of those analyses in the Technical Appendix.

Final Sample

Due to the study design, analyses relied on a subsample of the total 833 respondents who completed the survey at pretest. Following deletion of cases with missing values for the variables used in the models, 758 respondents were included (n=374 for measures referring to attitudes about rights with steady sexual partners, n=384 with casual sexual partners). The theory-based analyses elaborating the focal relationship between attitudes about relationship rights and partner communication relied on a smaller sample because items about partner communication and relationship length were answered only by those respondents who reported having previously been in a steady relationship with a boyfriend or girlfriend, for a final sample of 555.

Across all respondents [N=758], just over half (52%) were female. Most (84%) reported their racial/ethnic background as Hispanic/Latino, 8% as African American, and 8% as another race or ethnicity. As fitting the target population of 9th grade students, 92% were 14 or 15 years old. Most respondents (76%) reported having been involved in a steady relationship with a boyfriend or girlfriend, and 21% reported having had vaginal or anal sexual intercourse (see

[11] This finding was also confirmed by comparing the fit of multilevel random intercept models to the equivalent OLS regression models using likelihood ratio tests; none of these were statistically significant.

Table 3-1). There were no statistically significant differences in demographic or behavioral characteristics across the samples, as expected by the randomization of the survey form assignment.

Results

Attitudes about Sexual Relationship Rights, by Partner Type

Table 3-3 shows mean scores and standard deviations for the 17 items measuring attitudes about relationship rights, separately for rights with a steady or casual sexual partner. Overall scores were high, indicating respondents' positive support for these sexual relationship rights in situations with both types of sexual partners. Across all items, adolescents reported more positive attitudes regarding sexual relationship rights with a steady partner than casual sexual partner [3.25 vs. 3.13, $p<0.001$]. These differences varied based on the types of rights being considered. There was no statistical difference in attitudes about rights to refuse unwanted sexual activity, whether with a steady or a casual partner [3.30 vs. 3.28, $p=0.624$]. However, respondents reported greater support for rights to express sexual engagement needs [3.20 vs. 2.93, $p<0.001$] and for rights to establish relationship autonomy [3.22 vs. 3.08, $p<0.001$] with a steady sexual partner than a casual sexual partner.

Attitudes about Sexual Relationship Rights, by Demographic/Behavioral Characteristics

Bivariate models of the full (17-item) scale showed unadjusted differences in attitudes about relationship rights by gender, age, ethnicity, relationship experience, and sexual experience, and compared these results whether respondents were asked about rights with a steady or casual sexual partner (see Table 3-4).

Female respondents reported more positive attitudes about relationship rights compared to male respondents. This difference was statistically significant, with female respondents' attitudes estimated to be higher than male respondents' [$b=0.11$, $p<0.001$, 95% CI: 0.04 to 0.17], after controlling for partner type. Although the separate sample analysis found a statistically significant effect of gender for the steady partner, but not the casual partner, questions, the inclusion of an interaction term in the full sample model indicated this difference was not statistically significant [$b=0.07$, $p=0.250$]; the confidence intervals for the separate sample estimates overlapped.

Respondents with prior relationship experience reported more positive attitudes about relationship rights compared to those with no relationship experience. This difference was statistically significant, with attitudes among the experienced group estimated to be higher than their peers [$b=0.11$, $p=0.002$, 95% CI: 0.04 to 0.19], after controlling for partner type. A similar effect was found in the separate sample analyses, and the inclusion of an interaction term indicated no differential effect of relationship experience on attitudes about relationship rights for situations with a steady vs. a casual sexual partner [$b=-0.03$, $p=0.722$].

There were no statistically significant differences in respondents' attitudes about sexual relationship rights by their age, Hispanic ethnicity, or sexual experience. These findings were consistent whether respondents were asked about rights with a steady or casual sexual partner.

Attitudes about Sexual Relationship Rights for Different Types of Rights (Dimensions)

The equivalent models using the three relationship rights subscales indicated different effects of demographic and behavioral characteristics on attitudes for different types of rights (see Table 3-4). For rights about refusing unwanted sexual activity, female respondents' attitudes were estimated to be significantly higher than male respondents' [b=0.25, p<0.001, 95% CI: 0.18 to 0.32], after controlling for partner type. A similar gender effect was found for attitudes about relationship autonomy rights [b=0.13, p<0.001, 95% CI: 0.06 to 0.20]. However, regarding rights to express sexual engagement needs, female respondents' attitudes were significantly *lower* than males' [b=-0.10, p=0.022, 95% CI: -0.18 to -0.01].

Adolescents with previous relationship experience reported more positive attitudes about sex engagement rights [b=0.25, p<0.001, 95% CI: 0.15 to 0.34] and relationship autonomy rights [b=0.12, p=0.006, 95% CI: 0.03 to 0.20], but there was no difference in their attitudes about sexual refusal rights [b=0.04, p=0.315, 95% CI: -0.04 to 0.13] compared to their peers with no relationship experience. While there was no difference in overall attitudes about sexual relationship rights based on respondents' sexual experience, an effect was found in two of the three subscales but in different directions. Adolescents who were sexually experienced reported more *positive* attitudes about sex engagement rights [b=0.13, p=0.016, 95% CI: 0.02 to 0.23] but more *negative* attitudes about sex refusal rights [b=-0.19, p<0.001, 95% CI: -0.28 to -0.10] compared to their peers who had not yet had sex. There was no difference in attitudes about relationship autonomy rights based on sexual experience [b=-0.08, p=0.091; 95% CI: -0.16 to 0.01]. In the separate sample analysis, some of these effects were found to differ by steady or casual partner items. However, for each of these models, the interaction term to test for differential effects of attitudes about relationship rights for situations with a steady vs. casual sexual partner was not statistically significant. That is, the confidence intervals for the separate sample estimates overlapped.

TBDA Results: The Focal Relationship

We assessed the focal relationship between each of the three relationship rights subscales (sex refusal, sex engagement, and relationship autonomy) and communication with a sexual partner. The magnitude of the correlation varied for the three dimensions of sexual relationship rights, but showed a consistent pattern across subscales referring to rights with a steady partner vs. casual partner (see Table 3-5). The correlation between respondents' attitudes about sex engagement rights and partner communication was moderate (r=0.23 steady partner; r=0.16 casual partner). There was no correlation between sex refusal rights and partner communication (r=0.02 steady partner; r=0.03 casual partner), and low correlation

between relationship autonomy rights and partner communication (r=0.10 steady partner; r=0.09 casual partner).

The regression analyses mirrored these results (see Table 3-5 and Tables 3-6a/b/c, Model 1). Attitudes about sex engagement rights significantly predicted partner communication [b=0.93, p<0.001; 95% CI: 0.54 to 1.32]. This was seen in the separate sample analyses, although the magnitude of the relationship was greater with a steady partner [b=1.22, p<0.001; 95% CI: 0.61 to 1.83] than with a casual partner [b=0.71, p=0.007; 95% CI: 0.20 to 1.23]. This difference, as measured by an interaction term in the full sample, was not statistically significant; the confidence intervals for the separate sample estimates overlapped. The bivariate relationships for each of the other subscales (sex refusal rights and relationship autonomy rights) with the partner communication scale was not statistically significant; this held true for items referring to rights with a steady or casual sexual partner.

Thus, only in the case of the sex engagement rights subscale did we find a statistically significant focal relationship with partner communication, the first condition of Aneshensel's theory-based approach. This relationship is elaborated further in subsequent analyses. The correlation matrix for all variables included in the regression models is presented in Table 3-9.

TBDA Results: Ruling Out Alternative Explanations (Exclusionary Strategy)

In Aneshensel's approach, attention is focused on the magnitude change in the regression coefficient for the independent variable (sex engagement rights subscale) with the addition of potential confounding and redundant variables, relative to the bivariate focal relationship (Model 1). Confounding (spurious) variables have a causal influence on both the focal independent and dependent variables; redundant (rival independent) variables are correlated with the focal independent variable and are the source of the causal relationship with the dependent variable.

The effects of potential confounding variables are presented as Model 2. In the full sample analysis, controlling for partner type and all five confounders, the regression coefficient for sex engagement rights decreased 17%, from 0.93 to 0.76 but remained significant [b=0.76, p<0.001, 95% CI: 0.42 to 1.11]. A similar pattern was seen in the separate steady and casual partner sample analysis [b=1.01, p<0.001, 95% CI: 0.46 to 1.57 steady partner; b=0.58, p=0.010, 95% CI: 0.14 to 1.02 casual partner]. In both cases, the relationship between attitudes about sex engagement rights and partner communication remained statistically significant, although of reduced magnitude, after controlling for these variables.

The additional effect of the potential redundant variable is presented as Model 3. In the full sample analysis, the regression coefficient for sex engagement rights decreased 4% further but remained statistically significant [b=0.73, p<0.001, 95% CI: 0.39 to 1.07]. A similar pattern was seen in the separate steady and casual partner sample analysis [b=1.03, p<0.001, 95% CI: 0.48 to 1.58 steady partner; b=0.50, p=0.025, 95% CI: 0.06 to 0.94 casual partner].

TBDA Results: Mediation Analysis

Results of the mediation analysis are presented in Tables 3-6a/b/c (Model 4) and Table 3-7; each model controls for the above confounding and redundant variables. In each sample, the relationships between the independent variable and potential mediator (path a), mediator and dependent variable (path b), and independent variable and dependent variable (path c) were found to be statistically significant; that is, the precursors for mediation analysis were met.

The effect of sex engagement rights on partner communication decreases substantially with the addition of communication comfort as a mediating variable. Relative to the focal relationship, the change in the magnitude of the sex engagement rights estimate decreased from 0.73 to 0.47 and remained statistically significant, indicating partial mediation [p=0.014, 95%: 0.10 to 0.84]. The Sobel test indicated a statistically significant indirect effect [b=0.26, p=0.001]. An estimated 36% of the total effect of sex engagement rights on partner communication was mediated by communication comfort. The separate sample analyses showed a slightly different pattern. In the steady partner sample, the regression coefficient decreased from 1.03 to 0.68 and remained statistically significant [p=0.037, 95% CI: 0.04 to 1.31]. In the casual partner sample, the regression coefficient decreased from 0.50 to 0.33 and was not statistically significant [p=0.154, 95% CI: -0.13 to 0.79]. In each sample, an estimated 34% of the total effect between sex engagement rights and partner communication was mediated by communication comfort.

TBDA Results: Conditional Relationships

As indicated in Models 2 and 3, respondents' relationship length and sexual experience each had a statistically significant main effect on partner communication, controlling for all the other variables in the model. These variables were considered appropriate candidates to test the presence of effect modification, i.e., whether the nature of the focal relationship varied for respondents with different relationship and/or sexual experience. Model 5 included interaction terms for each of these variables with sex engagement rights. In both the full sample and separate sample analyses, these terms were not statistically significant, indicating that the nature of the focal relationship did not vary for respondents with different relationship and/or sexual experience. [12]

TBDA Results: Strategic Comparisons

Based on these findings, we concluded that Model 3 best represented the focal relationship between sex engagement rights and partner communication, controlling for plausible confounding and redundant variables. In the full sample analysis, this model explained 28% of the variation in respondents' partner communication score [R^2=0.28]. The regression

[12] We also tested separate models that added each interaction term separately, with the same non-significant results.

coefficients for sex engagement rights across the five models are presented for comparison in Table 3-8.

Discussion

The goal of this paper was to investigate adolescents' attitudes about their rights in sexual relationships, a topic of growing interest and necessity for the development of rights-based sexuality education programs. To our knowledge, this research is the first to investigate these attitudes across a general population of adolescents. This study makes further contributions to the literature by examining how these attitudes vary by demographic and behavioral characteristics, in contexts with a steady or casual sexual partner, and across different dimensions of sexual relationship rights. In addition, this study tests a hypothesized causal connection between adolescents' attitudes about their sexual relationship rights and their communication about sexual decision-making with partners.

