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SCHOOL, FAMILY, AND FAITH: SOCIAL INFLUENCES ON EDUCATIONAL OUTCOMES OF NONMETROPOLITAN SEXUAL MINORITY STUDENTS

Christopher J. Stapel

University of Kentucky, cstapel@post.harvard.edu

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Christopher J. Stapel, Student

Dr. Gary L. Hansen, Major Professor

Dr. Shaunna L. Scott, Director of Graduate Studies

SCHOOL, FAMILY, AND FAITH: SOCIAL INFLUENCES ON EDUCATIONAL
OUTCOMES OF NONMETROPOLITAN SEXUAL MINORITY STUDENTS

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements of the degree of Doctor of Philosophy in the
College of Liberal Arts and Sciences
at the University of Kentucky

By
Christopher J. Stapel

Lexington, Kentucky

Director: Dr. Gary L. Hansen, Professor of Community and Leadership Development &
Sociology

Lexington, Kentucky

2012

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ABSTRACT OF DISSERTATION

SCHOOL, FAMILY, AND FAITH: SOCIAL INFLUENCES ON EDUCATIONAL OUTCOMES OF NONMETROPOLITAN SEXUAL MINORITY STUDENTS

Social institutions in rural communities tend to be highly interrelated and social ties tend to be dense and multiplex. Human ecological theoretical models posit that all institutions in which an individual is embedded interact in complex ways. As such, this dissertation examines the influences of school, faith, family, and risk contexts on the grade point averages of students who attended school in nonmetropolitan counties in Appalachian Kentucky. Using data disaggregated by gender from nearly 5,000 adolescents, I identified risk and protective factors on grade point averages by attraction type (exclusively opposite-sex attracted, same-sex attracted, and unsure of attraction), identified differences in grade point averages between attraction types, and identified mediators and moderators of the relationship between attraction type and grade point average. School belonging positively influenced the grade point averages of unsure males and religious belief negatively influenced the grade point averages of same-sex attracted males. In general, sexual minority students reported lower grade point averages than their exclusively opposite-sex attracted peers. Among same-sex attracted males and females, this disparity in grade point average was mediated by school belonging. Among unsure males the variation in grade point average was largely explained by engagement in risk behaviors. The relationship between sexual attraction and grade point average was moderated by religiosity, marijuana use, and labor market optimism.

KEYWORDS: Sexual Minority Youth, Gays and Lesbians, Rural Education, Educational Outcomes, Human Ecology

Christopher J. Stapel
Student's Signature

April 25, 2012
Date

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By

Christopher J. Stapel

Gary L. Hansen, Ph.D.

Director of Dissertation

Shaunna L. Scott, Ph.D.

Director of Graduate Studies

April 25, 2012

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CHAPTER ONE: INTRODUCTION

Although adolescents spend much of their waking lives in schools, educational outcomes are influenced by many other social contexts, including families and faith communities (Eccles and Roeser 2011; Elder and Conger 2000; Gutman and McLoyd 2000; Jessor 1993; Mahoney et al. 2005; Regnerus and Elder 2003). Investigators of school-based outcomes often present an incomplete picture of educational experiences because they fail to scrutinize the influence of extra-school variables.

Research sensitive to multidimensional human ecologies is critical when analyzing subjects in rural communities where school, kinship, and religious ties are particularly strong and interrelated (Coleman 1988; Crockett, Shanahan, and Jackson-Newsom 2000; Elder and Conger 2000; Howley 2006; Singh and Dika 2003). Likewise, contextualized approaches to the study of sexual minority youth are imperative given the ubiquity of homophobic victimization and institutionalized heterosexism across social domains (D'Augelli 2005; D'Augelli and Grossman 2006; Saewyc 2011).¹ The holistic nature of adolescent development requires theoretical tools like Urie Bronfenbrenner's (1977; 1979) *ecological systems theory* that are responsive to the interaction between a child and his or her social environments (Gándara, Gutiérrez, and O'Hara 2001; Lerner 1995; Lewin 1936; Schorr and Schorr 1988).

A robust literature identifies social contexts as sites of potential developmental assets—factors that promote positive development—among adolescents (Eccles and Roeser 2011; Jessor 1993; Resnick et al 1997). Relationships with parents, participation

¹ My use of *sexual minority* refers to an individual exhibiting non-normative sexual and/or gender *identity, attraction and/or behavior*, including those who are unsure of or question their gender or sexuality. My deliberate references to *same-sex attraction* found elsewhere in this document should be read literally, and irrespective of sexual identity.

in faith communities, and school engagement are all associated with positive educational outcomes among young people in general, and rural youth in particular (Crockett, Shanahan, and Jackson-Newsom 2000; Elder and Conger 2000; Irvin et al. 2010; Irvin et al. 2011; Ludden 2011; Resnick et al. 1997). Social psychologists refer to positive influences like these as *protective factors*; negative influences are referred to as *risk factors*.

Evidence suggests sexual minority youth experience higher levels of alienation from families, faith communities, and schools than their peers (Heermann, Wiggins, & Rutter, 2007; Pearson, Muller, and Wilkinson 2007; Schuck and Liddle 2001). Because of this, scholars have generally failed to consider the protective roles—the potential to promote resilience and prevent undesirable outcomes—of school, family, and faith communities in the lives of lesbian, gay, bisexual, transgender, queer, and questioning (LGBTQ) adolescents.^{2,3}

With the absence of human ecological investigations of LGBTQ youth in mind, this investigation of rural sexual minority educational outcomes was prompted by the intensity of familial and faith-based relationships in rural locales (Crockett et al. 2000; Elder and Conger 2000), the central role of schools in rural communities (Howley 2006; Lyson 2002), the importance of school-based outcomes in transitions to adulthood (Arnett 2000; Eccles and Gootman 2002), and the simultaneous counternarratives of rural

² The term *queer* is employed here as an umbrella term for all individuals who claim a sexual minority *identity* (Warner 1999), including (among others) *gay*, *lesbian*, *bisexual*, *queer*, and *transgender* (though gender identity is outside the scope of this study).

³ While the experiences of transgender youth are not entirely absent from the “LGBTQ” literature, they are grossly underinvestigated. I attempt to use precise acronyms (e.g. LGBTQ vs. LGBQ vs. LG in the pages that follow in order to accurately describe the existing knowledge base.

homophobia.

In this chapter, I detail empirical and theoretical justifications for the investigation of rural sexual minority educational outcomes. In doing so, I first situate the topic among contemporary calls for a contextualized study of sexual minority subgroups and lay out a series of specific research questions. Then I describe a human ecological model for research on adolescents. By illuminating unique characteristics of rural social contexts, queer social contexts, and school contexts, I highlight the efficacy of a human ecological framework in the present study.

Statement of Problem

The overarching conceptual question of this study is whether social contexts of rural communities—communities often characterized as hostile towards gays and lesbians—serve protective functions for sexual minority young people by promoting academic success. Studies of adolescents overwhelmingly document educational and psychosocial disparities between rural (Byun, Meece, and Irvin 2011; Lichter, Roscigno, and Condron 2003) and LGBTQ (e.g. D’Augelli 2002; Gamache and Lazear 2009; Horn, Kosciw, and Russell 2009) youth and their respective metropolitan and straight peers. These distinct, deficit-oriented literatures are often synthesized to advance the claim that gay kids in the countryside must be doubly at risk of educational deficiencies. However, a contemporary turn in rural queer studies has suggested this presupposition is not grounded in empirical scrutiny, but rather in metropolitan imaginaries of intolerant, hostile rural places absent of gays and lesbians (e.g. Gray 2009; Herring 2010).

This project looks precisely at the intersection of sexuality, space, and the developing person to illuminate how the complex interactions of social domains—namely

school, family, and faith—mediate and moderate educational outcomes of nonmetropolitan sexual minority adolescents.⁴ While a casual observer might expect an examination of nonmetropolitan gay students to simply confirm findings of numerous aggregate (and primarily metropolitan) studies (e.g. Russell, Seif, and Truong 2001; Pearson et al. 2007; Wilkinson and Pearson 2009), I argue the unique sociospatial organization of rural communities merits a comprehensive, multidimensional, ecological inspection of how nonmetropolitan gay youth experience their social worlds.

Rural education research has been devoid of *queer* experiences. None of the 14 empirical articles in the 2011 special issue of the *Journal of Youth and Adolescence*, titled “Rural Adolescents: Developmental Challenges and Adaptations” accounted for (or even acknowledged) the presence of LGBTQ youth in rural communities. Similarly, the volume *Rural Education for the Twenty-First Century: Identity, Place, and Community in a Globalizing World* (Schafft and Jackson 2010) failed to incorporate sexual minority students. Furthermore, rural education survey research tends to be one-dimensional, rather than human ecological, such that while “rural communities are often characterized as high in social resources or capital due to their small size and strong connections among families, schools, and religions institutions... few large-scale studies of educational attainment have examined these features of rural communities” (Byun et al. 2011:1-2).

To date, the empirical study of rural gays and lesbians has been largely anecdotal

⁴ While *nonmetropolitan* and *rural* are demographically unique terms, I tend to use them interchangeably when discussing the social organization of spatially peripheral communities. Generally speaking, *nonmetropolitan* places are located in counties that are not socially, spatially, or economically integrated with a central city; *rural* places are municipalities with fewer than 2,500 residents (Reynells 2008). In other words, the metropolitan/nonmetropolitan distinction is defined in terms of isolation while the rural/urban continuum is based upon population and density. Participants in the present study all attended school in nonmetropolitan counties.

(e.g. Fellows 2001; Jerke 2010), unrepresentative (e.g. Gray 2009; Howard 1999), or based on retrospective accounts of individuals who left rural communities (e.g. Gorman-Murray 2009). With the exceptions of Gray (2009) and Rostosky et al. (2003), rural queer scholars have neglected the lives of LGBTQ *youth*. Several scholars of education and adolescence have identified discrepant outcomes between sexual minority students and their straight peers in generalized contexts (e.g. Bos et al. 2008; Busseri et al. 2008; Pearson et al. 2007; Russell et al. 2001; Wilkinson and Pearson 2009), but far fewer have accounted for (even if trivially) *rural* locale (exceptions include Galliher, Rostosky, and Hughes 2004; Gray 2009; Kosciw, Greytak, and Diaz 2009; Wilkinson and Pearson 2009). Only one previous study specifically examined *school*-based experiences of rural gay youth (Rostosky et al. 2003), but it did not examine *educational* outcomes.

Despite the paucity of rural queer youth scholarship—or perhaps because of it—Savin-Williams (2001), Horn et al. (2009), and others have urged scholars to avoid treating LGBTQ youth monolithically. Kosciw et al. (2009:986, emphasis added) appealed for the illumination of sexual minority heterogeneity through investigations of “subgroups of LGBTQ youth (e.g., bisexual-identified youth, Latino/a youth, *rural youth*) and their potentially differing experiences and perspectives.”

Calls for a contextualized study of LGBTQ young people were emphasized in another special issue of the *Journal of Youth and Adolescence*, titled “New Research on Lesbian, Gay, Bisexual, and Transgender Youth: Studying Lives in Context,” in which editors Stacey Horn, Joseph Kosciw, and Stephen Russell (2009:863) proposed a research direction “that focuses on understanding the ways in which LGBT youth negotiate their development within various social contexts.” In doing so they encouraged investigations

in specific domains that are “notably absent in research on LGBT youth,” including familial and religious experiences (Horn et al. 2009:864).

Research Questions

The data I chose for the present study allowed me to respond to this timely charge by carrying out contextualized, subgroup-specific analyses (namely among rural students, but also by gender and attraction type) in underinvestigated domains of family, faith, and school. My focus on the educational outcome of grade point average reflected the critical role of schooling in successful transitions to adulthood (Eccles, Brown, and Templeton 2008), particularly among rural adolescents (Elder and Conger 2000).

Using both descriptive and inferential analytic techniques I probed several questions. First:

- 1) *What protective and risk factors predict grade point average among rural sexual minority students?*
- 2) *To what extent do sexual minority and exclusively opposite-sex attracted rural students differ in their grade point averages?*

Because of the “the complex interaction of multiple domains of adolescents’ lives” (Russell et al. 2001:123) discussed at length by Bronfenbrenner (1977; 1979), Elder and Conger (2000), Sadowski (2003), and others, I also asked:

- 3) *How is the relationship between sexual minority status and grade point average mediated by rural social contexts (including school, family, faith, and risk)?*
- 4) *How does sexual minority status moderate the effects of these social contexts on grade point average?*

My primary analytic tool for question 1 was multivariate regression modeling and I answered question 2 using analyses of variance and tests of independence. Question 3 was addressed with hierarchical regression techniques that isolate mediating effects by

systematically adding sets of variables to base models (Cohen et al. 2003). I then added interaction terms to the full models to check for moderation attributable to sexual minority status (question 4). The subgroup effects of gender and attraction type (same-sex attraction, unsure) were isolated when subgroup sample sizes permitted.

I carried out these analyses using survey responses from 4,775 adolescents who attended school in nonmetropolitan eastern Kentucky counties. This sample included an unprecedented number of sexual minority rural young people and replicated many of the well-established psychosocial measures that appeared in the National Longitudinal Study of Adolescent Health (Bearman, Jones, and Udry 1997).

Field Theory and Social Cognitive Theory

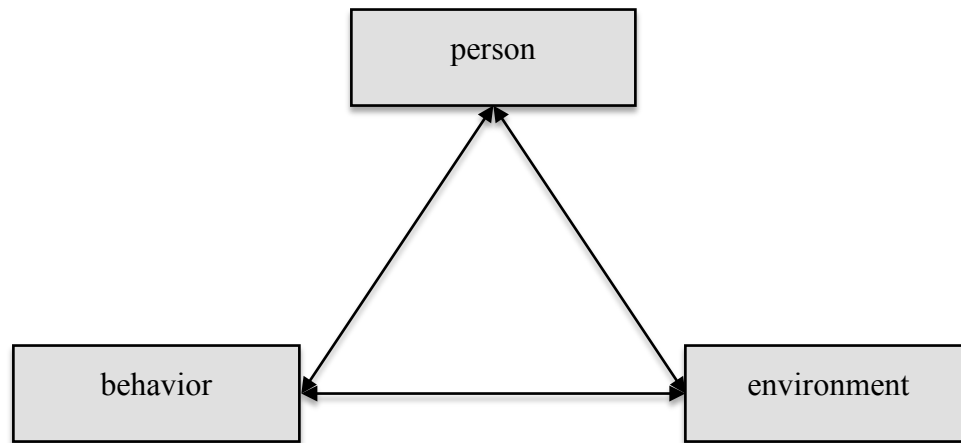
The value placed on the interrelationship of social contexts by ecological systems theory—built upon early social psychological conceptions of the social field—provided the theoretical underpinnings of this study. In the spirit of Gestalt and other holistic psychological theories, Kurt Lewin (1935) was one of the first to propose the dual influence of one’s personal characteristics and one’s environment. The consideration of an actor’s position in the social milieu, and not simply his biographic profile, represented an important innovation in social psychological thought. Lewin called the whole of an actor’s experience the *field*, or ‘the totality of coexisting facts which are conceived of as mutually interdependent’ (Lewin 1951:240) and believed that investigations of human behavior required attention to “the situation as a whole from which are differentiated the component parts” (Hall and Lindzey 1978:386).