Adolescents' Attitudes about Sexual Relationship Rights

Among this sample of primarily ethnic minority adolescents, we found broad support for sexual relationship rights, with the majority of respondents agreeing or strongly agreeing to item statements about rights across varied relationship contexts. Overall, female adolescents reported more positive attitudes toward these rights than males. Further, those who had previously been in a relationship with a boyfriend or girlfriend demonstrated more positive attitudes than their less experienced peers. There were no statistically significant differences by age or ethnicity, although we note that we had restricted demographic variability in this sample in that the most respondents were from Mexican-American or other Hispanic/Latino ethnic groups.

Based on hypotheses that attitudes and behaviors are expressed differently by relationship type among adolescents, we assessed adolescents' attitudes about sexual relationship rights in separate contexts with a steady or a casual sexual partner (Collins et al., 2010; Manlove et al., 2011; Rosengard et al., 2005). While the logistics of survey administration did not allow for direct comparisons of item responses within the same youth, a consistent pattern emerged. Adolescents reported more positive attitudes regarding their rights in a steady relationship, than a casual one; that is, the context of the sexual relationship has meaning as adolescents think about and value their rights.

A more nuanced understanding of adolescents' attitudes emerged with consideration of different types of sexual relationship rights. Our previous psychometric analyses identified three dimensions underlying adolescents' attitudes about relationship rights, making distinctions about rights to refuse unwanted sexual activity, express sexual engagement needs, and establish privacy, space and autonomy within intimate relationships (see Paper 2). In the current investigation, we found that while female adolescents' attitudes were more supportive regarding rights to refuse unwanted sexual activity and retain autonomy in a relationship, their

attitudes were less positive than their male peers regarding the right to express their sexual engagement needs. The effect of gender on attitudes about sexual relationship rights is not a simple one, and must be considered in light of different aspects of rights that are encountered in relationships.

The effect of sexual experience varied, as well, based on the type of rights being considered. Sexually active youth – who comprised one-fifth of the sample – reported more positive attitudes about rights to express sexual engagement needs, but less positive attitudes about sex refusal rights. It is not unsurprising that youth who have engaged in sexual intercourse are more supportive of their rights to express themselves in positive manner to a sexual partner, relative to peers who have not yet experienced sex; however, it is disconcerting to find they have lower support for their rights to refuse unwanted sexual activity. One would hope that the belief in the right to "say no" would still feel relevant to youth who already have "said yes."

The overarching positive view of rights in sexual relationships may be considered surprising in light of previous research. Rickert et al.'s study of adolescent and young adult women at family planning clinics reached a different conclusion, namely that many sexually active young women believe they do not have the right to communicate their preferences to a partner or control key aspects of their sexual behavior (Rickert et al., 2002). There are two plausible reasons for these opposing findings. First, the majority of youth (80%) in our study population were not sexually experienced. Their perspectives on relationships are likely quite different from an older population of sexually active young women in a clinic setting (as in Rickert et al.'s study), and our participants' attitudes about sexual relationship rights may reflect some naïveté in this realm. Additionally, our study population included males, whose perspectives on sexual relationship rights differ from those of young women. Second, our prior knowledge of the study participants' sexual experience led us to phrase our items of attitudes about relationship rights as hypothetical, rather than based on personal experience. It is not surprising that attitudinal items asking about the rights of a hypothetical person in a sexual relationship (e.g., "A person always has the right to insist on using condoms or birth control") would yield more positive results than the equivalent items about one's own experience (such as Rickert's "I have the right to tell my partner 'I won't have sex without birth control'). Nonetheless, we believe the hypothetical measure has value in understanding younger adolescents' attitudes about these very complex issues and can be used to build a foundation for encouraging the continuation of an affirmative sense of sexual rights as they begin to negotiate their sexual experiences.

The Connection between Sexual Relationship Rights and Partner Communication

In addition to understanding adolescents' attitudes about sexual relationship rights, this paper explored how such attitudes might causally be linked to sexual behaviors. This assumption is inherent to the premise of many rights-based sexuality education efforts: that promoting a more positive view of one's own rights – as well as mutual respect for a partner's rights – in relationships would result in healthier sexual experiences and, in turn, better sexual health outcomes. We proposed a network of interconnected constructs to guide our analysis. We adapted Aneshensel's theory-based approach in recognition that, while causality cannot be

proven, an informed selection of regression models that help rule out alternative explanations could elaborate the focal relationship and provide support for causal inferences.

Our simple regression models between the three relationship rights subscales and partner communication resulted in unanticipated findings. There was no statistically significant relationship between adolescents' attitudes about sex refusal rights and their partner communication; the correlation between the two variables was nearly zero. The relationship between attitudes about relationship autonomy rights and partner communication was marginally significant, with low magnitude of correlation. In contrast, we identified a stronger, and statistically significant, positive association between respondents' attitudes about sex engagement rights and partner communication.

The fact that only one of three dimensions of relationship rights was linked to partner communication was an interesting finding in and of itself. It provided further evidence that these are three dimensions function separately (i.e., are correlated, yet distinct), and that adolescents seem to conceptualize these rights in different ways. The reasons for the distinctions are less clear: Why are attitudes about some types of rights connected with partner communication, and others are not? Regarding sex engagement rights, we theorize that these attitudes are tied to a more positive view of sexuality, leading to more comfort communicating with partners (our mediating variable) and greater partner communication about sex and relationships. The finding that attitudes about sex refusal rights were not predictive of communication may seem counterintuitive. It may be that attitudes about the right to rebuff unwanted advances are so ingrained among youth – in self-report, if not in practice – that they offer little variance of views, reducing our ability to predict further associations. This hypothesis is supported by the high mean scores for the sex refusal rights subscale relative to the two other subscales; this subscale in particular is faced with a ceiling effect toward strong agreement. Further research will be needed to investigate the extent that these results are due to social desirability bias, need for a more refined measurement scale, or a true representation of young people's attitudes about sex refusal rights. Qualitative research methods, in particular in-depth interviews or focus groups with youth, may shed light on the extent and nature of the problem.

Based on these results, we further investigated the focal relationship between respondents' attitudes about sex engagement rights and partner communication. Notably, the regression coefficient for sex engagement remained statistically significant and of strong magnitude across the models, thus providing support that the focal relationship persisted net of the alternative explanations of confounding and redundancy. In contrast to our hypotheses, the focal relationship did not differ for respondents based on the extent of prior relationship experience or their sexual experience; interaction terms to test these hypotheses were not statistically significant. We concluded that the proposed focal relationship is not conditional upon these variables. And as hypothesized, the relationship between adolescents' attitudes about sex engagement rights and partner communication is mediated by their comfort communicating those rights to a partner. The coefficient for the sex engagement rights decreased in magnitude but remained statistically significant, indicating partial mediation; both an indirect and direct

pathway are in effect. An estimated 34% of the effect on partner communication runs through the indirect, mediated pathway.

Study Limitations

This study includes limitations that may affect the interpretation and applicability of our results. First, our conclusions are affected by how survey measures were defined. As discussed, the use of hypothetical situations to assess attitudes about sexual relationship rights likely led to more positive results than equivalent items asking about actual experiences. Our findings may also be affected by the nature of the partner communication scale, measured as the number of topics discussed with a partner. The scale does not address the frequency or quality of these discussions; there may be nuances in the connection with attitudes about relationship rights that may have been missed through the use of this single communication measure. Moreover, a small proportion of our respondents reported having had sex before; the sexually inexperienced majority may not have had the opportunity or need to talk about any of these issues with a sexual partner.

As discussed in our Methods, survey logistics required that we randomly split scales about steady and casual sexual partners into two samples of youth. While we found no statistically significant differences between the samples with regards to demographic or behavioral characteristics, we cannot certain if unmeasured differences affected our findings. Future studies should ask respondents about both contexts in order to best compare attitudes across the two contexts.

As with all measures of latent constructs, there is concern about measurement error. Our use of EAP and plausible values estimates, generated by multidimensional item response models, accounted for measurement error for attitudes about relationship rights, our primary variable of interest (see Technical Appendix). However, we did not engage in the same process for the other latent measures in our analyses, such as communication comfort and partner communication. While model comparisons indicated that the EAP and plausible values approaches did not substantively change our findings, some degree of measurement error remains which may affect our conclusions. For example, error in our communication comfort scale would likely underestimate its effect as a mediator and overestimate the direct effect of attitudes about relationship rights on partner communication.

We described earlier our decision not to cluster standard errors, based on both conceptual grounds and empirical evidence. Comparisons of the OLS models with hierarchical multilevel models (clustered by classroom and school) did not substantively alter our findings. Nonetheless, it is possible that the clustered design did affect our conclusions; if so, we may have underestimated our standard errors.

The generalizability of these findings beyond this population of urban Hispanic and African American adolescents is unknown. Our interpretation is limited by the specific population participating in the larger study. As previously mentioned, we may not have a full sense of

adolescents' attitudes across demographic groups because of the lack of age and racial/ethnic diversity in this particular sample; we also did not address generational status among the Hispanic subgroups. Moreover, this study is drawn from particular communities in South and East Los Angeles, reflecting the sexuality education initiative under development. While this design offered an opportunity to examine issues of relationship rights in an important cultural and geographical context, it also leaves questions to be answered about the larger phenomenon of interest. Perspectives on issues as complex as sexual rights may differ greatly in other communities due to social and cultural norms. Additional research is needed to parse out differences in attitudes about relationship rights among populations and settings, and would offer a deeper understanding of the intersection of issues of culture, gender, sexuality and rights among adolescents.

Finally, as we noted earlier, our investigation of how adolescents' attitudes about relationship rights may affect their communication with partners about sexual decision-making is asking a causal question. Programs want to know if educating young people about sexual relationship rights can improve sexual health outcomes. There is an inherent challenge in making causal inferences from correlational data, and over-interpretation of results is common (Constantine, 2012). Our theory-based approach aimed to account for many threats to internal validity by addressing the most plausible alternatives to our hypothesized relationship; nonetheless, we can never address all possible alternative hypotheses. In particular, we are limited by the cross-sectional nature of the data and our inability to determine temporality. While a longitudinal approach does not prove temporal precedence or causality, it would provide evidence in understanding these findings. While more complex analytic methods, such as structural equation modeling and directed acyclic graphs, are available as tools for causal inference, we must recognize that these are subject to the same limitations. There is no easy answer for confirming causality.

Implications for Research and Practice

Despite these limitations, we believe the findings from this paper will help further understanding of adolescents' attitudes about their rights in sexual situations and inform ongoing development of a conceptual framework for guiding future rights-based research and practice. In particular, we see a number of avenues for research. Some aim to address the limitations in our own study, and others take these findings in new directions. Expanding use of these validated measures in other populations would increase the knowledge base with respect to attitudes about sexual relationship rights, with particular attention to possible differences by age and race/ethnicity that could not be assessed here. Of further interest would be breakdowns by geography and culture to begin to understand how social and cultural norms may influence adolescents' attitudes about relationship rights, or perhaps moderate the relationship between these attitudes and protective sexual behaviors. Studies comparing attitudes toward hypothetical and actual relationship situations, and covering the diverse nature of adolescent relationships – steady, casual, and everything in between – would expand this line of study further.