To this end, his theoretical project posed two overarching questions: “why, in a given momentary situation, that is, with a given person (*P*) in a certain state and in a

certain environment (E), does precisely this behavior (B) result?” and “why, at this moment, does the situation have precisely this structure and the person precisely this condition or state?” (Lewin 1935:241). He famously summarized these propositions as the function $B = f(PE)$, where behavior (B) is predicted by a person (P) and his environment (E). While Lewin’s *field theory* provided a framework for considering the role of contexts in an actor’s life, it did not acknowledge the mutually constitutive character of environment and behavior. In other words, Lewin’s deterministic model only considered how an actor’s environment affects behavior and not the reciprocal influences.

Bandura (1986) addressed this field theoretic gap by proposing a *social cognitive theory* of development that acknowledged the multidirectionality of psychosocial domains and ascribed greater agency actors. Like Lewin, Bandura recognized that a person and his environment cause particular behaviors, but he extended the theory to account for a converse case in which all three factors interact (see Figure 1.1). This *triadic reciprocity* envisions ways in which behavior shapes the interaction between an actor and her environment, ways that environmental factors influence an actor’s behavior, and ways in which a person’s behavior mediates the interactions between behavior and environment.

Figure 1.1. Social Cognitive Theory (Bandura 1986)



Ultimately, though, social cognitive theory privileges the role of the individual in predicting behavior by theorizing self-efficacy as the primary determinant of psychosocial outcomes (Bandura 1977; 1982). This human agency perspective not only limits the portfolio of contextual variables that influence human functioning, but also precludes the identification of protective factors—or factors that prevent or decrease the likelihood of undesirable outcomes (Masten and Wright 1998)—external to the individual. For those reasons, social cognitive theory may not be appropriate when studying sexual minority youth who face homophobic victimization across contexts (Kosciw et al. 2009).

While Bandura recognized that “the freedom of disfavored groups is often curtailed by socially sanctioned discrimination” (Bandura 1986:42), his theory places the onus for psychosocial abnormalities on the marginalized individual rather than on institutions in which the individual is imbedded. The multicontextual focus of the present study of young people who are situated in potentially hostile social contexts requires a slightly more sophisticated, multidimensional theoretical model like Bronfenbrenner’s ecological systems theory.

Ecological Systems Theory

A contemporary of Bandura, Urie Bronfenbrenner proposed a highly contextualized study of human development informed by Lewin’s (1935; 1952) classical social psychological conceptualization of human behavior. Bronfenbrenner (1977:514) believed

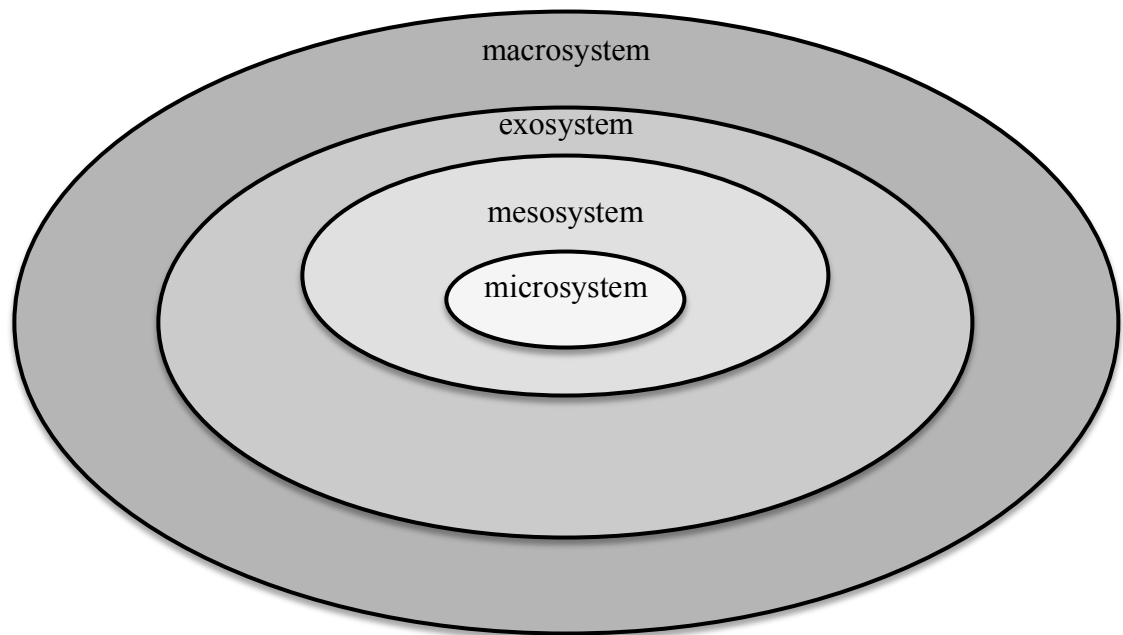
“the understanding of human development demands going beyond the direct observation of behavior on the part of one or two persons in the same place; it requires examination of multiperson systems of interaction, not limited to a single setting, and must take into account aspects of the environment beyond the

immediate situation containing the subject.”

In other words, developmental research must consider the interactions between a person and the physical, social, and cultural fields; a developing child is at the center of multiple interrelated social systems (Benbenishty and Astor, 2005; Bronfenbrenner and Morris 1998; Lerner 1995). Ecological models are ideal for describing educational processes given the interrelationship between schools and other systems (Bronfenbrenner 1976).

In its simplest form, ecological systems theory (Bronfenbrenner 1977; 1979) posited four nested systems that influence human development: *microsystem*, *mesosystem*, *exosystem*, and *macrosystem* (and later the *chronosystem*) (see Figure 1.2). The microsystem includes the contexts with which individuals actively and routinely engage, such as schools, families, and peer groups. The mesosystem is made of up the interactions between elements of the microsystem; the influence of a faith community on familial relationships and the role of peers on academic performance are elements of the mesosystem. Contexts external to an actor that still shape his or her development—such as the workplace of one’s parents—comprise the exosystem. The macrosystem is the cultural “resources, hazards, lifestyles, opportunity structures, life course options and patterns of social interchange” (Bronfenbrenner 1993:25) in which the other systems are imbedded.

Figure 1.2. Ecological Systems Theory (Bronfenbrenner 1977)



Later iterations of ecological systems theory acknowledged (and remedied) an initial overemphasis on environment at the expense of individual (Bronfenbrenner 1989). This later work, known as the *Process-Person-Context-Time (PPCT)* model, better incorporated the developmental role of agency and personal characteristics (Bronfenbrenner 2005; Bronfenbrenner and Evans 2000; Bronfenbrenner and Morris 1998).

The *process* dimension of the Process-Person-Context-Time model refers to engagement between an individual, his environment, and other actors. Play in various forms, and its associated conditioning and reinforcement, is a prototypical PPCT process. The *person* consists of personal characteristics of an individual, like gender, socioeconomic status, and impulsivity. Bronfenbrenner (1993; 1995) differentiated *demand* characteristics (visible traits that elicit, or “demand,” a response, like race and gender) from *resource* characteristics (presence or absence of human, economic, social, or cultural capital) and *force* characteristics (psychosocial traits like temperament, motivation, and persistence). The context component of PPCT essentially mirrors the systems theoretic domains of micro, meso, exo, and macrosystems while *time* is the dimension through which all other components occur. So, for instance, a single swim lesson occurs in *micro-time*, growth over the course of several lessons occurs in *meso-time*, and *macro-time* reflects how one’s swimming aptitude depends on whether the lessons take place in infancy or adolescence.

The *bioecological model* of human development (Bronfenbrenner 1999) that emerges from the PPCT taxonomy “emphasize[s] a theme found in other instances of developmental systems theory (Lerner, 2002)—that within the bioecological system the

individual, in dynamic relation to his or her temporally embedded, multilevel ecology, is an active agent in his or her own development” (Lerner 2005:xviii). In sum, an ecological systems theoretical approach to the study of adolescence illuminates interrelationships among the multiple domains of young people’s lives. In the present study, a PPCT model effectively conveys how the psychosocial profile of a *person*—and the potentially heterosexist school (macro) and faith (micro) *contexts* in which she is imbedded—interact through a host of *processes* over *time*. Below I explicate the utility of ecological systems theory in rural, queer, and school settings.

Rural social contexts. The emphasis on interactions between social domains is precisely what makes ecological systems theory an ideal lens through which to investigate rural communities. A multidimensional ecological perspective uniquely captures the interactions among school, family, and faith networks in rural places (e.g. Elder and Conger 2000). Because institutions in rural communities share members and structures, one expects the ecological interactions of those institutions to be of great consequence (Coleman 1988; Crockett et al. 2000). In rural communities, religious and family activities represent opportunities to accumulate social capital (Elder and Conger 2000; Hardré, Sullivan, and Crowson 2009; Howley 2006) that can translate into increased educational achievement (Israel and Beaulieu 2004; Israel, Beaulieu, and Hartless 2001; Singh and Dika 2003). In fact, the protective role of family and faith-based social capital might be more critical in isolated and impoverished regions (like the site of this study) where social ties beyond the community are limited (Flora and Flora 2003).

A sociological delineation of the rural “start[s] from a set of assumptions about

the organization and content of interpersonal ties” (Beggs, Haines, and Hurlbert 1996:308). In general, social ties in rural communities are intimate, frequent, resilient, and multiplex; the social networks they constitute tend to be small, dense, homogeneous, and familial (Beggs et al. 1996; Craven and Wellman 1973; Wellman 1979; Wellman and Wortley 1990; Wilkinson 1984). In one of the only systematic comparative analyses of rural and urban social networks, Beggs et al. (1996) examined the social ties of both metropolitan and nonmetropolitan respondents in the General Social Survey and confirmed the relative durability, multiplexity, size, and density of nonmetropolitan networks. What this means is that ties between rural actors take on multiple meanings such that “kin-neighbor-coworker roles are superimposed on one another” (Beggs et al. 1996: 310). For example, one’s uncle might also be his schoolteacher and church elder such that family processes have reciprocal implications for faith and school contexts.

This distinctively rural network structure has several implications for residents of rural communities. Of course, a unified explanation of rural social life is elusive given the diversity and relativity of rural places (Ching and Creed 1997; Duncan 1999; Herring 2010), but in general rural dwellers experience a lack of anonymity, an inability to sever ties, close proximity to relatives, and an absence of heterophilous relationships. Some have posited that these homogeneous rural networks produce elevated degrees of conformity and intolerance of those who counter community norms (Stein 2001; Wilson 1995). To this end, numerous scholars have documented an intolerance of LGB people in rural places (Galliher et al. 2004; Herek 2002; Kirkey and Forsyth 2001). On the other hand, because of small, dense, rural networks “people from rural areas are more likely to be influenced by personal relationships” (Kuntz and Gunderson 2002:234) and are more

likely to engage in pro-social help behavior (Christensen et al. 1998; Yousif and Korte 1995).

Rural network structures foster an environment where youth perceive safety and trust, intergenerational bonds, well defined social norms, and a collective social orientation that all contribute to positive development (Burnell 2003; Elder and Conger 2000; King and Elder 1995; Salamon 2003; Singh and Dika 2003). Interestingly, many characteristics of rural places (e.g. supportive family and faith communities) have the potential to ameliorate—or protect against—developmental deficits in the lives of LGBTQ adolescents (Poteat 2008; Ryan et al. 2009). However, large numbers of rural youth also experience a sense of isolation that can inhibit their accumulation of social capital (Duncan 1999; Snyder and McLaughlin 2008; Singh and Dika 2003); many of these youth report psychosocial distress when faced with the decision to leave their community of origin in order to pursue opportunities in more urban locales (Hektner 1995; Ley, Nelson and Beltyukova 1996).

LGBTQ social contexts. As it is in the case of rural students, an ecological approach is also well suited for the study of queer kids. The temporal *chronosystem* that Bronfenbrenner (1986; 1988) later added to his ecological systems theory highlights the importance of changes and disruptions to an actor's ecology over time. The recognition of same-sex desire (to oneself or to others) represents a critical event in the chronosystem. That desire is crucially important to a young person's development in numerous settings.

Rotheram-Borus and Langabeer (2001) proposed that sexual identity development itself is influenced by ecological factors. The primary developmental task of adolescence

is the formation of an identity through a series of crises (Erikson 1968). Young people experiment with many identities and evaluate them in relation to others. Responses from peers, family members, teachers, and other actors help the developing person evaluate identities and foster healthy identity formation (Phelan, Davidson, and Cao 1991). However, the scrutiny a child experiences for a given identity can incite elevated levels of stress and emotional vulnerability (Csikszentmihalyi and Schmidt 1998; Eccles et al. 1993). In cases where an identity is subject to sanctions, like a sexual minority identity, the actor risks unsuccessful identity development across domains.

The potential for unsuccessful identity negotiation is elevated for queer students who face compulsory heterosexuality in their schools, families, and faith communities. Institutionalized heteronormativity generates internalized homophobia, shame, and social stigma within sexual minority youth who are often unable to negotiate the incompatibility of their feelings with institutional norms (D'Augelli 1998; DiPlacido 1998; Kosciw et al. 2010). Sexual minority youth carry emotional distress generated by social stigma across social domains, influencing their psychosocial well-being across contexts (Troiden 1989).

The school-based deficits of lesbian, gay, bisexual, transgender, and other queer youth can be traced to victimization that occurs within and beyond school contexts (D'Augelli, Grossman, and Starks 2006; Kosciw et al. 2009; Russell et al. 2001). While bullying and harassment occur in school hallways and classrooms, anti-LGBTQ sentiments (as well as LGBTQ support systems) are also nurtured in families and faith communities. For example, Williams et al. (2005) documented increased alienation between LGBQ youth and their mothers. Religiosity is indeed a correlate of heteronormativity and homophobia (Olson, Cadge, and Harrison 2006) and Wilkinson

and Pearson (2009) found a negative association between school religiosity and sexual minority academic well-being. Kosciw et al. (2009:976) found that “youth in rural communities and communities with lower adult educational attainment may face particularly hostile school climates.” Ecological systems theory provides a framework for investigators to account for the effects of extra-school victimization on LGBTQ school outcomes.