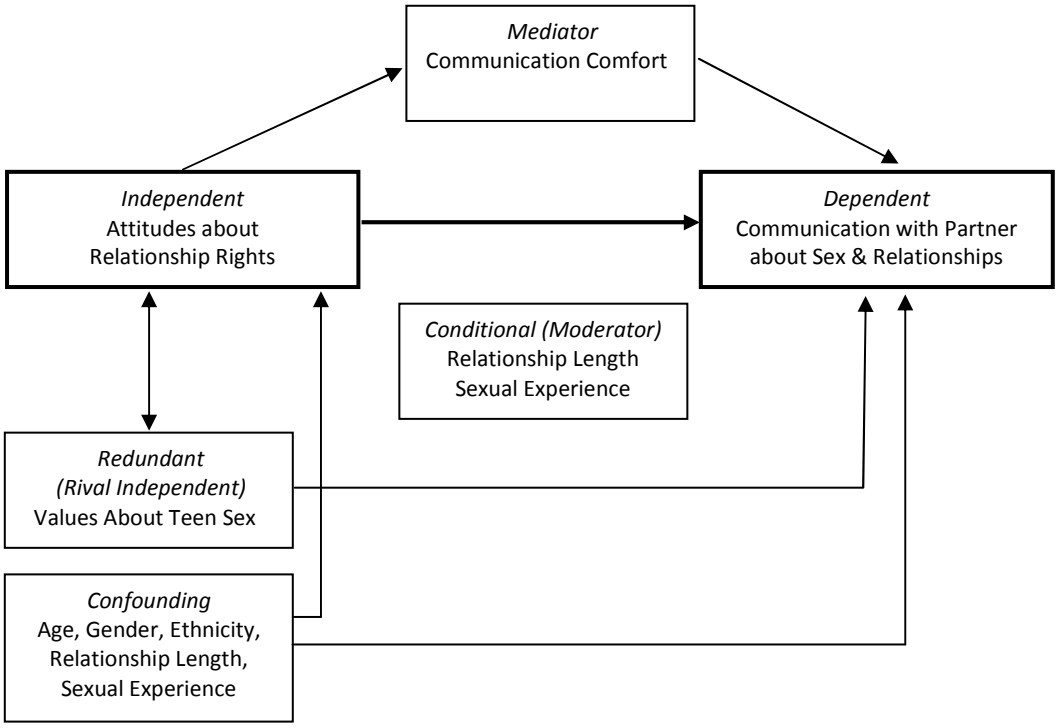
Additionally, there is a need for studies that track these constructs over time, using these or similar measures. Longitudinal studies would allow researchers to study natural changes in attitudes about relationship rights as adolescents mature into young adults. Researchers may consider questions of cognitive development (for example, how older adolescents' concepts of rights, responsibilities, power, and equality differ relative to younger teens) and how sexual experiences may affect perceptions of rights. Additionally, intervention research studies are necessary for confirming whether these attitudes are amenable to change based on participation in a rights-based sexuality education program, as well as parsing out how such changes may play a causal role in promoting healthy sexual behaviors. These are thorny topics; qualitative research will be important for helping to provide a more complete picture of these complicated issues.

This study also has implications for practice, most notably the development and implementation of rights-based sexuality education efforts. First, this study highlights the importance of program developers having an understanding of adolescents' pre-existing awareness of and attitudes toward sexual relationship rights as they form lessons and activities. The development of the program from our main study, and its evaluation, were greatly informed by formative research in the target community, particularly focus groups with youth and parents about rights, responsibilities, gender equality, and related topics. Programs also need to have a sense of the relationship and sexual experience of target youth as they bring up these topics for discussion. While we recognize the limitations of discussing rights in the hypothetical, it also may be the best reflection of younger adolescents' perspectives. To the extent that youth do not have much experience with sex or relationships, they still need to be provided with a solid understanding of their rights, as well as their responsibility to respect the rights of others, as preparation for future, healthy relationships. These topics should be addressed early and can be adapted as youth mature.

The statistically significant association with partner communication for attitudes about sex engagement rights, but not for sex refusal rights or relationship autonomy rights, has potential implications for sexuality education practice as well. Fostering communication and negotiation skills is a common strategy for sexuality education programs, but these lessons and activities tend to center on refusal skills. Today's adolescents have often heard about the importance of articulating their personal limits to a sexual partner. This paper suggests that talking with adolescents about expressing their sexual engagement needs and desires may have a stronger effect on program goals related to improving partner communication. It encourages programs to use a positive view of adolescent sexuality in their education efforts.

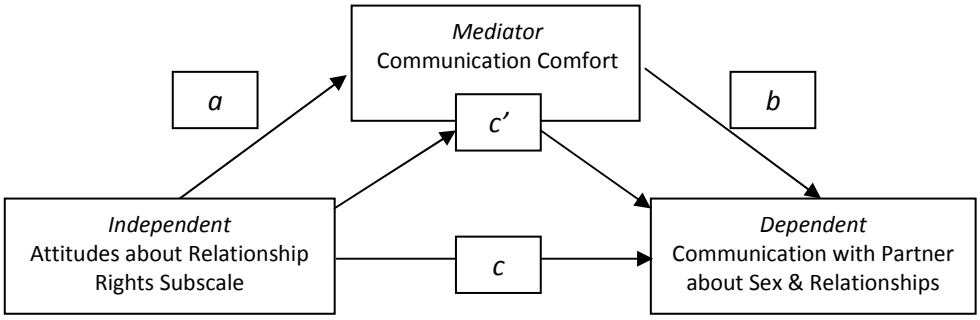
In summary, this study offers new avenues for considering how adolescents think about their sexual relationships, as well as giving a more realized sense to causal pathways by which the rights-based approach to sexuality education is theorized to promote healthy sexual behaviors. While there is much more to be learned, we believe this paper has taken important steps toward the development of a knowledge base that can guide future rights-based sexuality education efforts and identify new avenues for adolescent sexual health research.

Figure 3-1. Elaboration of the Focal Relationship*, based on Aneshensel Theory-Based Data Analysis (2002)



* The focal relationship is noted in bold outline.

Figure 3-2. Visual Depiction of Mediation Analysis



Path a: Association between the independent variable and mediator
Path b: Association between mediator and dependent variable
Path c: Association between the independent variable and dependent variable (*Direct Effect)*
Path c': Association between the independent variable and dependent variable, adjusted for the mediator (*Indirect Effect*)

Table 3-1. Characteristics of SEI Survey Respondents at Pretest, 2011-12

	Full Sample N=758		Sample A Steady Partner Items n=374		Sample B Casual Partner Items n=384	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Age *						
13	43	6	22	6	21	6
14	524	69	258	69	266	69
15	174	23	80	21	94	24
16	17	2	14	4	3	1
Gender						
Male	367	48	173	46	194	50
Female	391	52	201	54	190	50
Race/Ethnicity						
African American	64	8	28	7	36	9
Asian/Pacific Islander	1	<1	1	<1	0	0
Hispanic	639	84	319	85	320	83
Native Am./Alaska Nat.	16	2	6	2	10	3
White	3	<1	1	<1	2	1
Multi-Ethnic	35	5	19	5	16	4
Ever in Steady Relationship						
Yes	575	76	281	75	294	77
No	183	24	93	25	90	23
Relationship Length						
Less than 3 months	228	40	104	37	124	43
3 – 6 months	175	31	94	34	81	28
7 – 12 months	81	14	42	15	39	13
More than 12 months	84	15	39	14	45	16
Ever Had Sexual Intercourse						
Yes	156	21	78	21	78	20
No	602	79	296	79	306	80

No statistically significant differences for any variables, χ^2 tests between samples.

* Age also tested as continuous variable; t-test indicated no statistically significant differences by sample (mean age: 14.3 for Sample A vs. 14.2 for Sample B).

Table 3-2. Scale Statistics

	# Items	α	Mean (s.d.)	Range	Min	Max
Relationship Rights – Steady Partner						
Full Scale	17	0.89	3.25 (0.42)	1-4	1.59	4
Sex Refusal	5	0.78	3.30 (0.51)	1-4	1.80	4
Sex Engagement	4	0.80	3.20 (0.55)	1-4	1.25	4
Relationship Autonomy	5	0.70	3.22 (0.47)	1-4	1.40	4
Relationship Rights – Casual Partner						
Full Scale	17	0.90	3.13 (0.45)	1-4	1	4
Sex Refusal	5	0.81	3.28 (0.54)	1-4	1	4
Sex Engagement	4	0.80	2.93 (0.60)	1-4	1	4
Relationship Autonomy	5	0.77	2.08 (0.53)	1-4	1	4
Partner Communication	9	0.82	2.44 (2.71)	0-9	0	9
Communication Comfort – Steady Partner	8	0.84	2.90 (0.59)	1-4	1	3.40
Communication Comfort – Casual Partner	8	0.83	2.48 (0.60)	1-4	1	4
Values about Teen Sex	5	0.76	2.00 (0.61)	1-4	1	4

Table 3-3. Attitudes about Relationship Rights: Item and Scale Means, Standard Deviations, and Differences for Steady/Casual Partner Items

	Sample A Steady Partner Items n=374		Sample B Casual Partner Items n=384		Difference in Mean Responses		
	Mean	s.d.	Mean	s.d.	Difference	t-statistic	p-value
a. Right to say no to sex.	3.35	0.72	3.47	0.65	-0.13	-2.53	0.015
b. Right to know if partner is having sex with someone else.	3.41	0.70	3.15	0.79	0.25	4.69	<0.001
c. Right to stop having sex with partner at any time.	3.34	0.64	3.21	0.72	0.13	2.67	0.008
d. Right to insist on using condoms or birth control.	3.38	0.65	3.31	0.74	0.07	1.40	0.161
e. Right to insist that partner get tested for STDs or HIV	3.44	0.65	3.30	0.73	0.15	2.93	0.004
f. Right to say what they need or want in the relationship.	3.36	0.66	3.20	0.67	0.16	3.22	0.001
g. Right to ask about partner's past sexual experiences.	3.00	0.84	2.95	0.78	0.05	0.85	0.397
h. Right to talk about what they want to do when having sex.	3.18	0.75	2.99	0.74	0.20	3.65	<0.001
i. Right to end the relationship for any reason they choose.	3.04	0.83	3.04	0.78	0.00	0.02	0.983
j. Right to talk about condoms or birth control.	3.29	0.65	3.07	0.67	0.22	4.51	<0.001
k. Right to tell partner that they would like to have sex.	3.13	0.72	2.77	0.84	0.36	6.39	<0.001
l. Right to talk about what feels good/doesn't feel good during sex.	3.20	0.70	2.90	0.81	0.30	5.37	<0.001
m. Right to have time away from their partner.	3.04	0.71	2.96	0.72	0.08	1.47	0.143
n. Right to have equal say in all decisions about sex.	3.28	0.61	3.13	0.69	0.15	3.09	0.002
o. Right to say no to sexual things that make them uncomfortable.	3.39	0.63	3.30	0.72	0.09	1.87	0.062
p. Right to refuse to have sex, without giving a reason why.	3.20	0.76	3.24	0.77	-0.04	-0.72	0.472
q. Right to stop what they're doing during sex at any time.	3.21	0.74	3.18	0.72	0.04	0.68	0.495
Full Relationship Rights Scale	3.25	0.02	3.13	0.02	0.12	3.86	<0.001
Sex Refusal Rights	3.30	0.02	3.28	0.03	0.02	0.49	0.624
Sex Engagement Rights	3.20	0.03	2.93	0.03	0.27	6.36	<0.001
Relationship Autonomy Rights	3.22	0.02	3.08	0.03	0.14	3.77	<0.001

Each item measured as 1=Strongly Disagree, 2=Disagree, 3=Agree, 4=Strongly Agree.

* Subscales developed through previous psychometric analyses: Sex Refusal (items a,c,o,p,q), Sex Engagement (items h,j,k,l), Relationship Autonomy (items b,f,g,m,n). Three items did not factor on any scale.

Table 3-4. Predictors of Attitudes about Relationship Rights, Full Scale and Subscales, Unadjusted Coefficients for Bivariate Relationships

	Full Sample N=758	Sample A Steady Partner Items n=374	Sample B Casual Partner Items n=384
	b (s.e.)	b (s.e.)	b (s.e.)
Full Relationship Rights Scale			
Female	0.11 (0.03) ***	0.14 (0.04) ***	0.07 (0.05)
Age	- 0.03 (0.03)	- 0.01 (0.04)	- 0.06 (0.04)
Hispanic	0.00 (0.04)	0.02 (0.06)	- 0.01 (0.06)
Relationship Experience	0.11 (0.04) **	0.10 (0.05) *	0.13 (0.05) *
Sexual Experience	- 0.06 (0.04)	- 0.05 (0.05)	- 0.07 (0.06)
Sex Refusal Rights			
Female	0.25 (0.04) ***	0.31 (0.05) ***	0.19 (0.05) ***
Age	- 0.09 (0.03) **	- 0.04 (0.04)	- 0.16 (0.05) **
Hispanic	0.03 (0.05)	0.03 (0.07)	0.03 (0.07)
Relationship Experience	0.04 (0.04)	0.00 (0.06)	0.09 (0.07)
Sexual Experience	- 0.19 (0.05) ***	- 0.21 (0.06) ***	- 0.17 (0.07) *
Sex Engagement Rights			
Female	- 0.10 (0.04) *	- 0.07 (0.06)	- 0.13 (0.06) *
Age	0.04 (0.04)	0.05 (0.05)	0.04 (0.06)
Hispanic	- 0.06 (0.06)	- 0.02 (0.08)	- 0.11 (0.08)
Relationship Experience	0.25 (0.05) ***	0.24 (0.07) ***	0.27 (0.07) ***
Sexual Experience	0.13 (0.05) *	0.16 (0.07) *	0.09 (0.08)
Relationship Autonomy Rights			
Female	0.13 (0.04) ***	0.14 (0.05) **	0.12 (0.05) *
Age	- 0.03 (0.03)	- 0.02 (0.04)	- 0.06 (0.05)
Hispanic	0.02 (0.05)	0.02 (0.07)	0.03 (0.07)
Relationship Experience	0.12 (0.04) **	0.11 (0.06) *	0.12 (0.06)
Sexual Experience	- 0.08 (0.05)	- 0.05 (0.06)	- 0.11 (0.07)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different gender effect by steady/casual partner items). None were statistically significant.

Table 3-5. Focal Relationship: Pairwise Correlation (r) and Regression Coefficients (b) of Partner Communication on Relationship Rights Scales and Subscales, among SEI Respondents with Relationship Experience

	Full Sample ^ n=555		Sample A Steady Partner Items n=270		Sample B Casual Partner Items n=285	
	r	b (s.e.)	r	b (s.e.)	r	b (s.e.)
Full Relationship Rights Scale	0.12	0.67 (0.26) **	0.12	0.78 (0.40)	0.10	0.58 (0.34)
Sex Refusal Rights	0.03	0.14 (0.22)	0.02	0.12 (0.33)	0.03	0.16 (0.28)
Sex Engagement Rights	0.20	0.93 (0.20) ***	0.23	1.22 (0.31) ***	0.16	0.71 (0.26) **
Relationship Autonomy Rights	0.10	0.52 (0.23) *	0.10	0.61 (0.36)	0.09	0.45 (0.30)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Table 3-6a. Model Elaboration: Regression of Partner Communication on Sex Engagement Rights and Other Variables, among SEI Respondents with Relationship Experience – Full Sample

	Full Sample ^ n=555				
	Focal	Exclusionary		Inclusive	Conditional
	Model 1	Model 2	Model 3	Model 4	Model 5
Sex Engagement Rights	0.93 ***	0.76 ***	0.73 ***	0.47 *	0.40
	(0.20)	(0.18)	(0.18)	(0.19)	(0.27)
Female		0.18	0.45 *	0.47	0.46 *
		(0.20)	(0.22)	(0.22)	(0.22)
Age		0.49 **	0.50 **	0.47 **	0.51 **
		(0.18)	(0.18)	(0.18)	(0.18)
Hispanic		-0.73 **	-0.70 **	-0.64 *	-0.66 *
		(0.27)	(0.27)	(0.26)	(0.27)
Relationship Length		0.67 ***	0.67 **	0.65 ***	-1.55
		(0.20)	(0.20)	(0.20)	(1.09)
Sexual Experience		2.44 ***	2.26 ***	2.20 ***	3.21 *
		(0.23)	(0.24)	(0.24)	(1.28)
Values about Teen Sex			0.55 **	0.51 **	0.55 **
			(0.19)	(0.18)	(0.19)
Communication Comfort				0.65 ***	
				(0.19)	
Rship Length*SE Rights					0.72
					(0.37)
Sex Experience*SE Rights					-0.31
					(0.40)
Steady/Casual Partner Item	0.04	0.03	0.10	-0.12	0.11
	(0.23)	(0.20)	(0.20)	(0.21)	(0.20)
Constant	0.31	-6.71 *	-7.97 **	-8.38 ***	-7.14 *
	(0.62)	(2.63)	(2.64)	(2.62)	(2.69)
R^2	0.04	0.27	0.28	0.30	0.29

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type (shown). A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Table 3-6b. Model Elaboration: Regression of Partner Communication on Sex Engagement Rights and Other Variables, among SEI Respondents with Relationship Experience – Steady Partner

	Sample A Steady Partner Items n=270				
	Focal	Exclusionary		Inclusive	Conditional
	Model 1	Model 2	Model 3	Model 4	Model 5
Sex Engagement Rights	1.22 ***	1.01 ***	1.03 ***	0.68 *	0.58
	(0.31)	(0.28)	(0.28)	(0.32)	(0.46)
Female		0.16	0.43	0.45	0.43
		(0.30)	(0.33)	(0.33)	(0.33)
Age		0.73 **	0.72 **	0.69 **	0.73 **
		(0.25)	(0.25)	(0.24)	(0.25)
Hispanic		-0.44	-0.45	-0.40	-0.48
		(0.42)	(0.42)	(0.42)	(0.42)
Relationship Length		0.78 *	0.76 *	0.73 *	-1.22
		(0.31)	(0.31)	(0.30)	(1.91)
Sexual Experience		2.03 ***	1.88 ***	1.80 ***	0.76
		(0.35)	(0.36)	(0.36)	(2.23)
Values about Teen Sex			0.55	0.57 *	0.55
			(0.28)	(0.28)	(0.28)
Communication Comfort				0.68 *	
				(0.31)	
Rship Length*SE Rights					0.61
					(0.58)
Sex Experience*SE Rights					0.34
					(0.67)
Constant	-0.60	-11.00 **	-12.16 ***	-12.67 ***	-10.87 **
	(1.03)	(3.68)	(3.71)	(3.69)	(3.86)
R^2	0.05	0.24	0.25	0.27	0.26

* p<0.05, ** p<0.01, *** p<0.001

Table 3-6c. Model Elaboration: Regression of Partner Communication on Sex Engagement Rights and Other Variables, among SEI Respondents with Relationship Experience – Casual Partner

	Sample B Casual Partner Items n=285				
	Focal	Exclusionary		Inclusive	Conditional
	Model 1	Model 2	Model 3	Model 4	Model 5
Sex Engagement Rights	0.71 **	0.58 ***	0.50 *	0.33	0.28
	(0.26)	(0.22)	(0.22)	(0.23)	(0.34)
Female		0.14	0.41	0.43	0.44
		(0.26)	(0.29)	(0.29)	(0.29)
Age		0.20	0.21	0.19	0.22
		(0.26)	(0.26)	(0.26)	(0.26)
Hispanic		-0.95 **	-0.89 **	-0.82 *	-0.81 *
		(0.34)	(0.34)	(0.34)	(0.35)
Relationship Length		0.59 *	0.61 *	0.59 *	-1.42
		(0.27)	(0.26)	(0.26)	(1.36)
Sexual Experience		2.79 ***	2.59 ***	2.56 ***	4.31 **
		(0.31)	(0.32)	(0.32)	(1.59)
Values about Teen Sex			0.57 *	-0.46	0.57 *
			(0.25)	(0.25)	(0.25)
Communication Comfort				0.59 *	
				(0.24)	
Rship Length*SE Rights					0.69
					(0.45)
Sex Experience*SE Rights					-0.57
					(0.52)
Constant	0.96	-1.78	-3.13	-3.56	-2.67
	(0.79)	(3.84)	(3.86)	(3.83)	(3.89)
R^2	0.03	0.31	0.33	0.34	0.34

* p<0.05, ** p<0.01, *** p<0.001

Table 3-7. Mediation Analysis: Regression of Partner Communication on Sex Engagement Rights and Communication Comfort

	Full Sample ^ n=555	Sample A Steady Partner Items n=270	Sample B Casual Partner Items n=285
	b (s.e.)	b (s.e.)	b (s.e.)
Model: Path a			
DV: Communication Comfort			
IV: Sex Engagement Rights	0.40 ***	0.52 ***	0.29 ***
	(0.04)	(0.06)	(0.06)
Model: Path b			
DV: Partner Communication			
IV: Communication Comfort	0.65 ***	0.68 *	0.59 *
	(0.19)	(0.31)	(0.24)
Mediator: Sex Engagement Rights	0.47 *	0.68 *	0.33
	(0.19)	(0.32)	(0.23)
Model: Path c			
DV: Partner Communication			
IV: Sex Engagement Rights	0.73 ***	1.03 ***	0.50 *
	(0.18)	(0.28)	(0.22)
Model: Path c'			
DV: Partner Communication			
IV: Sex Engagement Rights	0.47 *	0.68 *	0.33
	(0.19)	(0.32)	(0.23)
Mediator: Communication Comfort	0.65 ***	0.68 *	0.59 *
	(0.19)	(0.31)	(0.24)
Calculations of Indirect Effect			
Direct Effect (path c')	0.47 *	0.68 *	0.33
	(0.19)	(0.31)	(0.23)
Indirect Effect (ab) §	0.26 ***	0.35 *	0.17 *
	(0.08)	(0.17)	(0.08)
Total Effect (path c)	0.73 ***	1.03 ***	0.50 *
	(0.18)	(0.28)	(0.22)
Proportion Mediated	36%	34%	34%

* p<0.05, ** p<0.01, *** p<0.001

All models adjusted for confounding and redundant variables (gender, age, Hispanic ethnicity, relationship length, sexual experience, values about teen sex).

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

§ Indirect effect tested using Sobel's standard error. Standard errors did not change with 1000 bootstrap replications.

Table 3-8. Comparison of Sex Engagement Rights Regression Coefficients as Predictor of Partner Communication, among SEI Respondents with Relationship Experience

	b	s.e.	p-value	95% CI		beta
Full Sample (Table 6a)						
Model 1	0.93	0.20	0.000	0.54	1.32	0.20
Model 2	0.76	0.18	0.000	0.42	1.11	0.16
Model 3	0.73	0.18	0.000	0.39	1.07	0.16
Model 4	0.47	0.19	0.014	0.10	0.84	0.10
Model 5	0.40	0.27	0.136	- 0.13	0.93	0.09
Steady Partner (Table 6b)						
Model 1	1.22	0.31	<0.000	0.61	1.83	0.23
Model 2	1.01	0.28	<0.000	0.46	1.57	0.20
Model 3	1.03	0.28	<0.000	0.48	1.58	0.20
Model 4	0.68	0.32	0.037	0.04	1.31	0.13
Model 5	0.58	0.46	0.213	- 0.33	1.49	0.11
Casual Partner (Table 6c)						
Model 1	0.71	0.26	0.007	0.20	1.23	0.16
Model 2	0.58	0.22	0.010	0.14	1.02	0.13
Model 3	0.50	0.22	0.025	0.06	0.94	0.11
Model 4	0.33	0.23	0.154	-0.13	0.79	0.08
Model 5	0.28	0.34	0.406	-0.38	0.95	0.06

Table 3-9. Correlation Matrix for Variables Used Regression Analyses, among SEI Respondents with Relationship Experience – Full Sample

	Full Sample n=555									
	Partner Comm.	Sex Eng. Rights	Female	Age	Hispanic	Rship. Length	Sexual Exp.	Values Teen Sex	Comm. Comfort	Steady/ Casual Item
Partner Communication	1.00									
Sex Engagement Rights	0.20	1.00								
Female	- 0.03	- 0.04	1.00							
Age	0.20	0.04	- 0.02	1.00						
Hispanic	- 0.15	- 0.03	- 0.05	- 0.15	1.00					
Relationship Length	0.18	0.07	- 0.02	- 0.01	0.01	1.00				
Sexual Experience	0.45	0.05	- 0.14	0.20	- 0.07	0.13	1.00			
Values about Teen Sex	0.21	0.06	- 0.44	0.05	- 0.03	0.03	0.28	1.00		
Communication Comfort	0.26	0.46	- 0.06	0.09	- 0.07	0.08	0.13	0.10	1.00	
Steady/Casual Partner Item	0.05	0.23	0.05	0.03	0.04	0.06	0.01	- 0.12	0.36	1.00

TECHNICAL APPENDIX:
EXAMINING MEASUREMENT ERROR THROUGH RAW SCORE, EAP AND PLAUSIBLE VALUES ESTIMATES

Introduction

This Technical Appendix reports on an investigation into the role of measurement error in the regression analyses presented in the third paper of this dissertation, "Understanding Adolescents' Attitudes about their Rights in Sexual Relationships."