Social contexts of schools. Schools serve multiple functions, such as academic preparation, skill development, socialization, and norm and value maintenance. Schools are sites where students learn to interact with their peers; interface with other faiths, races, sexualities, and ideologies; explore romantic relationships; take risks; and develop aspirations. Furthermore, outcomes associated with schooling, such as grade point average, dramatically shape the trajectory of a student as he or she transitions to adulthood (Eccles and Roeser 2011; Elder and Conger 2000).

However, schools are not solely responsible for teaching and learning as families, peers, faith communities, media, and other institutions maintain informal educative roles. “Research has begun to accrue that demonstrates a positive relationship between participation in school, community, and church activities and student achievement (e.g., Gutman & McLoyd, 2000; Mahoney, Larson, Eccles, & Lord, 2005; National Research Council and Institute of Medicine, 2002; Regnerus & Elder, 2003)” (Irvin et al. 2010:1). Positive school experiences are directly associated with positive youth development in other domains. Students who feel connected to school report lower rates of substance use, sexual activity, weapon possession, violence, risk-taking, emotional distress, and suicidality (CDC 2009) and school climate is associated with positive learning outcomes

(Cohen et al. 2009; Samdal, Wold, and Bronis 1999; Stracuzzi and Mills 2010). In other words, school experiences can ameliorate negative outcomes in curricular and extracurricular contexts and vice versa.

In rural communities the school is often a dynamic center of social, cultural, and civic life (Colangelo et al. 2003; Elder and Conger 2000; Lyson 2002; Lyson 2005; Peshkin 1978; Schafft and Jackson 2010). The multifunctionality of rural schools promotes local unity and attachment to place, youth-adult and student-teacher relationships, and shared community norms (Lyson 2002; Peshkin 1978). Conversely, local family values and faith attitudes shape the orientation of rural schools (Flora et al. 2002). Among LGBTQ students the school can be both a site of heteronormativity and homophobia (Akerlof and Kranton 2002; Eder, Evans, and Parker 1995; Flowers and Buston 2001; Snyder and Broadway 2004) and a site of empowerment (see Russell et al. 2009).

The implications of the human ecologies described in this chapter are quite profound for rural youth who are sexual minorities. On one hand, rural sociological research suggests that rural LGBTQ kids are situated among tight-knit helping communities that can foster healthy developmental trajectories within and across domains. This position would hypothesize family and faith contexts as potential mediators for social deficits (academic and otherwise) among rural gay kids, should deficits exist at all. On the other hand, the untenable sexual desires of rural LGBTQ kids might violate socially constructed community norms and invoke punitive responses. Some evidence indicates social isolation is particularly acute for rural sexual minority youth (Kosciw et al. 2009). This could lead to psychosocial stress that potentially limits

the educational outcomes of rural LGBTQ youth.

In this chapter, I highlighted empirical gaps in the rural and queer literatures and then delineated a set of research questions that probe the influence of rural social contexts on the educational experiences of sexual minority youth. These questions emerged from a human ecological theoretical model that privileges the interrelationship of school, family, and faith communities in rural places.

In Chapter 2, I more carefully treat the literatures relevant to this study. I briefly discuss the rural education landscape and the school-based lives of LGBTQ youth and then document the extant research on sexual minority educational outcomes. Chapter 3 includes an elaboration of the methods I employed in my investigation and a descriptive profile of the participants. There I describe the data, measures, and models I used in analyses. In Chapter 4, I display the fitted analytic models and state my statistical findings. In Chapter 5, I situate the results among the previous literature and then synthesize the ideas that emerged from this work. I also identify limitations of the project and imagine possibilities for future research.

CHAPTER TWO: RELEVANT LITERATURE

As demonstrated above, adolescent educational experiences are shaped by a number of factors exerted across social contexts. In this chapter, I first summarize the literatures on rural and queer school-based outcomes and then provide a thorough treatment of studies that compare the academic performance of sexual minority and non-sexual minority young people. I also closely review previous investigations of school, family, faith, and risk influences on educational outcomes.

Educational Outcomes of Rural Adolescents

School-based deficits among rural students (relative to urban and suburban peers) include lower academic achievement (Roscigno, Tomaskovic-Devey, and Crowley 2006), lower graduation rates (Provasnik et al. 2007; Roscigno and Crowley 2001; Roscigno et al. 2006), lower educational expectations (Cobb, McIntire, and Pratt 1989; Hu 2003; McGranahan 1994; Rojewski 1999), lower rates of postsecondary enrollment (Beaulieu, Israel, and Wimberly 2003; Blackwell and McLaughlin 1999; Gibbs 2004; Lichter, McLaughlin, and Cornwell 1995; Provasnik et al 2007; Hu 2003; Smith, Beaulieu, and Seraphine 1995), and less bachelor's degree attainment (Gibbs 1998; Provasnik et al. 2007).

These gaps are often attributed to, among other explanations, rural socioeconomic disadvantage (Williams 2003). For instance, child poverty rates are higher in rural communities than in urban and suburban ones (Lichter and Johnson 2007; O'Hare and Savage 2006) and parental education levels and expectations for children are lower (Provasnik et al. 2007; Roscigno and Crowley 2001; Roscigno et al. 2006). Furthermore, rural schools tend to offer inadequate preparation for postsecondary success (Graham

2009; Griffin, Hutchins, and Meece 2011; Monk 2007; Provasnik et al. 2007). Indeed, these deficits are directly related to the academic outcomes of rural youth (Attewell, Heil, and Reisel 2011; Bozick 2007; Goldrick-Rab and Pfeffer 2009).

Educational *risk factors*—or predictors of *developmental deficits*—endemic to rural residence have been linked to school-based deficiencies. For example, rural youth report elevated levels of psychological distress (Glendinning et al. 2003; Hektner 1995), loneliness and emotional isolation (Snyder and McLaughlin 2008), and substance use and abuse (Van Gundy 2006; Hartley 2007; Pruitt 2009), all of which correlate with depressed educational outcomes. An entire chapter of the Rural Sociological Society’s decennial *Challenges for Rural America in the Twenty-First Century* (2003) was devoted to “rural children and youth at risk” in which readers were alerted to poverty, juvenile delinquency, and teen pregnancy in rural communities such that “rural America’s next generation of adults may be poorly prepared for success in the workplace, for a healthy family life, and for active community engagement, participation, and civic leadership” (Lichter et al. 2003:108).

A number of variables, called educational *protective factors* or *developmental assets*, are associated with school-based successes. Though less salient in the literature, many characteristics of rural communities serve as protective factors in educational achievement. Close bonds between rural school, family, and faith institutions (Crockett et al. 2000; Elder and Conger 2000), and the social capital attributable to them, can be assets to rural young people (Elder and Conger 2000; Hardré et al. 2009; Israel and Beaulieu 2004; Israel, Beaulieu, and Hartless 2001; Singh and Dika 2003). Singh and Dika (2003) showed that, among a sample of rural high school students from

Appalachian Virginia, community academic and emotional support was predictive of success in school. Israel et al. (2001) found similar patterns among a nationally representative rural sample and concluded that community social capital is an important predictor of educational success. Students who were engaged in their community, engaged in religious activities, and were monitored closely by their parents had higher grades and more educational persistence than those who did not. Similarly, Smith et al. (1995) showed that the positive relationship between religious attendance and postsecondary outcomes was stronger among rural students than students from other locales.

In general, human ecological examinations of rural students have shown that rural-urban differences are explained in large part by variations in social contexts (Roscigno et al. 2006). Fan and Chen (1999) found that rural students in the National Education Longitudinal Study (NELS:88) performed as well as their urban and suburban counterparts on standardized assessments after controlling for race, region, and socioeconomic status. More recently, Byun et al. (2011:14) “observed rural-nonrural difference in college enrollment was largely attributable to rural-nonrural differences in socioeconomic and demographic background.” The same relationship held when predicting bachelor’s degree completion. Acknowledging that there are “features of rural families, schools, and communities that may facilitate educational attainment,” Byun and colleagues (2011:18) found that rural students benefited from indordinate levels of *community social resources*, operationalized in terms of church attendance and parental connections to parents of peers. However, it remains to be seen whether or not rural sexual minority students benefit from community social resources in a similar fashion.

Educational Outcomes of Sexual Minority Adolescents

Studies of sexual minority students have analyzed grade point averages, course failure rates, absenteeism, disciplinary problems, school engagement, and college preparatory coursetaking. As a rule, these studies have documented poorer academic outcomes among non-heterosexual students, and many have pinpointed sense of school belonging as a mediating factor (e.g. Pearson et al. 2007; Rostosky et al. 2003; Russell et al. 2001; Wilkinson and Pearson 2009).

These educational disparities have been linked to depressed psychosocial outcomes among sexual minority youth. LGBTQ youth are overrepresented among homeless youth, youth with sexually transmitted infections, youth who use and abuse drugs and alcohol, and youth who display low self-esteem, depression, suicidality, and other mental health issues (Bontempo and D'Augelli 2002; D'Augelli 2002; D'Augelli et al. 2006; Faulkner and Cranston 1998; Garofalo et al. 1998; Eliason and Hughes 2002; Lock and Steiner 1999; Menesini, Modena, and Tani 2009; Rostosky et al. 2003; Russell 2006; Russell and Joyner 2001; Russell, Driscoll, and Truong 2002; Wyss 2004). Furthermore, sexual minority youth are less connected to family and faith communities (Bos et al. 2008; Busseri et al. 2008; Eisenberg & Resnick 2006; Saewyc et al. 2009; Williams et al. 2005).

The academic underperformance of sexual minority youth is also attributed to the victimization of sexual minority students at school. Sexual minority students experience verbal, physical, and sexual harassment and assault more frequently than their peers (Bontempo and D'Augelli 2002; D'Augelli et al. 2006; Fineran 2001; Kosciw et al. 2010; Ueno 2005). This victimization leads to absenteeism and alienation from school, which in

turn mediate the academic deficiencies of sexual minority youth (Rostosky et al. 2003; Russell et al. 2001; Wilkinson and Pearson 2009; Walls, Kane, and Wisneski 2010).

Grade point average. A number of large-scale investigations have systematically compared the grade point averages of sexual minority and heterosexual students, as the present study does. Russell et al. (2001) used data from the National Longitudinal Study of Adolescent Health (Add Health) to identify a probability sample of same-sex attracted young people. Their step-wise regression analyses controlled for variables across four relational domains (family, teacher, social, and peer) and showed that bisexually-attracted males had lower grade point averages than their straight peers and that this difference was not mediated by family, teacher, social, or peers contexts.

Rostosky et al. (2003), in the first and only investigation of the educational outcomes of rural sexual minorities, examined the grade point averages of over 1,700 students—including 99 who were either attracted to the same sex or unsure of their attractions—from nonmetropolitan counties in eastern Kentucky. Independent sample t-tests showed that sexual minority students had significantly lower grade point averages than their heterosexual peers. The sexual minority students also reported less school belonging even after controlling for grade point average in hierarchical regression analysis. Rostosky and her colleagues, however, did not regress on any predictors of grade point average.

Pearson et al. (2007) also used Add Health, along with its Adolescent Health and Academic Achievement (AHAA) supplement, to investigate the educational experiences of same-sex attracted youth and youth who reported no sexual attraction. While Russell et al. (2001) and Rostosky et al. (2003) relied on self-reported grade point average as their

sole academic variable, AHAA includes data from official transcripts allowing for more detailed and reliable measures. Pearson et al.'s hierarchical regression analysis largely confirmed previous findings; even in models that controlled for LGB risk factors, including school belonging and emotional distress, same-sex attracted boys had significantly lower grade point averages than heterosexually-attracted boys. Descriptive statistics showed that students unsure of their attraction also had lower grade GPAs, but those differences were not significant in baseline regression models.

Wilkinson and Pearson's (2009) Add Health study of the effects of institutionalized heteronormativity—operationalized in terms of the prevalence of football, school religiosity, and urbanicity—was the first to draw place-based comparisons on the psychosocial outcomes of same-sex attracted youth. While Wilkinson and Pearson (2009:554) did not examine academic achievement per se they did find that “same-sex-attracted youth are at greater risk for lower social-emotional well-being and externalized signs of distress,” including course failure. While same-sex attracted females were more likely to fail a class when they were among highly religious peers, the course failure rate of sexual minority boys (relative to opposite-sex attracted boys) was not moderated by school religiosity. Multilevel models showed that “suburban and rural” (defined by self-reports of school administrators) same-sex attracted boys were more likely to fail a course than “urban” same-sex attracted boys. There were no significant variations by locale among same-sex attracted girls.

The ecological systems theoretical model described in chapter 1 posits that these educational outcomes are influenced by the social contexts in which young people are situated. The limited empirical literature on LGBTQ youth largely supports this

perspective. Human ecological investigations of queer kids—particularly in rural locales—remain imperative, though, as the existing scholarship tends to “treat sexual minority youth as a monolithic or homogeneous group and fails to examine the ways in which the social contexts that shape the lives of LGBT youth influence the persistent inequalities in health risk behavior, mental health, and long-term psychosocial adjustment of LGBT youth and adults” (Horn et al. 2009:863).

As outlined below, social influences ranging from family to peers to schools to communities heavily influence queer youth outcomes. Certainly, as Horn et al. (2009:863) admonished, “by expanding the paradigm to consider the role of context in the lives of LGBT youth, we can begin to understand not only the complex and nuanced ways that individuals’ lives are shaped by their social contexts, but also the ways that individual characteristics (such as temperament or gender) impact the ways that LGBT youth engage with and experience their social world.”

School Contexts and Sexual Minority Educational Outcomes

School engagement, school climate, and school belonging are important predictors of academic outcomes among adolescents in general. Strong, supportive student-teacher relationships are associated with school attachment and academic achievement (Crosnoe, Johnson, and Elder 2004; Smerdon 2002; Stewart 2008). Behaviorally, emotionally, and cognitively engaged students tend to have higher grades, test scores, and high school graduation rates (Fredricks, Blumenfeld, and Paris 2004). Attachments to school might play an even bigger role among students displaying high levels of economic or familial hardship (Juvonen 2006). For that reason, one might

expect school belonging to be a protective factor for youth who face high levels of victimization, like LGBTQ youth.

The association between school context and educational outcomes is particularly salient in rural schools. In a study of over 6,000 students in rural American high schools, Irvin and colleagues (2011) showed that youth in both high- and low-poverty counties who felt more belonging at school reported higher levels of academic achievement. However, school belonging was not associated with educational aspirations. Similarly, Demi, Coleman-Jensen, and Snyder (2010) concluded that among participants in the Rural Youth Education (RYE) study, school climate indirectly affected high school grades and postsecondary enrollment via academic self-efficacy.

Particular school contexts appear to mediate the relationship between sexual minority status and educational outcomes; school climates hostile toward gay and lesbian students contribute to attraction-based psychosocial disparities which in turn engender gaps in academic performance (Pearson et al. 2007). In the study by Pearson et al. (2007), emotional distress, substance use, and social integration explained some elevated course failure rate among same-sex attracted boys. On the other hand, Russell et al. (2001) found that relationships with teachers had very little influence on the academic performance of sexual minority kids, despite the fact that bisexual girls had less school attachment than their opposite-sex attracted peers.

Murdoch and Bolch (2005) showed that school context, measured in terms of climate toward LGBTQ individuals, was significantly related to the grade point averages, school belonging, and disruptive behavior in a purposive sample of approximately 100 metropolitan sexual minority adolescents and young adults. Furthermore, in cluster

analyses, the authors demonstrated that the interaction between school environment and family support was a significant predictor of educational outcomes. In other words, the joint influence of school and family domains on educational outcomes was larger than the sum of its parts.

Seelman, Walls, Hazel, and Wisneski (2011) found that even when controlling for school-related variables, student school engagement—defined in terms of aspirations, belonging, and productivity—was a significant predictor of grade point average among sexual minority adolescents and young adults; the relationship was dependent, though, upon whether or not a Gay-Straight Alliance (GSA) was present in the school. At the same time, school safety variables were not associated with grade point averages. When predicting attendance patterns, student engagement did not predict truancy for sexual minority youth. However, factors like school safety and the presence of a safe adult at school were related to fewer absences. This study was limited in that it did not employ a school-based sample and included retrospective accounts of many out-of-school young people.

Of course, schools can conversely contribute to academic deficits when students feel unsafe or disconnected. Per *person-environment fit theory*, “individuals fair best in settings in which they fit well with the norms and aggregate characteristics of students and much less well in settings in which they are outliers” (Eccles and Roeser 2011:232). Students from racial, ethnic, socioeconomic, linguistic, and sexual subgroups who are underrepresented in a particular school are at risk of poor educational performance when their own cultural practices are in conflict with the dominant cultural norms (Garcia-Reid, Reid, and Peterson 2005). Kosciw et al. 2009 drew on this school-based deficit

paradigm to show that LGBT youth, gender nonconforming males, and students who attend rural schools are disproportionately subject to verbal and physical harassment and victimization. Thus, for many students—especially those examined in this study—violations of cultural norms invoke physical and psychological distress, which leads to decreases in academic achievement.

Family Contexts and Sexual Minority School Outcomes

Family contexts account for a substantial degree of variation in educational outcomes. This is most directly attributable to parental education levels and household socioeconomic status such that students with parents with more years of formal education and in households with higher incomes tend to display higher levels of educational success (Bell et al. 1996). Furthermore, stresses attributable to poverty and economic disadvantage can contribute to strained family ties (Allen et al. 2004). The degree of parental attachment plays a nontrivial role in the school-based social experiences of adolescents (Crosnoe 2004; Hair et al. 2008).

The strong family ties characteristic of rural communities and the interrelationships between rural family and school institutions make the rural family context quite interesting. For instance, Davis-Keane (2005) showed that strong parent-student bonds fostered educational engagement, which in turn predicted college enrollment among rural young people. Byun et al. (2011) found that the rural participants in the National Education Longitudinal Study from dual-parent households were more likely to enroll in college than rural students residing in other household structures. The same relationship was not significant among students in urban and suburban locales. Furthermore, Byun et al. (2011) found “the degree that parents reported knowing the

parents of their child's friends was positively related to bachelor's degree attainment only among rural students, and this relation was stronger among rural than suburban students" (p. 18). On the other hand, Demi et al.'s (2010) human ecological study of rural Pennsylvania youth suggested that parental bonding has no direct effect on postsecondary enrollment, and only mediates the relationship between parental income and college grade point average.

Strained relationships between sexual minority youth and their families were first documented nearly two decades ago by Savin-Williams (1994) who concluded "youths who are known to be lesbian, gay, or bisexual receive considerable verbal and physical abuse from peers and, all too frequently, from parents and other adults" (p. 267). Familial rejection based on sexual orientation has lasting negative impacts on the physical and mental health of LGBTQ people, including depression, suicide, substance abuse, and sexual risk-taking (Ryan et al. 2009). Nonetheless, "in studies of LGBTQ youth, family relationships are a backdrop that is under-examined" (Horn et al. 2009:864). In part, this study represents "a new generation of research...to understand not only parental rejection—and acceptance—but the subtleties of family life that are distinctive in the lives of LGBTQ youth" (Horn et al. 2009:864).

While research has documented the protective role of families in the educational experiences of the general population, the protective potential of parents among sexual minorities is less evident. Sexual minority youth report less parental closeness than heterosexually attracted youth (Busseri et al. 2006; Ueno 2005; Williams et al. 2005); this is especially true among sexual minority girls (Eisenberg and Resnick 2006; Saewyc et al. 2009). In their examination of several thousand middle and high school students in a

Wisconsin school district, Poteat et al. (2011) determined that victimization, including homophobic victimization, negatively affects the educational outcomes of students of all sexual orientations. However, while parental support moderated the role of victimization for heterosexual students, the same effects were not apparent among self-identified gay, lesbian, bisexual, and queer youth. In general, it appeared that parental ties only served a protective function on school-based outcomes for straight students and not sexual minorities.

In regression analyses using data from a convenience sample of LGB adolescents, Murdoch and Bolch (2005) found that “social support from family and close friends does not buffer the effects of the school environment on any of the adjustment variables” (p. 167). When examining clusters of similarly situated respondents based on level of vulnerability at school, those researchers found that “the combined effect of negative school environments and poor support” play a role in depressed grade point averages, school belonging, and disruptive behavior among sexual minorities. However, the participants in Murdoch and Bolch’s study were primarily from urban locales; the protective effects of family networks might be different among rural students situated in communities with multiple, interconnected family ties.

Faith Contexts and Sexual Minority Educational Outcomes

A nascent body of scholarship shows a positive association between religious involvement and educational outcomes (Gutman and McLoyd 2000; Mahoney et al. 2005; Regnerus and Elder 2003). In particular, participation in religious activities has been shown to correlate with higher grades, school attendance, and high school completion even when controlling for other social contextual factors (Elder and Conger

2000; Ludden 2011; Muller and Ellison 2001). Religious involvement is also related to school attachment and health risk behavior (Kerestes, Youniss, and Metz, 2004; Smith and Denton, 2005). The effect of religious attendance on academic achievement is particularly strong among students in poverty (Regnerus 2000; Regnerus and Elder 2003) like many respondents in the present study.

The relationship between religiosity and schooling described above extends to the rural case as well (Elder and Conger 2000; Israel and Beaulieu 2004). Adolescents in rural communities tend to be more active in faith-based activities and place more importance on religion than youth in other locales (King et al. 1997; Olson, Cadge, and Harrison 2006). Furthermore, religious rural kids tend to have elevated academic self-efficacy relative to their less-religious rural peers, which translates into better school performance (Elder and Conger 2000). Some scholars (e.g. Stein 2001) have cautioned, however, that religiosity combined with rural residence correlates with homophobic and heteronormative attitudes.

The limited scholarship on sexual minority adolescent religiosity presents contradictory findings. In a study of Canadian youth, Saeywc et al. (2007) documented more religiosity among sexual minority students than sexual majority ones. On the other hand, Rostosky et al. (2008) found that sexual minority participants in Add Health “were less likely than heterosexuals to report a current religious affiliation” (p. 552). While gay males in Rostosky et al. (2008) reported relatively high “distal” religiosity (measured by attendance, etc), lesbian adolescents reported relatively low “proximal” (measured by personal spirituality) religiosity. Religiosity among the Add Health respondents declined sharply into young adulthood, with the most pronounced decline occurring among sexual

minorities. Even in light of these findings, religiosity can still be a protective factor in the lives of LGBTQ youth. No study has investigated the mediating and moderating roles of religion among queer kids, but a few have examined this question among rural students.

In Byun et al.'s (2011) study of postsecondary attendance patterns, rural students who attended church regularly had higher levels of college attendance and bachelor's degree attainment than those who reported less frequent attendance; the association was not significant for urban and suburban students. Using a hierarchical regression technique like the one employed in the present study, Milot and Ludden (2009) examined the role of religion on academic beliefs and behaviors. In general, religious attendance was a stronger predictor of academic achievement than religious importance in their convenience sample of nearly 700 eighth and ninth graders from the rural Midwest. The more religiously active young people in their study had higher grades than less religiously active young people.

Adolescent females tend to more religiously engaged than adolescent males in terms of attendance, prayer, faith-based experiences and need, and religiously affiliated social activities (Donelson 1999; Ozorak 1996; Smith and Denton 2005). These gender differences were apparent among Milot and Ludden's (2009) participants. The relationships between religiosity and school-based outcomes were moderated by gender such that religious importance among males enhanced academic self-efficacy and sense of school belonging to a greater degree than for females. Similarly, religious attendance enhanced academic efficacy for females more so than for males.

Risk Factors and Sexual Minority Educational Outcomes

Myriad developmental factors contribute to poor adolescent school-based outcomes. Of those exogenous to actors, substance use and abuse are risk behaviors in which rural young people most commonly engage (Van Gundy 2006). Substance use and abuse have been linked to depressed grades, decreased school engagement, and lower educational attainment among early adolescents (Bukstein et al. 2005; Hawkins, Catalano, and Miller 1992). Some researchers have posited a reciprocal relationship between substance use and poor academic performance such that academic stress contributes to substance use and vice versa (Henry 2010).

While DeSimone and Wolaver (2005) found a significant negative association between drinking and high school grades, more contemporary scholars have determined that the link between alcohol consumption and grade point average is weak and/or trivial. For example, in their investigation of Add Health participants, Balsa, Giuliano, and French (2011) found “that increases in alcohol consumption result in small yet statistically significant reductions in GPA for male students and in statistically non-significant changes for females” (p. 1).

Marijuana use and abuse, too, has been linked to school-based deficits, including poorer academic achievement, standardized test scores, school attendance, dropout rates, and educational attainment (Cox et al. 2007; Jeynes 2002; Roebuck, French, and Dennis 2004). On the question of the association between marijuana use and grade point average, Cox et al. (2007) found that respondents on the 2003 Mississippi Youth Risk Behavior Survey who reported marijuana use were more likely to have below a C average than those who abstained from marijuana.

An extensive literature documents disproportionately high rates of substance use and abuse among sexual minority youth (Bontempo and D'Augelli 2002; Espelage, Aragon, Birkett, and Koenig 2008; Garofalo et al. 1998; Rivers and Noret 2008). These studies have shown that gay, lesbian, and bisexual youth use drugs and alcohol more frequently, in higher doses, and at younger ages than heterosexual youth. Using Add Health, Needham and Austin (2010) highlighted how sexual minority substance use varies by gender and attraction type. Young lesbian and bisexual women in their study had higher rates of recent drug use than heterosexual women; young bisexual females had higher rates of binge drinking than straight women. However, these differences were not observed between gay, bisexual, and heterosexual males.

At least two studies have examined the substance use of rural sexual minority youth. Poon and Saewyc (2009) found that rural sexual minority adolescents in British Columbia had significantly higher levels of drug and alcohol use than their urban peers. Rural sexual minority females were more likely than urban females to have ever tried alcohol or to use alcohol several times a week. They were also more likely to have tried marijuana. Rural sexual minority males were more likely to engage in binge drinking than urban sexual minority boys but no significant rural-urban differences existed in marijuana use.

Rostosky et al. (2003) studied the interrelationship between substance use, grade point average, gender, and sexual attraction among rural students in Appalachian Kentucky. The descriptive portion of their study showed that sexual minority youth were significantly more likely to use alcohol than sexual majority youth but not significantly more likely to use marijuana. Logistic regression models, though, showed that the

bivariate sexuality-based differences that did exist were explained primarily by lower senses of school belonging and perceived grade point averages reported by sexual minority students. Like Rostosky et al. (2003), several others have documented the mediating role of schools in the relationship between substance abuse and academic outcomes, including Shears, Edwards, and Stanley (2006) who found that school attachment protects against substance abuse and Henry and Slater (2007) who found that improvements in school climate are associated with decreases in drug and alcohol use.

Finally, labor market pessimism has the potential to put rural students at risk of poor educational outcomes. A number of scholars have studied the relationship between hope in the future and academic performance. Among them, Worrell and Hale (2001) found that pessimism about future educational and employment options are predictors of high school dropout. Similarly, Bickel and Lange (1995) used school-level data from West Virginia to argue that structural constraints like postsecondary expense, limited access to skilled employment, and various opportunity costs predict dropping out. This “rational response to social circumstances” (Bickel 1989:252) is a particularly appropriate lens through which to view rural sexual minorities given the absence of laws in eastern Kentucky prohibiting employment discrimination on the basis of sexual orientation. Furthermore, depressed rural economies and perceived barriers to entry into local labor markets are factors associated with poor educational outcomes among rural young people (Roscigno and Crowley 2001).

CHAPTER THREE: METHODS

The goal of the present study is to examine the human ecological role of social contexts in the school experiences of rural sexual minority youth. To this end, I chose to model the relationship between attraction type (exclusively opposite-sex attraction, same-sex attraction, and unsure attraction) and grade point average while controlling for indicators of school, family, and religious social attachment, as well as adolescent risk behaviors. Because previous studies have documented differences between sexual minority and heterosexual young people in these domains (e.g. Wilkinson and Pearson 2009; Seelman et al. 2011; Milot and Ludden 2009), I also examined how these contexts mediated and moderated the relationship between sexual attraction and educational outcomes.

In this chapter, I first describe the dataset used in the study, including the instruments and procedures used to assemble it. I then outline the measures used in analyses and examine differences between valid and excluded cases. Finally, I elaborate an analytical strategy that employs analyses of variance and hierarchical regression models to draw inferences about sexual minority educational outcomes by attraction type, and posit several hypotheses informed by the existing literature.

Dataset

The data for my analyses were drawn from 6,418 students who participated in a school-based HIV/pregnancy prevention curriculum evaluation study.⁵ Students from 33 high schools in nonmetropolitan counties in eastern Kentucky participated in the study

⁵ The project, *HIV Interventions for Young, Appalachian Risk-Takers*, was funded by the National Institute on Mental Health (Rick Zimmerman, P.I., MH061187). For a more thorough explanation of the research design see Cupp et al. (2006).

between the fall of 2000 and the spring of 2004.⁶⁷ This nonrandom sample was comprised of two treatment groups (who participated in one of two curricula) and a control group across two cohorts that were each surveyed at three time periods spanning approximately one and a half years.