The second and third papers of this dissertation are related. Both examined one particular construct – attitudes about sexual relationship rights – using the same baseline survey data collected from youth participating in the SEI Evaluation. The aim of the second dissertation paper was methodological: to describe the development and psychometric assessment of the relationship rights measures. The third paper's aim was substantive: to investigate a possible causal relationship between attitudes about sexual relationship rights and other constructs through a series of theory-driven regression models. The results of the item response models in the second paper gave confidence that our measures of adolescents' attitudes about sexual relationship rights were valid and reliable, and could be used to further understanding of the construct in the third paper.

This connection between the papers could go further. Beyond being useful in the development and assessment of measures, item response models can serve as a tool for understanding and reducing measurement error that may affect our conclusions about the relationships between constructs. In this Technical Appendix, we investigate measurement error by comparing results of our regression models using three different methods for quantifying adolescent respondents' attitudes about sexual relationship rights. The first is based on a classical test theory approach, the others rely on item response models.

Quantifying Respondents' Latent Traits

To conduct our regression analyses, we need to assign a score to each survey respondent that serves as a measure of his or her underlying attitudes about sexual relationship rights (the respondent's "latent trait"). An important issue, then, is how we use item responses to generate this score.

Under classical test theory, a raw score is created for each respondent by summing or averaging responses across the selected items (Embretson & Reise, 2000; Streiner & Norman, 2003). This approach is commonly used in adolescent health research, and it is what we use in the third paper. Despite its widespread use, there are potential problems with this approach. First, it makes an assumption that all items should contribute equally to a respondent's score. This assumption is often untested, making the extent of these problems unknown (Streiner & Norman, 2003). In fact, our Paper 2 item response models make clear that our items do *not*

have the same mean difficulty parameters, and our exploratory factor analyses indicate varied factor loadings with the underlying constructs. These points challenge the interpretability of an overall raw score as a measure of the latent trait.

A second issue with the classical test theory approach relates to measurement error. Correlations between measures are disattenuated; that is, their magnitude is reduced by measurement error. If correlations are artificially reduced by attenuation, researchers can miss true relationships between constructs (Type II error). In contrast, item response models can generate direct estimations of these correlations that are not attenuated by measurement error. For example, correlations across dimensions using a multidimensional item response model are higher than the equivalent correlations using raw score scales, because the model corrects for this attenuation to measurement error. This was seen in our own analyses presented in Paper 2. Conversely raw score measures may be inaccurately "tight," creating a measure with little variation; this may lead researchers to conclude incorrectly that there is a true relationship between constructs, when in fact it is the result of chance (Type I error).

Item Response Model Estimates: EAP Estimation and Plausible Values

In contrast to the classical test theory approach, item response models infer the latent trait ($\hat{\theta}$) based on both the individual's responses and the item parameters (Embretson & Reise, 2000). The $\hat{\theta}$ value reflects the respondent's underlying attitudes with greater precision. There are different methods for generating these estimates from item response models. *Expected a posteriori* (EAP) estimation is a common strategy that is derived from the mean of the posterior probability distribution for each respondent.

There are concerns about bias when point estimates, like the EAP, are used to estimate population parameters (Wu, 2005). To the extent that there is error in measurement at the individual level, it needs to be taken into account in population estimates. This degree of uncertainty can be expressed by generating several scores for each respondent, randomly drawn from the posterior distribution. These scores are called plausible values, as they represent scores that could reasonably be assigned to each respondent. Plausible values provide not only information about a respondent's latent estimate, $\hat{\theta}$, but also the uncertainty associated with this estimate. The plausible values therefore provide unbiased population estimates of latent trait. Plausible values also allow for analysis in standard statistical packages, such as SPSS or Stata. Typically, five plausible values are drawn for each respondent (Hopstock & Pelczar, 2011; Wu, 2005). In effect, analyses are conducted for each of the five plausible values, the results are averaged, and significance tests are adjusted for variation between the five sets of results. Plausible values are commonly used in analysis of large education datasets to understand population statistics, including the Programme for International Student Assessment (PISA) (Hopstock & Pelczar, 2011).

Purpose of the Study

This study aims to understand the effect of measurement error on the analyses presented in Paper 3 by addressing the following questions:

1. To what extent do the results of the regression analyses differ for the raw scores, EAP, and plausible values estimates of the latent trait?
2. To what extent do the regression models using EAP and plausible values result in different conclusions from those presented in Paper 3 using respondents' raw scores?
3. What conclusions about measurement error can be drawn from the pattern of these results?

Methods

All analyses build off of those presented in the second and third papers of this dissertation. Details about the sample, study procedures, survey measures, data collection, and analyses are provided in the Methods sections of those papers. In these analyses, we compared the Paper 3 regression results using the raw scores, EAP person estimates, and plausible values estimates for adolescents' attitudes about sexual relationship rights. All analyses were conducted using the full (17-item) relationship rights scale, as well as the three subscales on sex refusal rights (5 items), sex engagement rights (4 items), and relationship autonomy rights (5 items). Each was considered separately for items asking about rights with steady and casual sexual partners.

We generated person estimates as follows:

- Raw Scores: In Stata, we created scales by taking mean scores across the items, allowing for one missing value. Each respondent had four mean scores: for the full scale, for the sex refusal subscale, for the sex engagement subscale, and for the relationship autonomy subscale. These values are presented in the Paper 3 analyses.

- EAP Estimates: In ConQuest, we generated EAP person estimates for the full relationship rights scale after fitting the unidimensional partial credit model across all 17 items. We generated EAP person estimates for each of the three dimensions (sex refusal, sex engagement, relationship autonomy) after fitting the multidimensional partial credit model. Each respondent had four EAP scores: for the full scale, for the sex refusal subscale, for the sex engagement subscale, and for the relationship autonomy subscale. We merged these estimates into the existing survey dataset in Stata for regression analyses.

- Plausible Values Estimates: In ConQuest, we generated five plausible value estimates for each respondent after fitting the unidimensional partial credit model across all 17 items. We generated five plausible value estimates for each respondent for each of the three

dimensions (sex refusal, sex engagement, relationship autonomy) after fitting the multidimensional partial credit model. Each respondent had 20 plausible values: 5 for the full scale, 5 for the sex refusal subscale, 5 for the sex engagement subscale, and 5 for the relationship autonomy subscale. We merged these estimates into the existing survey dataset in Stata for regression analyses.

Table TA-1 presents descriptive statistics for each of these three measures.

While a plausible values command (*pv*) has been developed for use in Stata for use with PISA, TIMSS, and other education datasets, it requires that latent variable (for which the plausible values have been drawn) serve as the dependent variable. In the third paper of the dissertation, the measures of adolescents' attitudes about relationship rights function as independent and dependent variables in different statistical models. Specifically, we investigated how attitudes about relationship rights varied by demographic and behavioral characteristics (RR as dependent variable). We also investigated how attitudes about relationship rights may have a causal influence on partner communication (RR as independent variable). Stata's suite of multiple imputation commands allows for the use of multiple imputed values in either role (Stata Corp, 2009). The *mi estimate* command creates pooled estimates for regression coefficients and standard errors across the plausible values.

For each type of estimate, we conducted the series of regression models described in Paper 3 and presented in these tables:

- Table 3-4. Predictors of Attitudes about Relationship Rights, Full Scale and Subscales, Unadjusted Coefficients for Bivariate Relationships
- Table 3-5. Focal Relationship: Pairwise Correlation (r) and Regression Coefficients (b) of Partner Communication on Relationship Rights Scales and Subscales
- Table 3-6a. Model Elaboration: Regression of Partner Communication on Sex Engagement Rights and Other Variables, among SEI Respondents with Relationship Experience – Full Sample
- Table 3-7. Mediation Analysis: Regression of Partner Communication on Sex Engagement Rights and Communication Comfort

Each table has an equivalent using the EAP and plausible values estimates in this Appendix. In comparing the raw score models to the EAP and plausible values tables here, it must be noted that the estimates are on different scales.[13] Thus, our attention focuses on changes to the direction of the coefficient (negative/positive) and its statistical significance, but not its magnitude.

[13] More specifically, the mean scale is different from that of the EAP and plausible values estimates, which use the same logit metric and can be compared.

Results

Correlations

Table TA-2 shows that the three estimates of respondents' attitudes about sexual relationship rights are highly correlated. This was true for the full 17-item relationship rights scale as well as the three subscales. Results were similar for the measures addressing rights with steady or casual sexual partners. The correlation between the raw (mean scale) scores and the EAP $\hat{\theta}$ estimates ranged from 0.89 to 0.96 in the steady partner sample, and from 0.93 to 0.97 in the casual partner sample. The correlations between the EAP and plausible values estimates were also high, ranging from 0.91 to 0.94 in the steady partner sample, and from 0.91 to 0.94 in the casual partner sample. The correlations between the raw (mean scale) scores and plausible values estimates were slightly lower, as expected, ranging from 0.84 to 0.90 in the steady partner sample and 0.87 to 0.92 in the casual partner sample.

Attitudes about Sexual Relationship Rights

In Paper 3, Table 3-4 presented unadjusted regression coefficients for the relationship between attitudes about relationship rights (as measured using the raw score) and respondents' demographic and behavioral characteristics, controlling for partner type.

For the full relationship rights scale, we concluded that female respondents held more positive attitudes than male respondents, and respondents with prior relationship experience with a steady partner held more positive attitudes about relationship rights compared to those with no relationship experience. We further concluded there was no relationship between age, Hispanic ethnicity, or sexual experience with overall attitudes about relationships rights. Here, in Tables TA-3 and TA-7, we find almost the same pattern of statistically significant results, with one exception. In the steady partner sample, the association between the full relationship rights scale and relationship experience is no longer statistically significant at the 0.05 level (although the p-value is marginally significant, $p<0.10$).

Table 3-4 also presented demographic and behavioral differences for the three different dimensions (types) of relationship rights, controlling for partner type. In Paper 3, we concluded there were different effects of some individual characteristics on attitudes for different types of rights. Most, but not all, of these findings were replicated with the EAP and plausible values estimates. The exceptions are:

- Gender: In Paper 3, we concluded that female respondents had more positive attitudes about rights to refuse unwanted sexual activity and establish relationship autonomy, but less positive attitudes about rights to express sexual engagement needs. While the same gender effect on attitudes about sex refusal and relationship autonomy is found with the EAP and plausible values estimates, the effect for the sex engagement subscale is not statistically significant.

- Relationship Length: In Paper 3, we concluded that relationship length was associated with more positive attitudes about sex engagement rights and relationship autonomy rights, but had no effect on attitudes about sexual refusal rights. This pattern largely held with the EAP and plausible values; the exceptions showed marginal statistical significance ($p<0.10$).

- Sexual Experience: In Paper 3, we concluded that sexual experience was associated with more positive attitudes about sex engagement rights, but more negative attitudes about sex refusal rights, and had no effect on attitudes about relationship autonomy rights. The EAP and plausible values reach the same conclusions about sex refusal (negative effect) and relationship autonomy rights (no effect). However, these methods found no statistically significant relationship between sexual experience and sex engagement rights.

Focal Relationship: Attitudes about Sexual Relationship Rights and Partner Communication

The first step of the theory-based data analysis (TBDA) in Paper 3 examined the focal relationship between the relationship rights scale and subscales with partner communication, among youth reporting previous relationship experience. Correlations and regression coefficients using the raw score approach were presented in Table 3-5; the equivalent EAP and plausible values results are presented here in Tables TA-4 and TA-8. The EAP estimates found similar correlations between the relationship rights scales and partner communication as the raw score results, but a different pattern of statistical significance. Specifically, a more consistently significant focal relationship was found for the full relationship rights scale.

In Paper 3, Table 3-6a presented the results of the TBDA regression models for the full sample of respondents.[14] Our conclusions focused on the change in magnitude and statistical significance of the focal independent variable (attitudes about sex engagement rights) with the addition of potential confounding, redundant, mediating, and moderating variables. We concluded that the focal relationship persisted net of plausible alternative explanations of confounding and redundancy, was partially mediated by respondents' communication comfort, and was not conditional by respondents' relationship experience or sexual experience. The results presented in Tables TA-5 and TA-9 using EAP and plausible values follow the same pattern.