I chose this dataset because it included an unprecedented number of rural young people who indicated a sexual minority status. Other data sources with indicators of adolescent sexuality do not include academic measures (e.g. Youth Risk Behavior Surveys, Growing Up Today Study 2003, National Survey of Family Growth 2002) or lack sufficient numbers of rural respondents for place-specific investigations disaggregated by gender and attraction type (e.g. National Longitudinal Study of Adolescent Health 1998). Furthermore, because the study survey replicated many of the items found in the seminal National Longitudinal Study of Adolescent Health (Add Health), and because the survey administration dates roughly correspond to Wave III of Add Health, the findings of this study can easily be situated among the contemporary literature on sexual minority adolescents.

Procedure

As per institutional review board protocol, paper-and-pencil survey instruments were administered to all (informed) assenting students who received active (informed) parental consent and were enrolled in a ninth grade health class at the commencement of

⁶ This county classification scheme is based on criteria established by the Office of Management and Budget (OMB) in 2003. A metropolitan county is defined by the OMB as one containing a central city of over 50,000 residents (*central county*) or an adjacent county (*outlying county*) that is economically and socially integrated with the central county. All other counties are defined as nonmetropolitan (Reynells 2008).

⁷ At the initial survey administration, all but one county were in the Appalachia region as defined by the Appalachian Regional Commission.

the study. Project staff members who were unfamiliar to the participants administered the surveys and students received a five-dollar inducement for their participation. Students were asked to report demographic characteristics and measures of school belonging, relationships with friends and parents, parental monitoring and communication, impulsivity and risk-taking, religious beliefs and practices, school-based academic outcomes, romantic partnerships and attractions, sexual knowledge and behaviors, and media exposure (see Appendix A). Four different survey forms were used to ensure confidentiality and a sense of privacy relative to other individuals in the room.

Measures

My research questions explore differences between sexual minority and exclusively opposite-sex attracted students on a self-reported, school-based outcome. As such, the independent variable in each analysis was a measure of romantic attraction and the dependent variable was grade point average. Variables measuring potential protective factors in school, faith, and family contexts, as well as variables measuring potential risk factors, were included in my models as predictors; a number of demographic measures were included as covariates as well. A summary of all the variables used in analysis is outlined in Figure 1.

Figure 3.1. Summary of Variables for Analysis.

Variable	Description	Coding
<i>Independent Variable</i>		
Sexual Attraction (SEXATTRACT)	Indicates the type of sexual attraction reported by the respondent.	0 – exclusively opposite-sex attraction (reference category) 1 – same-sex attraction (including bisexual attraction) 2 – unsure
<i>Dependent Variable</i>		
Grade Point Average (GPA)	Self-reported grade point average on eight-level scale (mean centered).	1 (low) – 8 (high)
<i>Potential Protective Factors</i>		
<i>School</i>		
School Belonging (SCHOOLBELONG)	Mean response to four, five-level items measuring school happiness, school safety, teacher fairness, and the extent to which respondent feels part of the school (mean centered). <i>(four items; $\alpha = .793$)</i>	1 (low) – 5 (high)
<i>Faith</i>		
Religious Belief (RELIGBELIEF)	Average of two items measuring how important religion is in a respondent's life and belief in literal meanings of scripture (mean centered). <i>(two items; $\alpha = .665$)</i>	1 (low) – 5 (high)
Religious Attendance (RELIGBEHAVE)	Average of two items measuring how often a respondent attends religious services and faith-based youth activities (mean centered). <i>(two items; $\alpha = .735$)</i>	1 (low) – 4 (high)
<i>Family</i>		
Parental Closeness (CLOSEPARENT)	Highest average score of either maternal or paternal closeness, measured in terms of sense of closeness and sense of caring.	1 (low) – 5 (high)

Figure 3.1. Summary of Variables for Analysis (continued).

Variable	Description	Coding
Parental Monitoring (PARENTMONIT)	Mean response of five items scored on a five-level scale (mean centered). <i>(five items; $\alpha = .807$)</i>	1 (low) – 5 (high)
Household Structure (BOTHPARENT)	Indicates whether or not a respondent lives with both a father and a mother.	0 – both parents 1 – other structure
<i>Potential Risk Factors</i>		
Alcohol Use (ALCOHOL)	Indicates whether or not respondent reported using alcohol in the past three months.	0 – no 1 – yes
Marijuana Use (MARIJUANA)	Indicates whether or not respondent reported using marijuana in the past three months.	0 – no 1 – yes
Labor Market Pessimism (LABOR)	Level of agreement with the prompt “when I am an adult, I will have a good chance of getting a job that is good, steady and dependable” (mean centered).	1 (high) – 5 (low)
<i>Controls</i>		
Age (AGE)	Self-reported age of respondent (mean centered).	13 – 18
Gender (FEMALE)	Self-reported gender of respondent.	0 – male 1 – female
Race (MINORITY)	Dichotomous measure indicating whether a student identifies as white or as a person of color.	0 – white 1 – student of color
Economic Disadvantage (LOWSES)	Self-reported recipient of free or reduced price school lunches.	0 – full price 1 – free or reduced price
Mother’s Education (MOTHERED)	Highest level of schooling completed by mother.	0 – high school (reference category) 1 – did not complete high school 2 – college 3 – unknown
Father’s Education (FATHERED)	Highest level of schooling completed by father.	0 – high school (reference category) 1 – did not complete high school 2 – college 3 – unknown

Independent variable. While the survey instrument did not ask participants to self-identify as a given sexual orientation, respondents reported both their own gender and the gender(s) of those to whom they were sexually attracted. Cross-referencing these variables introduced a well-established measure of sexual minority status (e.g. Pearson et al. 2007; Rostosky et al. 2003; Russell et al. 2001).⁸

The independent variable of principle interest was an indicator of *sexual attraction (SEXATTRACT)*. Participants were asked “which of these is true for you?” and given the choices of “I am sexually attracted to males,” “I am sexually attracted to males and females,” “I am sexually attracted to females,” and “I’m not sure who I’m attracted to.” A separate item asked students to identify as either male or female. All students who indicated attraction to the same gender were assigned to the category of *same-sex attraction (1)*. This included students who identified as male and indicated sexual attraction only to males, females who reported attraction to females alone, and students who reported attraction to both males and females.⁹ Males who reported attraction only to females and females who were only attracted to males comprised the reference category of *exclusively opposite-sex attraction (0)*.

As per the advice of Diamond (2003) and Russell et al. (2001) to not exclude potentially pre-LGB-identified young people from analysis, students who reported uncertainty of their attraction were assigned to an *unsure (3)* category. The inclusion of these students accounted for the possibility that “youth questioning their sexual

⁸ See Saewyc et al. (2004) and Savin-Williams (2005) for a more thorough discussion of operationalizing adolescent sexuality.

⁹ Analytical limitations attributable to small subgroup sample sizes precluded me from establishing a *bisexual attraction* category. When *exclusively same-sex attraction* and *both-sex attraction* categories were disaggregated, most regression models failed to significantly explain the variance in the dependent variables.

orientation may be as vulnerable as sexual minority youth to victimization and decreased social support” (Williams et al. 2005:472).¹⁰ This polytomous measure of sexual attraction was dummy coded for regression analysis.

Obviously, romantic attraction is just one dimension of adolescent sexuality. Despite its limitations, I used an attraction-based measure for several reasons. First, because adolescent sexuality and sexual minority sexuality are often suppressed and stigmatized, few researchers (those who collected the data used here) have been permitted by institutional review boards and school administrators to survey the sexual identities of young people (Gray 2009; Russell et al. 2001).

Second, given the fluidity of sexuality in general and adolescent sexuality in particular, sexual identity measures exclude “youth who may exhibit same sex attractions and/or behavior yet not embrace a sexual identity” (Russell et al. 2001:123). Hence, “romantic attraction is a more developmentally-appropriate measure of sexual orientation” among sexual minority adolescents and “likely reveals both self-identified GLB youth as well as those who do not, and may never, identify as such” (Pearson et al. 2007:528). Youth, including LGBQ youth, gain an awareness of sexual attraction in preadolescence (as early as age 10) (D’Augelli and Hershberger 1993; Gamache and Lazear 2009; Herdt and McClintock 2000; Savin-Williams 1995) making sexual attraction an ideal measure of sexual minority status among the middle adolescents in this study.

¹⁰ Saewyc et al. (2004) posited that, when give the option, younger students tend to respond as *unsure* to prompts about sexuality because they lack sexual knowledge and do not understand the questions. However, the mean age of the unsure category among both males and females was not significantly lower than the mean age of either the opposite-sex attracted or same-sex attracted categories. In fact, unsure males in the present study were older, on average, than their peers.

Third, young people who experience non-normative sexual attractions and/or engage in non-normative sexual behavior will likely experience stigmatization even if they don't privilege those experiences in their sexual identity formation (Goffman 1963). Thus attraction-based measures of sexuality allow researchers to capture a broad segment of the nebulous population of queer adolescents and "when limited to single items...may be the best choice" (Saewyc et al. 2004:345.e1).^{11,12}

Over six percent (N = 337) reported some type of sexual minority attraction. Forty-four (0.8 percent) reported exclusively same-sex attraction, 117 (2.1 percent) reported bisexual attraction, and 176 (3.2 percent) responded that they were unsure of their attraction. These frequencies are slightly lower than those found in other school-based studies of sexual minorities.¹³ Among other explanations, this difference might be attributable to the use of audio computer-assisted self-interviewing (CASI) in Add Health that encouraged greater disclosure of sensitive information (Tourangeau and Smith 1996), to a relative unwillingness to disclose same-sex attraction in rural and/or Appalachian places, or even to a rural underrepresentation of same-sex attraction itself.

¹¹ Furthermore, I did not consider the same-sex sexual behavior survey items for two reasons: because only 34 percent of all respondents reported ever having had sex and because this measure did not distinguish between consensual and non-consensual sex.

¹² Nonetheless, Savin-Williams and Ream (2007) argued that sexual attraction is not a "stable" measure of adolescent sexuality. Their close inspection of longitudinal Add Health data showed that a majority of students who reported same-sex attraction in Wave I did not report same-sex attraction or a non-heterosexual identity in subsequent waves.

¹³ The representation of same-sex attracted students in previous studies include: Russell et al. (2001), Add Health Wave I, 6.3 percent; Pearson et al. (2007), Add Health Wave I, 7.3 percent; Savin-Williams and Ream (2007), Add Health Wave I, 6.0 percent, Add Health Wave II, 4.6 percent, Add Health Wave III, 9.2 percent; Wilkinson and Pearson (2009), Add Health Wave I, 6.5 percent; Galliher et al. (2004), Add Health Wave II, 5.3 percent (4.4 percent of rural respondents). In the present study 2.9 percent reported same-sex attraction.

Dependent variable. “Developmental researchers agree that both academic success and plans for future education place youth on a positive trajectory toward adult life” (Irvin et al. 2011:1229). Considering the relationship between educational outcomes and successful transitions to adulthood (Eccles et al. 2008; Elder and Conger 2000; Masten and Coatsworth 1998), and in light of the central role of schools in rural communities described in previous chapters, I focused my attention on an educational dependent variable.

The dependent variable of interest was self-reported *grade point average (GPA)*, a measure that may predict postsecondary success better than standardized test scores among educationally marginalized groups (Fleming 2002; Hoffman and Lowitzki 2005). Participants responded to the question “what is the average grade you usually get in school (Grade Point Average)?” on a scale ranging from “mostly A’s” (1) to “mostly below D” (8). Responses were recoded so that higher scores reflected higher grades and the measure was treated as continuous since the intervals between responses were meaningful. The variable was centered (about the mean) in moderated regression analyses in order to reduce covariance between linear terms and interaction terms (Aiken and West 1991; Tabachnick and Fidell 2007).

Predictor variables. By including a set of predictors from school, family, and faith domains in my models I was able to assess the protective role of social contexts in the relationship between sexual attraction and educational outcomes. School belonging is strongly associated with academic achievement in rural locales (Demi et al. 2010; Irvin et al. 2011) so a measure was included in my models. Several Likert items adapted from Add Health (Bearman et al. 1997) measuring sense of *school belonging*

(*SCHOOLBELONG*) were posed to respondents, including “I am happy to be at this school,” “I feel safe in this school,” “I feel like I am a part of this school,” and “the teachers in my school treat me fairly.” Students were asked “how much do you agree or disagree with each of the following about your school?” and responses were recorded on scales of “agree a lot” (1), “agree a little” (2), “don’t agree or disagree” (3), “disagree a little” (4), and “disagree a lot” (5).

Preliminary examinations showed that these items were highly correlated, necessitating the construction of a scale in order to reduce multicollinearity in regression analyses (Johnson, Reimer, and Rothrock 1973). In order for high scores to reflect high senses of school belonging I first recoded the responses. Principal components analysis (Jolliffe 2002) revealed a single factor (eigenvalue = 2.469) accounting for 61.7 percent of the variance in these variables. As such, I constructed a school belonging scale by calculating the mean across all items reported. The scale was quite reliable ($\alpha = .793$) and was mean centered in moderated analyses to limit collinearity.

Several survey items (also borrowed from Add Health) reflected the quality of relationships between a participant and his/her parents. The family variables I chose, including parental closeness, parental attachment, and family structure, have been demonstrated to positively impact rural educational outcomes (Byun et al. 2011). The items were highly correlated so I constructed a measure of the strength of a participant’s strongest parental relationship. Incorporating both maternal and paternal variables into a single variable allowed me to include students in the analyses who responded “I do not have a mom/dad” to one or more of the items.

Participants responded to the questions “how close do you feel to your mother?” “how much do you think she cares about you?” “how close do you feel to your father?” and “how much do you think he cares about you?” on scale ranging from “not at all” (1) to “very much” (5). Responses of “I don’t have a mom/dad” were coded as 0. To construct the new variable I first calculated the mean response of the two maternal items and the mean response of the two paternal items resulting in two scale measures. To avoid excluding students with only one parent, the final *parental closeness* (*CLOSEPARENT*) variable represented the largest of the maternal and paternal scales. Values of 0 on the final measure (found among students who responded “I don’t have a mom/dad” on all four items) were coded as missing.

Once again a scale was required to account for student perceptions of parental monitoring in order to avoid the collinearity that emerged when individual items were modeled simultaneously. Using an adapted Parental Monitoring Assessment (Small and Kerns 1993), respondents were directed to “answer each of the following questions about your parent(s)” on a scale that included “always” (1), “usually” (2), “sometimes” (3), “rarely” (4), and “never” (5). Five items followed: “my parent(s) know where I am after school,” “I tell my parent(s) who I’m going to be with before I go out,” “when I go out at night, my parent(s) know where I am,” “my parent(s) think it’s important to know who my friends are,” and “my parent(s) know how I spend my money.” Principal component analysis revealed a single factor accounting for 59.002 percent of the variance (eigenvalue = 2.950). The responses to these items were recoded so that higher scores denoted higher perceptions of parental monitoring. The mean across all items reported

represented the *parental monitoring (PARENTMONIT)* variable; the variable had strong reliability ($\alpha = .807$) and was mean centered in analyses.

Participants were asked to mark all responses that applied to the question “which of the following adults live with you all or most of the time?” from the list “mother,” “father,” “stepmother,” “stepfather,” “aunt or uncle,” “grandparent(s),” “foster parent(s),” and “other adult(s).” Students who marked both “mother” and “father” were coded as a 1 (regardless of any additional household members) while students who did not were coded as a 0. This measure of *household structure (BOTHPARENTS)* controlled for variations attributable to the absence of one parent in the parental closeness variable and/or parental education variables.

Because the four survey items measuring religiosity were highly correlated in exploratory analysis, they too posed threats to multicollinearity as discrete variables. To remedy this I used Rostosky, Danner, and Riggle’s (2008) conceptualization of proximal and distal religiosity to create one variable for religious beliefs (proximal) and one for religious behaviors (distal), both of which are protective factors for rural adolescents in academic settings (Elder and Conger 2000; Milot and Ludden 2009).

Students were asked several questions adapted from the Monitoring the Future study (Johnston et al. 2006), such as “how important is religion in your life” with five response categories ranging from “extremely important” (1) to “not at all important” (5), and “how much do you agree or disagree that your religion’s sacred scriptures or holy book is the actual word of God and to be taken literally, word for word” with five Likert categories ranging from “agree a lot” (1) to “disagree a lot” (5). To construct a single measure of *religious belief (RELIGBELIEF)*, I first I recoded the responses so that higher

scores represented higher degrees of religious belief. Then I calculated the mean of the items reported and assigned this value to the new variable. The new variable had a Cronbach's alpha of .665 and was mean centered in analyses.

Students were also asked "how often do you attend religious services" and "many churches, synagogues and other places of worship have special activities for teens, such as youth groups, Bible classes or choir. In the past 12 months, how often did you attend such youth activities" to which they responded either "never" (1), "rarely," (2) "once or twice a month," (3) or "about once a week or more" (4). The mean of reported items represented the new *religious behavior (RELIGBEHAVE)* variable; this variable had an alpha of .735 and was mean centered in moderated regression models.

Several individual-level variables were included in my analyses because they represent potential risk factors in the relationship between sexual attraction and educational outcomes. Substance use and abuse, for example, is negatively associated with school belonging among rural students (Rostosky et al. 2003), which may in turn result in depressed academic outcomes (Crosnoe, Muller, and Frank 2004). Students were asked a number of questions about their patterns of *alcohol use (ALCOHOL)*, including "How many different DAYS have you had alcohol to drink in: the last three months?" Seven response categories ranged from "none" to "40 or more". Students who responded "none" were coded as 0 and those who indicated that they had had alcohol in the last three months were coded as 1. A dichotomous *marijuana use (MARIJUANA)* variable mirrored the alcohol use variable. Polytomous responses from "none" to "40 or more" were reported for the question "how many TIMES have you used marijuana (pot) in: your life time?" The reference category (0) was comprised of those who reported no use and

the indicator category (1) was made up of those who had used marijuana in the last three months.

Depressed local economies and perceived barriers to entry into local labor markets are risk factors associated with rural educational outcomes (Roscigno and Crowley 2001) such that job availability is significantly related to rural college attendance (Gibbs 1998). As a measure of *labor market pessimism (LABOR)* participants provided responses of “agree a lot” (1), “agree a little,” (2) “don’t agree or disagree,” (3) “disagree a little,” (4) or “disagree a lot” (5) to the item “when I am an adult, I will have a good chance of getting a job that is good, steady and dependable.” Higher values on this variable represent more labor market pessimism. Responses were mean centered in moderated regression.

Control variables. In all of my models I controlled for several demographic characteristics that are often associated with rural educational outcomes (see Smith et al. 1995). The age variable accounts for developmental variations in behavior (Bandura 2001) and for the potentially depressed academic outcomes of (over-aged) students who may have been retained in a previous grade. Controlling for race (Roscigno 1999) and gender (Corbett 2007) accounts for structural factors leading to gaps in rural educational outcomes. Similarly, socioeconomic disadvantage—measured in terms of eligibility for free or reduced price lunch and parental education (Chenoweth and Galliher 2004)—is highly correlated with rural educational outcomes, including grade point average and expectations (Deil-Amen and Turley 2007; Goldrick-Rab et al. 2007; Mayer 2001).

Participants were asked “how old are you now” and could indicate an *age (AGE)* of 13, 14, 15, 16, 17, or “18 or older.” This variable was mean centered in analyses. To

measure *gender* (*FEMALE*), participants simply indicated either “male” (0) or “female” (1) when posed with the prompt “are you:” Individuals indicating a *race* (*MINORITY*) other than “White (non-Hispanic)” (0), including “Black/African-American,” “Asian/Pacific Islander,” “American Indian/Alaskan Native,” “Hispanic/Latino(a),” and “Other or Mixed Race,” were assigned to the indicator category (1).

As per education policy convention, *economic disadvantage* (*LOWSES*) was proxied by a dichotomous variable indicating whether or not students reported receiving subsidized school lunch. Students who answered either “a reduced price” or “I wouldn’t pay anything. It would be free” to the question “if you bought a full school lunch tomorrow, what would you pay? (Even if you never buy a school lunch, think about what you would pay.)” were coded 1 and students who responded “a full price” comprised the reference category (0).

Mother’s education (*MOTHERED*) and *father’s education* (*FATHERED*) were coded into two polytomous dummy variables. Respondents were asked “what is the highest level of schooling your mother completed?” and “what is the highest level of schooling your father completed?” Because response options were not on interval scales I constructed several interpretable categories for each variable: one comprising mother/fathers who did not complete high school (“didn’t go to high school” and “completed some high school”) (1), one for high school graduates (“graduated from high school” and “completed some college”) (0), and one for college degree holders (“graduated from college” and “graduate or professional school after college”) (2). The construction of a polytomous variable also allowed me to retain in the analyses the large number of students who replied “don’t know” to either the mother’s (11.7%) or father’s

(23.1%) education by assigning them to a discrete response category (3). In all analyses, high school graduates were the reference category (0).

Participants

I restricted my sample to students who completed the first wave survey. At this initial time point, none of the students had been exposed to the health education treatment thus ensuring a uniformity of experimental conditions across subjects. Furthermore, there were substantially more valid cases in wave 1 (N = 5,942; 92.6 percent) than in wave 2 (N = 4,834; 75.3 percent) and wave 3 (N = 4,323; 67.4 percent).

Of the valid wave 1 cases, 369 (6.2 percent) did not indicate the gender(s) to which they were sexually attracted and were excluded from analysis. This attraction-based nonresponse rate was generally lower than nonresponse rates for questions about sexual behavior (15.4 percent did not indicate the number of times they had had sex with a male, 13.7 percent did not indicate the number of times they had had sex with a female, and 5.5 percent did not respond to a question asking whether or not they had ever had sex) and was on par with nonresponse rates of attraction-based measures found on other surveys of adolescents (Saewyc et al. 2004).¹⁴

The profile of students who responded to the sexual attraction item was quite different from the profile of those who did not; the data were not missing completely at random. Independent sample t-tests and Pearson chi-square tests revealed that the 369 respondents who skipped the item were significantly more likely to be male, students of color, and economically disadvantaged; they had significantly lower scores on grade point average, religious attendance, religious importance, and school belonging; they

¹⁴ Saewyc et al. (2004) noted that non-response rates for sexual attraction items on eight school-based adolescent surveys ranged from 0.6 percent to 18.2 percent.

were older, more likely to have recently used alcohol, less likely to believe they would secure a good job as an adult, and had parents with lower levels of education.

Obviously I cannot confirm why some respondents chose not to disclose (and, importantly, opted against indicating “not sure”), but the nonrandomness of these responses has a few substantive interpretations. First, the differences among valid and excluded cases might be attributable to item location (item 80 of 86) and *response set bias* (Saewyc 2004). Over half of the students who did not respond to the attraction question also failed to complete other items on the page.¹⁵ This suggests that many of those who skipped the sexual attraction prompt did so because they were fatigued, disinterested, or had run out of time, and not because of the content of the question. An alternative explanation is that students did not understand what was being asked of them. Saewyc et al. (2004:345.e9) maintained “older students are less likely to skip questions about sexual behavior than younger students, whose lack of sexual experience may make them unsure about some questions’ meanings.” However, in the present study nonrespondents were significantly older. Finally, some students certainly skipped the item due to discomfort or a perceived breach to confidentiality; sexual minority students are likely overrepresented among them given their vulnerable status.¹⁶

¹⁵ Chi-square tests revealed incredibly strong relationships between nonresponse on the sexual attraction item and nonresponse on nearby items addressing pregnancy, $\chi^2(1, N = 5942) = 3485.48, p < .001$, condom use, $\chi^2(1, N = 5942) = 4435.82, p < .001$, and HIV-related media exposure, $\chi^2(1, N = 5942) = 2483.95, p < .001$.

¹⁶ The final two items on the survey asked “overall, how honest would you say you were in answering this questionnaire?” and “how much privacy do you feel you had when filling out this questionnaire?” Notably, independent sample t-tests with equal variances not assumed revealed that the mean honesty, $t(85) = 2.713, p < .01$, and privacy, $t(88) = 2.127, p < .05$, scores for students who did not respond to the sexual attraction item were lower than the mean scores for those who did. The correlation between honesty and privacy was much higher among the sexual attraction nonrespondents, $r(82) = .506, p <$

An additional 798 cases (14.3 percent) were excluded using listwise deletion because they were missing data on one or more variables.¹⁷ No single variable had more than 6.4 percent of cases missing (as was true of grade point average). I opted against imputation techniques because of the bias that would emerge in light of the overwhelming proportion of heterosexually attracted respondents. In other words, imputed values would overaccount for characteristics of heterosexual students and fail to reflect the experiences of sexual minorities. Furthermore, many cases included missing data on numerous measures. This high rate of response set bias on crucial variables would result in imputation models relying largely on other missing data.

Independent sample t-tests showed that the 798 students subject to listwise deletion had lower grade point averages, were less optimistic about securing a good job, were significantly older, and reported lower levels of school belonging, religious attendance, religious belief, parental monitoring, parental closeness, and parental education than the valid cases. Furthermore, Pearson chi-square tests showed they were more likely to be male, less likely to expect to complete to a bachelor's degree, more likely to live with a mother and father, less likely to use marijuana, and less likely to report same-sex attraction.

Analytic Strategy

After I used IBM SPSS Statistics 20 to construct the variables described above, I

.001, than among the valid cases, $r(5461) = .295, p < .001$. Taken together, these statistics indicate that the breach to confidentiality perceived by nonrespondents might have influenced their honesty and that the excluded cases include comparatively less honest responses. Furthermore, a one-way ANOVA with post-hoc pairwise analysis showed that those indicating same-sex and unsure attractions had significantly lower honesty levels than exclusively opposite-sex attracted respondents.

¹⁷ All were system-missing; no values fell outside the ranges indicated in Figure 1.

then subjected the data to a battery of exploratory and descriptive statistics. Examinations of frequency tables, histograms, and stem-and-leaf plots showed that there were no outliers in need of attention. Measures of skewness and kurtosis and residual plots did not reveal any egregious violations of assumptions of normality; I note appropriate corrections for heteroscedastic variables when required.¹⁸

In all cases, I carried out separate analyses for boys and girls in recognition of disproportionately high levels of school-based victimization experienced by sexual minority males (D’Augelli, Pilkington, and Hershberger 2002) and the significantly stronger educational outcomes reported by rural females (Cowley et al. 2003; Marjoribanks 2003). The means and standard deviations of variables used in analyses are displayed by gender in Table 3.1. Half (50 percent) of the respondents received free or reduced lunch and the sample was overwhelmingly white (96.5 percent). A plurality of students had a parent with a high school diploma, approximately one quarter had a parent who did not complete high school, and only one in five had a parent with at least a bachelor’s degree. The students were also quite optimistic about securing a good job as an adult. The typical participant reported a relatively high grade point average (mostly B’s). These students generally felt connected to school, found religion to be “very important” in their lives, and attended religious services routinely. Over half (56 percent) of students lived with both their father and mother and the means scores for parental closeness and parental monitoring were exceptionally high. Over one-fourth (29 percent) of the respondents had recently consumed alcohol and nearly one-fifth (18 percent) had

¹⁸ Bivariate relationships between all predictors and grade point average were approximately linear. Because none of my variables were in fact continuous—but rather ordinal variables with several categories—I opted against conducting any transformations.

recently used marijuana. This demographic profile of this sample is roughly comparable to that of Appalachian Kentucky (Miller 2008) and rural places in general (Lichter et al. 2003).

Table 3.1. Means (and Standard Deviations) of Variables Used in Analyses.

Variable	All	Males	Females
<i>Independent Variable</i>			
SEXATTRACT			
exclusively opposite-sex	.949	.952	.942
same-sex	.023	.027	.024
unsure	.028	.021	.034
<i>Dependent Variable</i>			
GPA	5.91 (1.78)	5.50 (1.87)	6.27 (1.61)
<i>Predictor Variables</i>			
<i>School</i>			
SCHOOLBELONG	3.96 (.91)	3.85 (.97)	4.06 (.83)
<i>Faith</i>			
RELIGBELIEF	3.99 (.96)	3.89 (1.01)	4.07 (.91)
RELIGBEHAVE	2.71 (.99)	2.60 (.99)	2.81 (.97)
<i>Family</i>			
CLOSEPARENT	4.72 (.61)	4.76 (.58)	4.69 (.63)
PARENTMONIT	4.41 (.67)	4.31 (.72)	4.50 (.60)
BOTHPARENT	.56	.57	.55
<i>Risk</i>			
ALCOHOL	.29	.32	.27
MARIJUANA	.18	.21	.15
LABOR	1.36 (.68)	1.45 (.75)	1.29 (.61)
<i>Controls</i>			
AGE	14.50 (.68)	14.60 (.72)	14.41 (.62)
GENDER	.53	--	--
RACE	.035	.036	.035
LOWSES	.50	.49	.51

Table 3.1. Means (and Standard Deviations) of Variables Used in Analyses (continued).