Table 3-7 presented more detailed results of the mediation analysis. The results using the EAP and plausible values estimates (in Tables TA-6 and TA-10) reach the same conclusions as the raw score approach. Namely, respondents' sense of communication comfort is a statistically significant, partial mediator of the focal relationship between attitudes about sex engagement rights and partner communication. The proportion of the total effect that is mediated (indirect) varied little across the three types of estimates. For the full sample of respondents, there was

[14] The results of the separate sample analyses, equivalent to Tables 3-6b and 3-6c, are not presented here. The equivalent tables using the EAP and plausible values estimates reach the same conclusions as Paper 3.

36% mediation using the raw score approach, 34% using the EAP estimate, and 37% using the plausible values estimates.

Discussion

1. *To what extent do the results of the regression analyses differ for the raw scores, EAP, and plausible values estimates of the latent trait?*

The first aim of this study was to examine the extent that the results of the regression analyses were similar or different when using raw scores, EAP, or plausible values estimates of attitudes about sexual relationship rights. Because the raw scores use a different metric from the EAP and plausible values estimates, we focused our attention on statistical significance rather than the magnitude of regression coefficients. Generally, there were few differences in statistical significance found across the three estimates, with most of the exceptions falling near the 0.05 cutoff. That is, a few results were no longer considered statistically significant but could be considered marginally significant under less strict standards ($p<0.10$).

More notable differences were found in our analysis of attitudes about different dimensions of rights by gender and sexual experience. Specifically, the bivariate relationship between sex engagement rights and gender was no longer statistically significant, and the bivariate relationship between sex engagement rights and sexual experience was no longer statistically significant. The direction of these coefficients remained the same as with the raw score approach (e.g., female respondents showing less positive attitudes about sex engagement rights than males), but our confidence that these represent true differences by respondents' gender and sexual experience is diminished.

In the investigation of the focal relationship between the relationship rights scales with partner communication, we found similar correlations for the all three person estimates. The pattern of statistical significance was the same for the raw score and plausible values approach. The EAP estimates, however, found more consistent pattern of statistical significance for the focal relationship between the full relationship rights scale and partner communication. With these findings, we might have investigated this focal relationship further in subsequent TBDA models; however, the low magnitude of the correlation coefficient continues to provide evidence against this decision. More likely, we would have followed the same steps as in Paper 3, investigating further the sex engagement rights subscale and not the others.

Interestingly, the series of TBDA regression models exploring the focal relationship between sex engagement rights and partner communication reached the same conclusions for the raw score, EAP, and plausible values estimates. The pattern of statistically significance of the focal independent variable's regression coefficients was consistent, and the estimated indirect effect (proportion of total effect that is mediated) in the mediation analyses was very close across all three types of person estimates. There is no indication of Type II error from these results that might have resulted from disattenuation.

2. *To what extent do the regression models using EAP and plausible values result in different conclusions from those presented in Paper 3 using respondents' raw scores?*

Given the similarities between the results presented in Paper 3 based on the raw scores with the EAP and plausible values estimates presented here, we would have reached similar substantive conclusions. The exception, as described above, focuses on the difference in attitudes about sex engagement rights by gender and sexual experience. In Paper 3, we were more confident in concluding there are true differences in these attitudes by these characteristics. The EAP and plausible values analysis present some question of whether measurement error influenced this conclusion. While the direction of regression coefficients remains the same, we are less confident that these represent true differences.

3. *What conclusions about measurement error can be drawn from the pattern of these results?*

The high correlations across the three types of person estimates as measures of adolescents' latent attitudes about sexual relationship rights indicate that measurement error played a small role in our Paper 3 results. The consistency of findings across the regression models points to this conclusion as well. The similarity in regression coefficients and statistical significance between the EAP estimates and plausible values estimates indicate that the point estimate had little bias. Nonetheless, we recognize that measurement error may still have had some effect on the statistical significance of our regression coefficients, and uncertain results should be investigated in future studies.

In summary, we conclude that in this case the raw score estimates used in Paper 3 were acceptable measures of the adolescents' attitudes about sexual relationship rights. We draw confidence from the high magnitude correlations across the raw scores, EAP person estimates, and plausible values estimates, as well as the consistent patterns of regression results across the three types of estimates. Furthermore, we find that the advantage of the raw score approach for an adolescent health research audience who may be less familiar with item response models outweighs our concerns about measurement error. We draw this conclusion for this particular study, and recognize that the effect of measurement error may have been more detrimental to our conclusions. We recommend that other studies conduct similar examinations for their own work.

Table TA-1. Descriptive Statistics for Raw Scores, EAP Estimates, and Plausible Values Estimates

	Raw Scores (Mean Scale)			EAP Estimates			Plausible Values Estimates		
	Mean (s.d.)	Min	Max	Mean (s.d.)	Min	Max	Mean (s.d.)	Min	Max
Relationship Rights – Steady Partner									
Full Scale	3.25 (0.42)	1.59	4.00	1.57 (1.28)	-1.60	4.47	1.58 (1.38)	-1.98	6.42
Sex Refusal	3.30 (0.51)	1.80	4.00	1.97 (1.63)	-1.41	5.27	1.96 (1.70)	-1.63	8.28
Sex Engagement	3.20 (0.55)	1.25	4.00	2.19 (2.10)	-2.72	6.60	2.22 (2.21)	-4.56	10.54
Relationship Autonomy	3.22 (0.47)	1.40	4.00	1.51 (1.22)	-1.58	4.27	1.64 (1.43)	-2.34	6.30
Relationship Rights – Casual Partner									
Full Scale	3.13 (0.45)	1.00	4.00	1.37 (1.30)	-2.91	4.58	1.38 (1.34)	-2.96	6.16
Sex Refusal	3.28 (0.54)	1.00	4.00	2.18 (1.82)	-3.33	6.20	2.29 (2.03)	-4.61	8.88
Sex Engagement	2.93 (0.60)	1.00	4.00	1.27 (1.81)	-3.92	5.47	1.22 (1.89)	-4.19	8.16
Relationship Autonomy	2.08 (0.53)	1.00	4.00	1.48 (1.46)	-3.06	5.02	1.47 (1.57)	-3.36	6.57

Table TA-2. Correlations between Raw Score, EAP Estimates, and Plausible Values Estimates

		EAP Estimates		Plausible Values Estimates	
		Steady Partner	Casual Partner	Steady Partner	Casual Partner
Raw Scores	Full Scale	0.96	0.97	0.90	0.92
	Sex Refusal	0.95	0.94	0.86	0.87
	Sex Engagement	0.95	0.97	0.86	0.88
	Relationship Autonomy	0.89	0.93	0.84	0.87
EAP Estimates	Full Scale			0.93	0.94
	Sex Refusal			0.91	0.92
	Sex Engagement			0.91	0.91
	Relationship Autonomy			0.94	0.94

Note: Sample size five times greater that basic dataset to account for five plausible values (n=1960 steady partner; n=2010 casual partner).

Raw Score (Mean Scale) Tables

As presented in Paper 3

Table 3-4. Predictors of Attitudes about Relationship Rights, Full Scale and Subscales, Unadjusted Coefficients for Bivariate Relationships

	Full Sample N=758	Sample A Steady Partner Items n=374	Sample B Casual Partner Items n=384
	b (s.e.)	b (s.e.)	b (s.e.)
Full Relationship Rights Scale			
Female	0.11 (0.03) ***	0.14 (0.04) ***	0.07 (0.05)
Age	- 0.03 (0.03)	- 0.01 (0.04)	- 0.06 (0.04)
Hispanic	0.00 (0.04)	0.02 (0.06)	- 0.01 (0.06)
Relationship Experience	0.11 (0.04) **	0.10 (0.05) *	0.13 (0.05) *
Sexual Experience	- 0.06 (0.04)	- 0.05 (0.05)	- 0.07 (0.06)
Sex Refusal Rights			
Female	0.25 (0.04) ***	0.31 (0.05) ***	0.19 (0.05) ***
Age	- 0.09 (0.03) **	- 0.04 (0.04)	- 0.16 (0.05) **
Hispanic	0.03 (0.05)	0.03 (0.07)	0.03 (0.07)
Relationship Experience	0.04 (0.04)	0.00 (0.06)	0.09 (0.07)
Sexual Experience	- 0.19 (0.05) ***	- 0.21 (0.06) ***	- 0.17 (0.07) *
Sex Engagement Rights			
Female	- 0.10 (0.04) *	- 0.07 (0.06)	- 0.13 (0.06) *
Age	0.04 (0.04)	0.05 (0.05)	0.04 (0.06)
Hispanic	- 0.06 (0.06)	- 0.02 (0.08)	- 0.11 (0.08)
Relationship Experience	0.25 (0.05) ***	0.24 (0.07) ***	0.27 (0.07) ***
Sexual Experience	0.13 (0.05) *	0.16 (0.07) *	0.09 (0.08)
Relationship Autonomy Rights			
Female	0.13 (0.04) ***	0.14 (0.05) **	0.12 (0.05) *
Age	- 0.03 (0.03)	- 0.02 (0.04)	- 0.06 (0.05)
Hispanic	0.02 (0.05)	0.02 (0.07)	0.03 (0.07)
Relationship Experience	0.12 (0.04) **	0.11 (0.06) *	0.12 (0.06)
Sexual Experience	- 0.08 (0.05)	- 0.05 (0.06)	- 0.11 (0.07)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different gender effect by steady/casual partner items). None were statistically significant.

Table 3-5. Focal Relationship: Pairwise Correlation (r) and Regression Coefficients (b) of Partner Communication on Relationship Rights Scales and Subscales, among SEI Respondents with Relationship Experience

	Full Sample ^ n=555		Sample A Steady Partner Items n=270		Sample B Casual Partner Items n=285	
	r	b (s.e.)	r	b (s.e.)	r	b (s.e.)
Full Relationship Rights Scale	0.12	0.67 (0.26) **	0.12	0.78 (0.40)	0.10	0.58 (0.34)
Sex Refusal Rights	0.03	0.14 (0.22)	0.02	0.12 (0.33)	0.03	0.16 (0.28)
Sex Engagement Rights	0.20	0.93 (0.20) ***	0.23	1.22 (0.31) ***	0.16	0.71 (0.26) **
Relationship Autonomy Rights	0.10	0.52 (0.23) *	0.10	0.61 (0.36)	0.09	0.45 (0.30)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Table 3-6a. Model Elaboration: Regression of Partner Communication on Sex Engagement Rights and Other Variables, among SEI Respondents with Relationship Experience – Full Sample

	Full Sample ^ n=555				
	Focal	Exclusionary		Inclusive	Conditional
	Model 1	Model 2	Model 3	Model 4	Model 5
Sex Engagement Rights	0.93 ***	0.76 ***	0.73 ***	0.47 *	0.40
	(0.20)	(0.18)	(0.18)	(0.19)	(0.27)
Female		0.18	0.45 *	0.47	0.46 *
		(0.20)	(0.22)	(0.22)	(0.22)
Age		0.49 **	0.50 **	0.47 **	0.51 **
		(0.18)	(0.18)	(0.18)	(0.18)
Hispanic		-0.73 **	-0.70 **	-0.64 *	-0.66 *
		(0.27)	(0.27)	(0.26)	(0.27)
Relationship Length		0.67 ***	0.67 **	0.65 ***	-1.55
		(0.20)	(0.20)	(0.20)	(1.09)
Sexual Experience		2.44 ***	2.26 ***	2.20 ***	3.21 *
		(0.23)	(0.24)	(0.24)	(1.28)
Values about Teen Sex			0.55 **	0.51 **	0.55 **
			(0.19)	(0.18)	(0.19)
Communication Comfort				0.65 ***	
				(0.19)	
Rship Length*SE Rights					0.72
					(0.37)
Sex Experience*SE Rights					-0.31
					(0.40)
Steady/Casual Partner Item	0.04	0.03	0.10	-0.12	0.11
	(0.23)	(0.20)	(0.20)	(0.21)	(0.20)
Constant	0.31	-6.71 *	-7.97 **	-8.38 ***	-7.14 *
	(0.62)	(2.63)	(2.64)	(2.62)	(2.69)
R^2	0.04	0.27	0.28	0.30	0.29

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type (shown). A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Table 3-7. Mediation Analysis: Regression of Partner Communication on Sex Engagement Rights and Communication Comfort

	Full Sample ^ n=555	Sample A Steady Partner Items n=270	Sample B Casual Partner Items n=285
	b (s.e.)	b (s.e.)	b (s.e.)
Model: Path a			
DV: Communication Comfort			
IV: Sex Engagement Rights	0.40 ***	0.52 ***	0.29 ***
	(0.04)	(0.06)	(0.06)
Model: Path b			
DV: Partner Communication			
IV: Communication Comfort	0.65 ***	0.68 *	0.59 *
	(0.19)	(0.31)	(0.24)
Mediator: Sex Engagement Rights	0.47 *	0.68 *	0.33
	(0.19)	(0.32)	(0.23)
Model: Path c			
DV: Partner Communication			
IV: Sex Engagement Rights	0.73 ***	1.03 ***	0.50 *
	(0.18)	(0.28)	(0.22)
Model: Path c'			
DV: Partner Communication			
IV: Sex Engagement Rights	0.47 *	0.68 *	0.33
	(0.19)	(0.32)	(0.23)
Mediator: Communication Comfort	0.65 ***	0.68 *	0.59 *
	(0.19)	(0.31)	(0.24)
Calculations of Indirect Effect			
Direct Effect (path c')	0.47 *	0.68 *	0.33
	(0.19)	(0.31)	(0.23)
Indirect Effect (ab) §	0.26 ***	0.35 *	0.17 *
	(0.08)	(0.17)	(0.08)
Total Effect (path c)	0.73 ***	1.03 ***	0.50 *
	(0.18)	(0.28)	(0.22)
Proportion Mediated	36%	34%	34%

* p<0.05, ** p<0.01, *** p<0.001

All models adjusted for confounding and redundant variables (gender, age, Hispanic ethnicity, relationship length, sexual experience, values about teen sex).