Variable	All	Males	Females
MOTHERED			
no diploma	.25	.22	.27
HS graduate	.44	.43	.44
college graduate	.20	.22	.19
don't know	.11	.13	.09
FATHERED			
no diploma	.26	.23	.28
HS graduate	.43	.45	.42
college graduate	.13	.14	.12
don't know	.18	.18	.18
N	4775	2232	2543

Source: HIV Interventions for Young, Appalachian Risk-Takers Survey (Zimmerman 2005)

Before conducting my principal analyses, I examined correlations among the variables of interest. Pearson correlations between predictors and dependent variables confirmed that the theoretically-driven covariates I had chosen were in fact significantly associated with educational outcomes.¹⁹ This reinforced the merit of subsequent multivariate analyses. By inspecting correlations among covariates I was also able to identify and remedy collinear relationships that could disrupt regression models.

I used the data to probe four questions that required several analytic tools.

- 1) *What protective and risk factors predict grade point average among rural sexual minority students?*
- 2) *To what extent do sexual minority and exclusively opposite-sex attracted rural students differ in their grade point averages?*
- 3) *How is the relationship between sexual minority status and grade point average mediated by rural social contexts (including school, family, faith, and risk)?*
- 4) *How does sexual minority status moderate the effects of these social contexts on grade point average?*

To answer question 1, I first disaggregated the data by attraction type (exclusively opposite-sex attraction, same-sex attraction, and unsure attraction). I simply needed to identify variables that predicted significantly higher grade point averages (protective factors) and variables associated with significantly lower grade point averages (risk factors). I accomplished this by constructing several ordinary least squares regression models; positive coefficients indicated protection and negative coefficients indicated

¹⁹ Covariates I had preliminarily considered for analysis (including internet usage, communication with parents about sex, and self image) that were not associated with the dependent variables were not included in my inferential models.

risk.²⁰

Question 2 required me to identify significant differences in the grade point averages between exclusively opposite-sex attracted, same-sex attracted, and unsure students. I answered the question using one-way ANOVAs with post-hoc pairwise analyses to compare means of the continuous (grade point average) variable. I also chose to isolate significant differences among control variables for the purpose of identifying potential mediators and moderators of educational outcomes. This required additional chi-square tests to check the independence of (dichotomous) variables.

For Question 3, I used a series of ordinary least squares regression models to predict (the continuous measure of) grade point average; the inclusion of a polytomous sexual attraction variable in all the models allowed me to observe differences among attraction types when controlling for social contexts. By adding a theoretically-driven sequence of blocks of independent variables to subsequent models, I was able to establish the mediating role of school, faith, family, and risk contexts using *hierarchical multiple regression analysis* (Cohen et al. 2003).

I introduced blocks sequentially from the most influential to adolescent academic outcomes to the least influential in order to capture the ecological effects of a range of environmental influences. By analyzing the change in explained variance from one model to the next, and changes in the significance of the sexual attraction variable, this strategy

²⁰ In doing so, I am treating the grade point variable as a (continuous) interval measure. In actuality, the measure—also found on Monitoring the Future and Youth Risk Behavior Surveys—is ordinal. I chose to rely on linear regression, rather than ordinal logistic or similar models, because 1) the responses categories represent an interpretable scale, and 2) linear regression was the analytic strategy employed in virtually all the studies described above that used an analogous measure. See DeSimone (2010) for a discussion of the appropriateness of linear regression on this ordinal grade point average variable.

allowed me to determine whether a given context mediates sexual minority effects.²¹

To probe how sexual attraction moderates the relationship between social contexts and grade point average (Question 4), I added interaction terms to my full models. This hierarchical regression procedure is represented in Figure 3.3.

²¹ As per Baron and Kenny (1986), mediation was inferred when an independent variable had a significant effect on the dependent variable and the mediator, and the mediator also predicted the dependent variable (see Figure 3.2).

Figure 3.2. Mediation Model

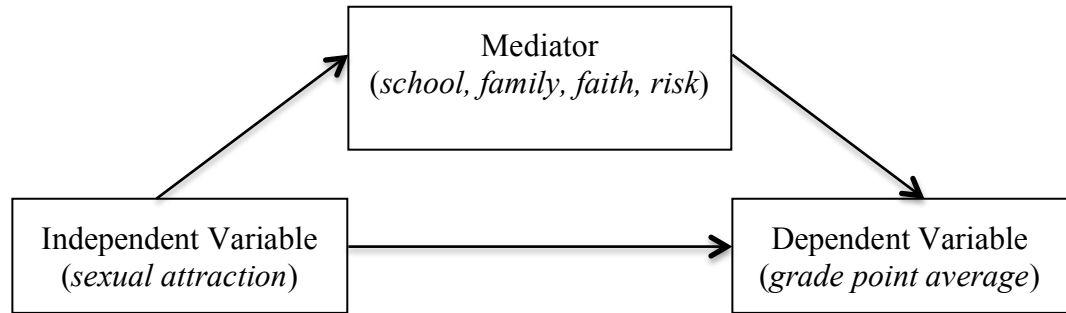


Figure 3.3. Hierarchical Regression Model

Model:	1	2	3	4	5	6
Base Model: Sexual Minority Status	X	X	X	X	X	X
School		X	X	X	X	X
Family			X	X	X	X
Faith				X	X	X
Risk					X	X
Interactions (SEXMINORITY*d.v.)						X
Controls	X	X	X	X	X	X

Hypotheses

An ecological systems model of schooling posits that educational outcomes are influenced by every context in which a student is situated. In this study, I am interested in the roles of three contexts crucial to rural communities: school, family, and faith. However, previous scholars have illustrated how these contexts harm the psychosocial well being of LGBTQ youth, prompting uncertainty about the experiences of sexual minority adolescents in rural places.

Considering the importance of school, family, and faith contexts in rural communities (Ammerman 1997; Bahr and Chadwick 1985; Boswell 1980; Chan and Elder 2009; Elder, King, and Conger 1996; King, Elder, and Whitbeck 1997), I expect these domains to serve significant protective roles on the grade point averages of students from all sexual attraction groups and genders (Question 1). In other words, I hypothesize that rural school, faith, and family contexts are assets to same-sex attracted and unsure students, just as they are to exclusively opposite-sex attracted students. At the same time, as has been documented extensively in previous studies (Pearson et al. 2008; Russell et al. 2001; Wilkinson and Pearson 2009), I also expect the sexual minority respondents to have significantly lower grade point averages than their heterosexual peers (Question 2), given their marginalized social status.

Should sexuality-based disparities in grade point average exist, I expect those differences to be mediated by discrepant experiences in the social contexts of interest (Question 3). My holistic theoretical model presumes that relatively high levels of school victimization (Kosciw et al. 2010), familial rejection (Busseri et al. 2008; Ueno 2005; Williams et al. 2005), and religious detachment (Rostoky et al. 2008) experienced by

sexual minorities will largely explain differences in educational outcomes. Finally, I expect the interactions between sexual attraction and social contexts to be positive and significant. Because sexual minority young people in Appalachian Kentucky lack access to formal LGBTQ social services (Gray 2009), I hypothesize that strong school, faith, and family attachments will benefit sexual minority students to a greater extent than they benefit their heterosexually-attracted peers.

CHAPTER FOUR: FINDINGS

Question 1: Risk and Protective Factors by Gender and Attraction Type

My initial task was to identify risk and protective roles of social contexts on the grade point averages of sexual minority youth. I did this by constructing several ordinary least squares regression models that predicted grade point average by gender and attraction type. Positive regression coefficients in these models, displayed in Table 4.1, protect adolescents against poor educational outcomes while negative coefficients indicate risk factors. In these tables I display both the coefficients (B) from my linear equations and the standardized coefficients (β) that allow for comparisons of magnitude among variables in a given model.

Among males (Table 4.1a), the school belonging variable was protective (at $p < .05$) among exclusively opposite-sex attracted and unsure students, but was not significant for same-sex attracted students. In fact, the standardized coefficient on this variable was larger than any other coefficient for both opposite-sex attracted and unsure students. Family variables did not provide protection for either same-sex attracted or unsure students, although parent monitoring and household structure did predict grade point average among exclusively opposite-sex attracted youth. Religious behavior was a significant protective factor for opposite-sex attracted respondents, but religious belief was actually a risk factor—with a very large standardized coefficient—for same-sex attracted males. The faith domain did not predict academic success for unsure males.

The risk variables presented interesting results among males. For exclusively opposite-sex attracted students, labor market pessimism put students at risk of low grade point averages. Furthermore, recent alcohol and marijuana use were risk factors among

opposite-sex attracted students. Among same-sex attracted students, though, recent marijuana use was actually a protective factor.

Table 4.1a. Regression Coefficients Predicting Grade Point Average for Males by Attraction Type

	Exclusively Opposite-Sex (N= 2125)		Same-Sex (N = 61)		Unsure (N = 46)	
	B	B	B	β	B	β
<i>Potential Protective Factors</i>						
<i>School</i>						
SCHOOLBELONG	.283*** (.039)	.147	.344 (.240)	.200	.722* (.279)	.496
<i>Family</i>						
CLOSEPARENT	-.018 (.062)	-.006	.013 (.392)	.005	.327 (.360)	.171
PARENTMONITOR	.166** (.056)	.064	.540 (.391)	.224	-.229 (.507)	-.116
BOTHPARENT	.302*** (.071)	.080	.769 (.523)	.197	-.306 (.694)	-.081
<i>Faith</i>						
RELIGBELIEF	.045 (.040)	.024	-.568* (.244)	-.339	.060 (.386)	.037
RELIGBEHAVE	.083* (.040)	.044	.243 (.260)	.116	-.134 (.326)	-.075
<i>Potential Risk Factors</i>						
LABOR	-.410*** (.051)	-.159	.239 (.250)	.133	-.016 (.318)	-.010
ALCOHOL	-.314*** (.084)	-.079	-1.016 (.635)	-.230	-1.486 (.886)	-.385
MARIJUANA	-.248** (.096)	-.054	1.348* (.581)	.312	.394 (.862)	.097

Table 4.1a. Regression Coefficients Predicting Grade Point Average for Males by Attraction Type (continued)

<i>Controls</i>						
AGE	-.350*** (.048)	-.135	-.179 (.303)	-.074	-.267 (.412)	-.102
RACE	-.269 (.183)	-.027	-2.229 (1.318)	-.249	-1.601 (1.577)	-.184
LOWSES	-.291*** (.073)	-.078	-.993 (.564)	-.250	-.846 (.574)	-.219
MOTHERED ^a						
no diploma	-.529*** (.094)	-.116	-.387 (.622)	-.096	.204 (.742)	.047
college graduate	.255** (.093)	.057	-.824 (.750)	-.157	-.133 (.756)	-.030
don't know	-.650*** (.124)	-.116	.619 (.826)	.102	-.404 (-.883)	-.094
FATHERED ^a						
no diploma	-.349*** (.090)	-.079	-1.567* (.599)	-.355	-.346 (.727)	-.089
college graduate	.439*** (.108)	.082	.083 (.869)	.014	-1.305 (1.337)	-.150
don't know	-.064 (.111)	-.013	-1.374* (.675)	-.312	.771 (.838)	.200
R-squared	.318		.498		.541	
F	54.458***		2.313*		1.769	

Source: HIV Interventions for Young, Appalachian Risk-Takers Survey (Zimmerman 2005)

a: high school diploma is the reference category.

Note: Standard errors in parenthesis.

Note: * $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 4.1b. Regression Coefficients Predicting Grade Point Average for Females by Attraction Type

	Exclusively Opposite-Sex (N= 2396)		Same-Sex (N = 61)		Unsure (N = 86)	
	B	β	B	β	B	β
<i>Potential Protective Factors</i>						
<i>School</i>						
SCHOOLBELONG	.200*** (.038)	.103	.138 (.234)	.082	.141 (.204)	.074
<i>Family</i>						
CLOSEPARENT	-.071 (.050)	-.027	.272 (.277)	.135	-.055 (.217)	-.026
PARENTMONITOR	.099 (.056)	.037	.063 (.416)	.023	-.722* (.350)	-.215
BOTHPARENT	.233*** (.060)	.073	-.568 (.579)	-.139	.525 (.358)	.151
<i>Faith</i>						
RELIGBELIEF	.057 (.038)	.032	-.346 (.245)	-.196	.176 (.220)	.086
RELIGBEHAVE	.056 (.035)	.034	.557 ⁺ (.286)	.307	.089 (.185)	.052
<i>Potential Risk Factors</i>						
LABOR	-.630*** (.051)	-.230	-.031 (.336)	-.016	-.750*** (.213)	-.386
ALCOHOL	-.080 (.072)	-.023	-.815 (.551)	-.204	-.038 (.607)	-.007
MARIJUANA	-.442*** (.091)	-.099	-1.356* (.543)	-.337	-1.126 (.721)	-.181

Table 4.1b. Regression Coefficients Predicting Grade Point Average for Females by Attraction Type (continued)

<i>Controls</i>						
AGE	-.303*** (.047)	-.117	.236 (.366)	.108	-.314 (.259)	-.125
RACE	.067 (.156)	.008	-1.103 (1.096)	-.186	-.728 (1.156)	-.065
LOWSES	-.191** (.061)	-.060	-.374 (.633)	-.093	.095 (.356)	.025
MOTHERED ^a						
no diploma	-.301*** (.072)	-.084	-.220 (.661)	-.051	.073 (.458)	.021
college graduate	.130 (.083)	.032	.653 (.631)	.140	.154 (.589)	.032
don't know	-.367*** (.114)	-.067	-.067 (2.204)	-.004	-.528 (.524)	-.127
FATHERED ^a						
no diploma	-.289*** (.073)	-.082	-.200 (.767)	-.043	.450 (.429)	.118
college graduate	.274** (.098)	.056	.119 (.698)	.023	.593 (.651)	.096
don't know	-.291** (.092)	-.070	-.627 (.772)	-.135	.160 (.439)	.045
R-squared	.270		.253		.531	
F	50.136***		2.130*		4.206***	

Source: HIV Interventions for Young, Appalachian Risk-Takers Survey (Zimmerman 2005)

a: high school diploma is the reference category.

Note: Standard errors in parenthesis.

Note: + $p < .1$, * $p < .05$, ** $p < .01$, and *** $p < .001$.

The results for females are displayed in Table 4.1b. School belonging played a protective role on grade point average only among exclusively opposite-sex attracted females. The responses from same-sex attracted and unsure females did not exhibit a significant relationship between school belonging and academic performance. Variables in the family domain were not significant for same-sex attracted girls, but living with both parents did predict higher grade point averages among exclusively opposite-sex attracted females. Notably, an elevated level of parental monitoring among unsure girls was a risk factor for academic performance such that more monitoring was associated with lower grade point average.