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

§ Indirect effect tested using Sobel's standard error. Standard errors did not change with 1000 bootstrap replications.

EAP Estimate Tables

Table TA-3. Predictors of Attitudes about Relationship Rights, Full Scale and Subscales, Unadjusted Coefficients for Bivariate Relationships: Using EAP Estimates
(Compare to Paper 3, Table 3-4)

	Full Sample N=758	Sample A Steady Partner Items n=374	Sample B Casual Partner Items n=384
	b (s.e.)	b (s.e.)	b (s.e.)
Full Relationship Rights Scale			
Female	0.30 (0.09) **	0.38 (0.13) **	0.22 (0.13)
Age	- 0.05 (0.08)	0.02 (0.11)	- 0.15 (0.12)
Hispanic	- 0.09 (0.13)	- 0.03 (0.19)	- 0.14 (0.18)
Relationship Experience	0.36 (0.11) **	0.29 (0.15)	0.43 (0.15) **
Sexual Experience	- 0.14 (0.12)	- 0.12 (0.16)	- 0.17 (0.16)
Sex Refusal Rights			
Female	0.71 (0.12) ***	0.83 (0.16) ***	0.60 (0.18) **
Age	- 0.22 (0.11) *	- 0.09 ((0.14)	- 0.39 (0.17) *
Hispanic	- 0.08 (0.12)	0.00 (0.24)	- 0.14 (0.25)
Relationship Experience	0.26 (0.15)	0.10 (0.20)	0.42 (0.22)
Sexual Experience	- 0.47 (0.15) **	- 0.50 (0.21) *	- 0.45 (0.23)
Sex Engagement Rights			
Female	- 0.11 (0.14)	- 0.04 (0.22)	- 0.18 (0.18)
Age	0.19 (0.18)	0.09 (0.17)	0.05 (0.17)
Hispanic	- 0.22 (0.20)	- 0.11 (0.31)	- 0.32 (0.25)
Relationship Experience	0.77 (0.16) ***	0.78 (0.25) **	0.75 (0.21) **
Sexual Experience	0.29 (0.18)	0.43 (0.27)	0.15 (0.23)
Relationship Autonomy Rights			
Female	0.32 (0.10) **	0.34 (0.13) **	0.31 (0.15) *
Age	- 0.07 (0.09)	0.02 (0.10)	- 0.19 (0.14)
Hispanic	- 0.09 (0.13)	- 0.03 (0.18)	- 0.14 (0.20)
Relationship Experience	0.36 (0.11) **	0.28 (0.15)	0.44 (0.17)*
Sexual Experience	- 0.15 (0.12)	- 0.08 (0.16)	- 0.23 (0.18)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different gender effect by steady/casual partner items). None were statistically significant.

Note: EAP values for full Relationship Rights Scale generated from unidimensional partial credit model and for three subscales from multidimensional partial credit model.

Table TA-4. Focal Relationship: Pairwise Correlation (r) and Regression Coefficients (b) of Partner Communication on Relationship Rights Scales and Subscales, among SEI Respondents with Relationship Experience: Using EAP Estimates

(Compare to Paper 3, Table 3-5)

	Full Sample ^ n=555		Sample A Steady Partner Items n=270		Sample B Casual Partner Items n=285	
	r	b (s.e.)	r	b (s.e.)	r	b (s.e.)
Full Relationship Rights Scale	0.13	0.25 (0.09) **	0.12	0.27 (0.13) *	0.12	0.24 (0.11) *
Sex Refusal Rights	0.06	0.09 (0.06)	0.05	0.08 (0.10)	0.08	0.10 (0.08)
Sex Engagement Rights	0.20	0.26 (0.06) ***	0.21	0.28 (0.08) ***	0.16	0.23 (0.08) **
Relationship Autonomy Rights	0.12	0.24 (0.09) **	0.13	0.31 (0.14) *	0.11	0.19 (0.10)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Note: EAP values for full Relationship Rights Scale generated from unidimensional partial credit model and for three subscales from multidimensional partial credit model.

Table TA-5. Model Elaboration: Regression of Partner Communication on Sex Engagement Rights and Other Variables, among SEI Respondents with Relationship Experience – Full Sample: Using EAP Estimates

(Compare to Paper 3, Table 3-6a)

	Full Sample ^ n=555				
	Focal	Exclusionary		Inclusive	Conditional
	Model 1	Model 2	Model 3	Model 4	Model 5
Sex Engagement Rights	0.26 ***	0.23 ***	0.23 ***	0.15 **	0.13
	(0.06)	(0.05)	(0.05)	(0.06)	(0.08)
Female		0.13	0.43 *	0.45 *	0.44 *
		(0.20)	(0.22)	(0.21)	(0.22)
Age		0.49 **	0.49 **	0.47 **	0.50 **
		(0.19)	(0.18)	(0.18)	(0.18)
Hispanic		-0.74 **	-0.71 **	-0.65 *	-0.65 *
		(0.27)	(0.27)	(0.26)	(0.27)
Relationship Length		0.67 **	0.67 **	0.65 **	0.30
		(0.20)	(0.20)	(0.20)	(0.27)
Sexual Experience		2.46 ***	2.27 ***	2.21 ***	2.39 ***
		(0.23)	(0.24)	(0.24)	(0.32)
Values about Teen Sex			0.61 **	0.54 **	0.61 **
			(0.19)	(0.18)	(0.18)
Communication Comfort				0.61 **	
				(0.19)	
Rship Length*SE Rights					0.20
					(0.10)
Sex Experience*SE Rights					-0.07
					(0.11)
Steady/Casual Partner Item	0.05	0.02	0.10	-0.10	0.10
	(0.23)	(0.20)	(0.20)	(0.21)	(0.20)
Constant	2.71 ***	-4.61	-6.08 *	-7.10 **	-6.12 *
	(0.18)	(2.58)	(2.60)	(2.60)	(2.59)
R^2	0.04	0.27	0.28	0.30	0.29

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type (shown). A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Note: EAP values for full Relationship Rights Scale generated from unidimensional partial credit model and for three subscales from multidimensional partial credit model.

Table TA-6. Mediation Analysis: Regression of Partner Communication on Sex Engagement Rights and Communication Comfort: Using EAP Estimates

(Compare to Paper 3, Table 3-7)

	Full Sample ^ n=555	Sample A Steady Partner Items n=270	Sample B Casual Partner Items n=285
Model: Path a			
DV: Communication Comfort			
IV: Sex Engagement Rights	0.13 (0.01) ***	0.14 (0.01) ***	0.10 (0.02) ***
Model: Path b			
DV: Partner Communication			
IV: Communication Comfort	0.61 (0.19) **	0.70 (0.32) *	0.54 (0.24) *
Mediator: Sex Engagement Rights	0.15 (0.06) **	0.15 (0.09)	0.14 (0.08)
Model: Path c			
DV: Partner Communication			
IV: Sex Engagement Rights	0.23 (0.05) ***	0.25 (0.07) **	0.19 (0.07) **
Model: Path c'			
DV: Partner Communication			
IV: Sex Engagement Rights	0.15 (0.06) **	0.15 (0.09)	0.14 (0.08)
Mediator: Communication Comfort	0.61 (0.19) **	0.70 (0.32) *	0.54 (0.24) *
Calculations of Indirect Effect			
Direct Effect (path c')	0.15 (0.06) **	0.15 (0.09)	0.14 (0.08)
Indirect Effect (ab) §	0.08 (0.03) **	0.10(0.05) *	0.06 (0.03) *
Total Effect (path c)	0.23 (0.05) ***	0.25 (0.07) ***	0.19 (0.07) **
Proportion Mediated	34%	40%	29%

* p<0.05, ** p<0.01, *** p<0.001

All models adjusted for confounding and redundant variables (gender, age, Hispanic ethnicity, relationship length, sexual experience, values about teen sex).

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

§ Indirect effect tested using Sobel's standard error.

Note: EAP values for full Relationship Rights Scale generated from unidimensional partial credit model, for three subscales from multidimensional partial credit model.

Plausible Values Estimate Tables

Table TA-7. Predictors of Attitudes about Relationship Rights, Full Scale and Subscales, Unadjusted Coefficients for Bivariate Relationships: Using Plausible Values
(Compare to Paper 3, Table 3-4)

	Full Sample ^ N=758	Sample A Steady Partner Items n=374	Sample B Casual Partner Items n=384
	b (s.e.)	b (s.e.)	b (s.e.)
Full Relationship Rights Scale			
Female	0.32 (0.10) **	0.40 (0.15) **	0.24 (0.15)
Age	- 0.06 (0.09)	0.01 (0.12)	- 0.15 (0.13)
Hispanic	- 0.05 (0.15)	- 0.01 (0.23)	- 0.09 (0.19)
Relationship Experience	0.38 (0.13) **	0.33 (0.17) *	0.43 (0.19) *
Sexual Experience	- 0.14 (0.13)	- 0.12 (0.18)	- 0.16 (0.18)
Sex Refusal Rights			
Female	0.71 (0.14) ***	0.79 (0.18) ***	0.64 (0.22) **
Age	- 0.23 (0.14)	- 0.09 (0.18)	- 0.41 (0.20) *
Hispanic	- 0.10 (0.21)	- 0.01 (0.29)	- 0.19 (0.32)
Relationship Experience	0.25 (0.16)	0.13 (0.24)	0.37 (0.29)
Sexual Experience	- 0.50 (0.18) **	- 0.51 (0.24) *	- 0.50 (0.28)
Sex Engagement Rights			
Female	- 0.15 (0.16)	- 0.04 (0.24)	- 0.26 (0.20)
Age	0.07 (0.15)	0.11 (0.21)	0.02 (0.20)
Hispanic	- 0.17 (0.22)	- 0.03 (0.35)	- 0.29 (0.27)
Relationship Experience	0.73 (0.20) **	0.74 (0.29) *	0.72 (0.24) **
Sexual Experience	0.28 (0.21)	0.49 (0.29)	0.07 (0.30)
Relationship Autonomy Rights			
Female	0.34 (0.11) **	0.40 (0.15) **	0.29 (0.16)
Age	- 0.08 (0.10)	0.00 (0.12)	- 0.18 (0.15)
Hispanic	- 0.10 (0.18)	0.00 (0.25)	- 0.18 (0.24)
Relationship Experience	0.36 (0.13) **	0.30 (0.18)	0.42 (0.22)
Sexual Experience	- 0.17 (0.14)	- 0.10 (0.18)	- 0.24 (0.21)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different gender effect by steady/casual partner items). None were statistically significant.

Note: Plausible values for full Relationship Rights Scale generated from unidimensional partial credit model, and for three subscales from multidimensional partial credit model.

Table TA-8. Focal Relationship: Pairwise Correlation (r) and Regression Coefficients (b) of Partner Communication on Relationship Rights Scales and Subscales, among SEI Respondents with Relationship Experience: Using Plausible Values

(Compare to Paper 3, Table 3-5)

	Full Sample ^ n=555		Sample A Steady Partner Items n=270		Sample B Casual Partner Items n=285	
	r	b (s.e.)	r	b (s.e.)	r	b (s.e.)
Full Relationship Rights Scale	0.12	0.24 (0.09) **	0.12	0.25 (0.13)	0.12	0.22 (0.12)
Sex Refusal Rights	0.05	0.07 (0.07)	0.02	0.04 (0.11)	0.08	0.10 (0.09)
Sex Engagement Rights	0.18	0.22 (0.06) **	0.19	0.24 (0.08) **	0.14	0.19 (0.08) *
Relationship Autonomy Rights	0.12	0.20 (0.08) *	0.11	0.21 (0.13)	0.12	0.19 (0.10)

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Note: Plausible values for full Relationship Rights Scale generated from unidimensional partial credit model, and for three subscales from multidimensional partial credit model.

Table TA-9. Model Elaboration: Regression of Partner Communication on Sex Engagement Rights and Other Variables, among SEI Respondents with Relationship Experience – Full Sample: Using Plausible Values

(Compare to Paper 3, Table 3-6a)

	Full Sample ^ n=555				
	Focal	Exclusionary		Inclusive	Conditional
	Model 1	Model 2	Model 3	Model 4	Model 5
Sex Engagement Rights	0.22 **	0.19 ***	0.19 ***	0.12 *	0.13
	(0.06)	(0.05)	(0.05)	(0.06)	(0.08)
Female		0.14	0.44 *	0.46 *	0.45 *
		(0.20)	(0.22)	(0.22)	(0.22)
Age		0.50 **	0.59 **	0.47 **	0.51 **
		(0.18)	(0.18)	(0.18)	(0.18)
Hispanic		-0.76**	-0.72 **	-0.65 *	-0.68 *
		(0.27)	(0.27)	(0.26)	(0.27)
Relationship Length		0.68 **	0.68 **	0.65 **	0.40
		(0.20)	(0.20)	(0.20)	(0.27)
Sexual Experience		2.46 ***	2.26 ***	2.20 ***	2.42 ***
		(0.23)	(0.24)	(0.24)	(0.32)
Values about Teen Sex			0.61 **	0.54 **	0.61 **
			(0.19)	(0.19)	(0.19)
Communication Comfort				0.65 **	
				(0.19)	
Rship Length*SE Rights					0.16
					(0.10)
Sex Experience*SE Rights					-0.09
					(0.11)
Steady/Casual Partner Item	0.06	0.03	0.11	-0.11	0.12
	(0.24)	(0.21)	(0.20)	(0.21)	(0.20)
Constant	2.79 ***	-4.73	-6.23 *	-7.27 **	-6.22 *
	(0.18)	(2.60)	(2.62)	(2.60)	(2.62)
R^2	N/A	N/A	N/A	N/A	N/A

* p<0.05, ** p<0.01, *** p<0.001

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

Note: Plausible values for full Relationship Rights Scale generated from unidimensional partial credit model, and for three subscales from multidimensional partial credit model.

Table TA-10. Mediation Analysis: Regression of Partner Communication on Sex Engagement Rights and Communication Comfort: Using Plausible Values

(Compare to Paper 3, Table 3-7)

	Full Sample ^ n=555	Sample A Steady Partner Items n=270	Sample B Casual Partner Items n=285
Model: Path a			
DV: Communication Comfort			
IV: Sex Engagement Rights	0.11 ***	0.12 ***	0.09 ***
	(0.01)	(0.01)	(0.02)
Model: Path b			
DV: Partner Communication			
IV: Communication Comfort	0.65 **	0.79 *	0.56 *
	(0. 19)	(0.32)	(0.25)
Mediator: Sex Engagement Rights	0.12 *	0.11	0.13
	(0.06)	(0.09)	(0.08)
Model: Path c			
DV: Partner Communication			
IV: Sex Engagement Rights	0.19 ***	0.21 **	0.18 *
	(0.05)	(0.07)	(0.07)
Model: Path c'			
DV: Partner Communication			
IV: Sex Engagement Rights	0.12 *	0.11	0.13
	(0.06)	(0.09)	(0.08)
Mediator: Communication Comfort	0.65 **	0.79 *	0.56 *
	(0. 19)	(0.32)	(0.25)
Calculations of Indirect Effect			
Direct Effect (path c')	0.12 *	0.11	0.13
	(0.06)	(0.09)	(0.08)
Indirect Effect (ab) §	0.07 **	0.10 *	0.05 *
	(0.02)	(0.04)	(0.03)
Total Effect (path c)	0.19 ***	0.21 **	0.18 *
	(0.05)	(0.07)	(0.07)
Proportion Mediated	37%	46%	29%

* p<0.05, ** p<0.01, *** p<0.001

All models adjusted for confounding and redundant variables (gender, age, Hispanic ethnicity, relationship length, sexual experience, values about teen sex).

^ Full sample models includes dummy variable to control for steady/casual partner item type; only the main effect for the demographic or behavioral characteristic are shown. A second set of models included an interaction term to test for differential effect (e.g., a different Sex Engagement Rights subscale effect on partner communication by steady/casual partner items). None were statistically significant.

§ Indirect effect tested using Sobel's standard error.

CONCLUSION

This dissertation was developed to provide a critical exploration and examination of a new paradigm for sexuality education. The emergence of rights-based approaches signals a shift in orientation for sexuality education – away from the disease prevention model that dominates current lessons, funding and research, and toward a positive, holistic emphasis on the healthy sexual development of young people. Among a small but growing group of program developers, funders, health educators, and scholars, the idea of addressing contextual factors such as gender norms, power differentials, and sexual rights within sexuality education has gained enthusiastic backing. Basic science evidence and theoretical guidance lend support to this interest; however, there is little direct program effectiveness evidence for concluding that that this new approach to sexuality education programs is preferable to the approaches of the past. This dissertation was undertaken with the goal of helping to build a foundation for subsequent research, with each paper touching upon a different facet of the rights-based approach.

In the first paper, I offered a conceptual definition for a rights-based approach to sexuality education that is consistent with and gives structure for understanding the guidelines, curricula, research, and theory have been cited as informing the approach. While a growing number of organizations, particularly those with a global reach, have promoted sexual rights in their education strategies, there has been little explicit documentation of consensus across the sexuality education field as to the goals, concepts, and assumptions underlying this work. In the words of the professional experts who were interviewed for this paper, the rights-based language is in danger of becoming jargon. The conceptual definition proposed here is, to my knowledge, the first attempt to pull together distinct perspectives and seek a common foundation. This definition is not meant to be considered a conclusive endpoint, but rather a proposal to be discussed and debated by the field. There is likely to be disagreement about the rights-based approach; differences of opinion are not new to the sexuality education field. However, it must be made clear whether this disagreement is based on the values underlying the approach, specific elements of its definition, or concerns about its feasibility in practice. Without a clearly articulated definition, it will be difficult to guide program development, draw conclusions about effectiveness, or advocate for (or against) its expansion.

The findings of this first paper suggest a number of avenues for future work. These should begin with further testing of the conceptual definition's core elements with other methodologies, settings, and disciplines. Possibilities include content analyses of existing program materials for fit to the conceptual definition, additional interviews with rights-based proponents to establish required vs. elective elements and content, and systematic reviews of interventions that incorporate rights-based concepts. The ideas presented within this conceptual definition also need to be considered by practitioners working directly with youth. Their contributions may include reviews of existing interventions for rights-based elements, identification of potential implementation challenges, and the operationalization of the conceptual definition into program-level logic models that link targeted activities to measurable objectives. These efforts

would yield critical experiences for the field in learning more about what the potential is for the rights-based approach to sexuality education in practice.

With the development of rights-based sexuality education programs comes the need for indicators to assess participants' baseline needs and measure program effectiveness. In my second and third papers, I focused on one overarching construct – adolescents' underlying beliefs about their sexual rights in relationships – selected for its importance for the development, implementation and evaluation of future rights-based programs. An understanding of how adolescents conceptualize their rights in sexual relationships is critical to developing appropriate and effective rights-based strategies. Existing studies of adolescents' knowledge of and attitudes toward their sexual relationship rights are limited, and their conclusions and measures are not applicable to broad populations of youth with diverse backgrounds and sexual experiences.

In the second paper, I described the development and psychometric assessment of self-report survey measures that address adolescents' attitudes about their rights in sexual relationships. The use of both classical test theory and item response modeling approaches revealed a number of critical properties about these measures that highlight their potential applicability for other studies of adolescent sexual health. The final subscales showed evidence of psychometric soundness, including reliability and validity, which encourages their future use. While the purpose of this paper was methodological, two important substantive findings emerged. First, the sample of low-income, urban Hispanic and African American adolescents reported strong support for the varied and complex (although hypothetical) rights situations presented to them. Second, their attitudes about their sexual relationship rights were multidimensional. In contrast to my initial vision of a single construct, it turned out that young people's beliefs are more nuanced. Adolescents to some extent think differently about their rights to refuse unwanted sexual activity, express their sexual engagement needs, and establish their personal space within their relationships. Although these are correlated concepts, it is an important finding that they are not the same. These two conclusions need to be taken into account when talking with youth about their rights and responsibilities in sexual relationships, as well as in choosing to use these survey measures and designing new questions for research.

In the third paper, I looked at these implications more fully, by offering a more detailed examination of adolescents' attitudes about their relationship rights and how they vary by demographic and behavioral characteristics, in contexts with a steady or casual sexual partner, and across the different dimensions of sexual relationship rights. While differences in attitudes were noted by adolescents' gender, relationship experience, and sexual experience, it was particularly interesting to find that these effects often varied across the rights to refuse unwanted sexual activity, express sexual engagement needs, and establish privacy, space and autonomy within intimate relationships. Thus, a more nuanced understanding of adolescents' attitudes emerged with consideration of these different types of sexual relationship rights.

Also in this study, I investigated how adolescents' attitudes about these rights might be linked to their conversations with their sexual partners about sex and relationships, and therefore

may have an influence on their sexual behaviors. This is an assumption inherent to the premise of many rights-based sexuality education efforts: that promoting a more positive view of one's own rights, and mutual respect for a partner's rights, would result in healthier sexual experiences. My theory-driven analyses offered support to a theorized causal relationship between sex engagement rights and partner communication, net of plausible alternative explanations and partially mediated by respondents' sense of comfort communicating with sexual partners. Somewhat surprisingly, there was no evidence to support a correlation between adolescents' attitudes about rights to refuse sexual activity or establish relationship autonomy with their communication with sexual partners.

The third paper offers its own suggestions for future research and implications for practice. Attitudes about relationship rights need to be examined in other adolescent populations to further expand the knowledge base; in particular, studies need to attend to differences in attitudes by age, race/ethnicity, culture, and other variables that could not be fully addressed here. Researchers also need to consider how the diversity of adolescent romantic and sexual relationships may play into these findings. Additionally, as rights-based sexuality education programs are implemented, evaluation studies will need to address whether these attitudes are amenable to change, and parse out how such changes may play a causal role in promoting healthy sexual behaviors. These are intricate concepts; qualitative and mixed methods research may be best positioned for providing a more complete picture of these complicated issues. From a practice standpoint, this study highlights the importance of program developers' knowledge of their participants' attitudes about sexual relationship rights as they design lessons and activities for youth. With better and more detailed knowledge about how adolescents conceptualize these issues, programs will be better able to target needs.

While each of the three research questions was addressed in distinct individual papers, it was the ambition of this dissertation that together they form a coherent whole that builds a foundation for understanding the rights-based approach to sexuality education for the future. Many questions are still to be answered regarding the implementation and impact of the rights-based approach to sexuality education. Yet, it is clear that its reach is growing. Addressing these questions through research and practice may lead to promising opportunities to promote the sexual health and well-being of all adolescents.

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