Religiosity did not play a significant role in the educational outcomes of the female participants who were exclusively opposite-sex attracted or unsure of their attractions. Although not significant at the $p < .05$ level, the protective role of religious behavior among same-sex attracted females merits acknowledgement. Same-sex attracted girls who attended religious services more frequently had higher grade point averages than their less religiously active peers. The alpha level for this variable was .058, indicating a very low likelihood that this result is attributable to chance.

In terms of risk behaviors, marijuana use was a significant risk factor among exclusively opposite-sex attracted girls and same-sex attracted girls; recent marijuana use was associated with lower grade point averages. Labor market pessimism was associated with lower grade point averages among both opposite-sex attracted and unsure girls.

Question 2: Attraction Type Group Differences by Gender

My next analytic task was to determine the extent to which sexual minority students differed from exclusively opposite-sex attracted students in their grade point

averages. I also examined differences in the potential risk factors and protective factors in order to highlight possible mediators in the relationship between sexual attraction and grade point average. To do this, I conducted one-way ANOVAs on nominal and continuous variables and Pearson chi-square tests on categorical measures. To draw comparisons between each pair of attraction type groups (exclusively opposite-sex vs. same-sex, exclusively opposite-sex vs. unsure, same-sex vs. unsure) I used a Games-Howell post-hoc test. Games-Howell produced pairwise tests of mean differences that corrected for unequal between-group variances that were evidenced by a significant Levene test statistic.

The frequency distributions of grade point averages by gender and attraction type are displayed in Figure 4.1. These boxplots show that females tend to have higher grade point averages than males; the highest and lowest achieving females outperform males at corresponding positions in the distribution. Among males, there is parity between the highest achieving exclusively opposite-sex attracted and same-sex attracted students. Relatively few unsure males, though, reported academic performance at the highest levels. A quarter of exclusively opposite-sex attracted females reported mostly A's and half reported grades of A's and B's. The median grade reported by same-sex attracted females was mostly B's and the median for unsure students was about half B's and C's.

Significant between-group differences are illustrated in Table 4.2. The most striking finding is that very few significant differences exist between opposite-sex attracted, same-sex attracted, and unsure males, while many subgroup differences are significant among females. Among males, the only significant differences between subgroups were on the grade point average and household structure variables. Males

unsure of their attraction were less likely than opposite-sex and same-sex attracted students to live with two parents. The mean grade point average for both same-sex attracted and unsure students was significantly lower than the mean for their exclusively opposite-sex attracted peers.²² This disparity in grade point average is the subject of subsequent analyses. The insignificance of differences in other variables might be attributable to small subgroup sample sizes or interpreted as relatively similar school, faith, and family experiences among rural males of all attraction types.

Among females, exclusively opposite-sex attracted students reported significantly higher grade point averages than unsure students. Same-sex attracted and unsure females generally scored lower than opposite-sex attracted females on potential protective factors. The levels of school belonging, religious belief, parental closeness, and parental monitoring were all significantly higher among opposite-sex attracted students. Furthermore, opposite-sex attracted females were more likely to live with two parents and less likely to use alcohol or marijuana than same-sex attracted and unsure females.

²² Though not represented in Table 2, the F-statistic was significant at the .05 level in ANOVAs conducted for school belonging, parental closeness, parental monitoring, age, and labor market pessimism, but the pairwise tests were not.

Figure 4.1. Distribution of Grade Point Average by Gender and Attraction Type.

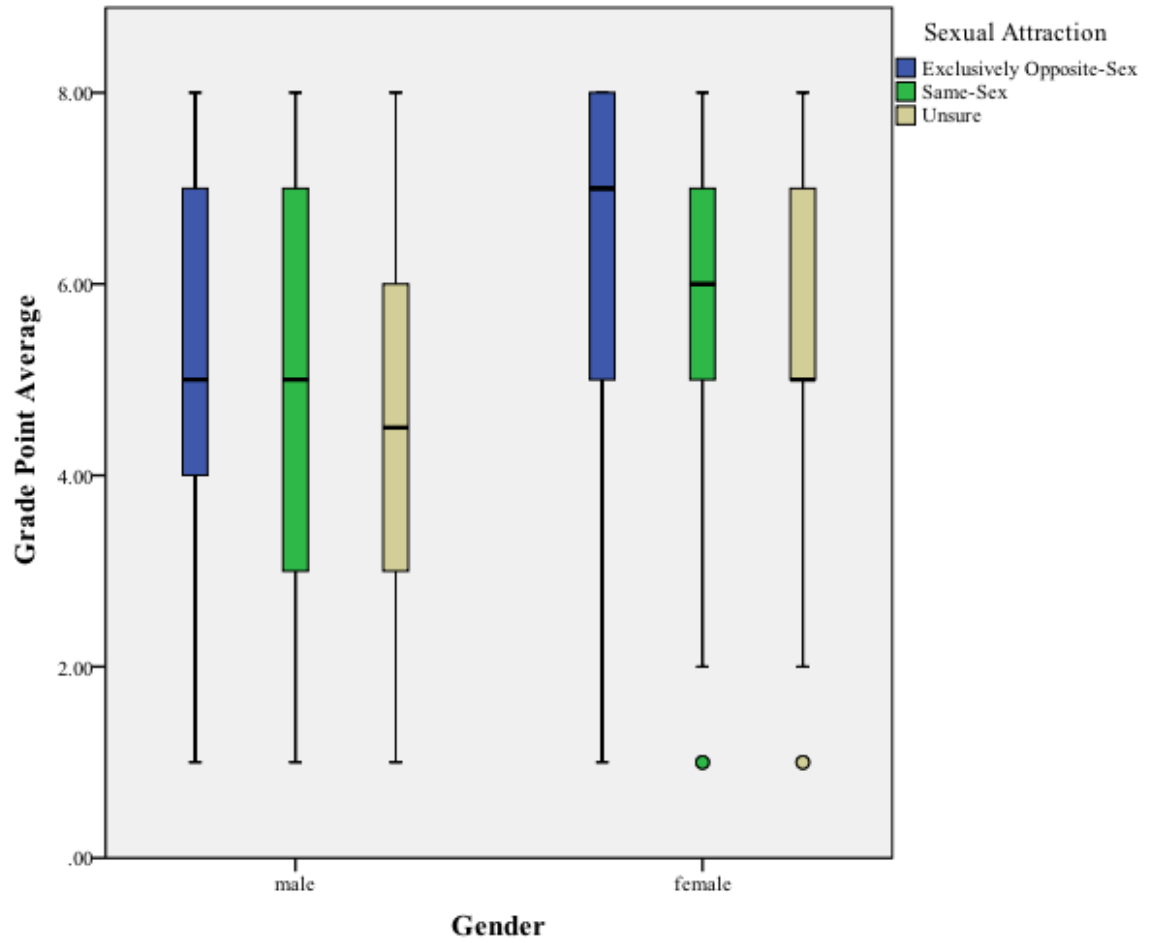


Table 4.2. Mean Differences (and Standard Deviations) Between Attraction Type Groups on Variables Used in Analysis by Gender

Variable	Males				Females			
	Exclusively Opposite- Sex Attraction (O) (N=2125)	Same-Sex Attraction (S) (N=61)	Unsure (U) (N=46)	Differences	Exclusively Opposite- Sex Attraction (O) (N=2396)	Same-Sex Attraction (S) (N=61)	Unsure (U) (N=86)	Differences
<i>Dependent Variables</i>								
GPA ^a	5.54 (1.86)	4.75 (1.95)	4.54 (1.80)	O>S** O>U**	6.32 (1.58)	5.70 (2.02)	5.52 (1.71)	O>U***
<i>Potential Protective Factors</i>								
<i>School</i>								
SCHOOLBELONG ^a	3.87 (.96)	3.59 (1.14)	3.65 (1.24)		4.08 (.81)	3.39 (1.20)	4.06 (.90)	O>S*** S<U**
<i>Faith</i>								
RELIGBELIEF ^a	3.90 (1.00)	3.75 (1.17)	3.86 (1.09)		4.08 (.90)	3.28 (1.20)	4.16 (.83)	O>S*** S<U***
RELIGBEHAVE ^a	2.60 (.99)	2.61 (.93)	2.33 (1.01)		2.83 (.97)	2.52 (1.11)	2.80 (.99)	

Table 4.2. Mean Differences (and Standard Deviations) Between Attraction Type Groups on Variables Used in Analysis by Gender (continued)

<i>Family</i>								
CLOSEPARENT ^a	4.77 (.57)	4.67 (.72)	4.49 (.94)		4.70 (.60)	4.27 (1.01)	4.60 (.81)	O>S**
PARENTMONITOR ^a	4.31 (.72)	4.08 (.81)	4.54 (.71)		4.51 (.60)	4.10 (.72)	4.69 (.51)	O>S*** O<U* S<U***
BOTHPARENT ^b	.57	.56	.37	O>U*** S>U*	.55	.39	.40	O>S* O>U**
<i>Potential Risk Factors</i>								
AGE ^a	14.59 (.72)	14.75 (.81)	14.80 (.69)		14.40 (.61)	14.69 (.92)	14.56 (.68)	O<S*
LABOR ^a	1.43 (.72)	1.75 (1.09)	1.67 (1.12)		1.27 (.58)	1.59 (1.07)	1.51 (.88)	O<U*
ALCOHOL ^b	.32	.26	.30		.27	.49	.10	O<S*** O<U*** S>U***
MARIJUANA ^b	.21	.29	.26		.15	.46	.08	O<S*** S>U***

Source: HIV Interventions for Young, Appalachian Risk-Takers Survey (Zimmerman 2005)

a: one-way ANOVA with Games-Howell post-hoc test.

b: pairwise chi-square test.

Note: * $p < .05$, ** $p < .01$, and *** $p < .001$.

Question 3: Mediators of the Relationship Between Sexual Minority Status and Grade Point Average.

Next, I identified social factors that mediate the relationship between sexual minority status and grade point average. In other words, I analyzed the extent to which the attraction-based differences in grade point average are explained by contextual variables. To isolate mediators, I employed Baron and Kenny's (1986) analytic technique of examining the direct relationship between the independent and dependent variables, the relationship between a control and dependent variable, and the relationship between the independent and dependent variables when controlling for the potential mediator.

The results of these analyses are displayed in Table 4.3. Among same-sex attracted males (Table 4.3a), the initial level of significance between same-sex attraction and grade point average in the base model disappears when school belonging is controlled for. This suggests school belonging is a mediator of grade point average for same-sex attracted males. While family, faith, and risk factors did not influence the relationship between same-sex attraction and grade point average, the level of significance increased when interaction effects were included in the model. For males unsure of their attraction, the base model showed a significant negative relationship between attraction and grade point average. The relationship persisted when school, family, and faith influences were added to the model. When risk factors were introduced as controls the level of significance decreased, thus risk behaviors mediate grade point average for unsure males.

Similar mediators were apparent among females (Table 4.3b). The relationship between attraction type and grade point average was significant in base models for both

same-sex attracted and unsure female students. For same-sex attracted females the significance of the relationship disappeared when controlling for school belonging. The same-sex attraction effect reappeared in the interaction model. Among unsure students, the initial level of significance increased when family effects were introduced into the model. The significance subsequently decreased when risk behaviors were introduced and disappeared altogether in the interaction model.

Table 4.3a. Regression Coefficients Predicting Grade Point Average for Males

	Model 1 (base)	Model 2 (school)	Model 3 (family)	Model 4 (faith)	Model 5 (risk)	Model 6 (interactions)
SEXATTRACT^a						
same-sex attraction	-.492* (.219)	-.387 (.210)	-.353 (.207)	-.372 (.206)	-.340 (.203)	-1.077** (.386)
unsure	-.596* (.251)	-.534* (.241)	-.476* (.238)	-.472* (.237)	-.447 (.233)	-.302 (.386)
Potential Protective Factors						
<i>School</i>						
SCHOOLBELONG		.493*** (.036)	.400*** (.037)	.378*** (.038)	.295*** (.038)	.282*** (.039)
<i>Family</i>						
CLOSEPARENT			.034 (.060)	.015 (.061)	-.017 (.060)	-.017 (.063)
PARENTMONITOR			.354*** (.051)	.315*** (.052)	.170** (.054)	.165** (.056)
BOTHPARENT			.345*** (.071)	.319*** (.071)	.292*** (.070)	.297*** (.072)
<i>Faith</i>						
RELIGBELIEF				.050 (.040)	.024 (.039)	.043 (.041)
RELIGBEHAVE				.122** (.040)	.098* (.039)	.086* (.040)
<i>Risk</i>						
LABOR					-.363*** (.049)	-.409*** (.052)
ALCOHOL					-.338*** (.083)	-.315*** (.084)
MARIJUANA					-.229* (.094)	-.245* (.096)

Table 4.3a. Regression Coefficients Predicting Grade Point Average for Males (continued).

<i>Interactions</i>						
SAME x RELIGBELIEF						-.545* (.221)
SAME x MARIJUANA						1.180* (.524)
<i>Controls</i>						
AGE	-.506** (.050)	-.462*** (.048)	-.404*** (.048)	-.391*** (.048)	-.352*** (.047)	-.351*** (.048)
RACE	-.514** (.192)	-.437* (.185)	-.358* (.182)	-.370* (.181)	-.340 ⁺ (.178)	-.353* (.179)
LOWSES	-.517*** (.077)	-.441*** (.074)	-.369*** (.073)	-.353*** (.073)	-.325*** (.072)	-.324*** (.072)
MOTHERED ^b						
no diploma	-.569*** (.099)	-.549*** (.095)	-.528*** (.093)	-.516*** (.093)	-.487*** (.091)	-.496*** (.092)
college graduate	.257** (.099)	.259** (.095)	.247** (.093)	.227* (.093)	.231* (.092)	.216* (.092)
don't know	-.576*** (.130)	-.547*** (.125)	-.595*** (.123)	-.575*** (.123)	-.605*** (.121)	-.088 (.108)
FATHERED ^b						
no diploma	-.465*** (.096)	-.422*** (.092)	-.423*** (.090)	-.408*** (.090)	-.374*** (.088)	-.375*** (.089)
college graduate	.500*** (.116)	.499*** (.111)	.504*** (.109)	.476*** (.109)	.433*** (.107)	.434*** (.107)
don't know	-.324** (.115)	-.238* (.110)	-.116 (.110)	-.109 (.110)	-.096 (.108)	-.088 (.108)

Table 4.3a. Regression Coefficients Predicting Grade Point Average for Males (continued).

R-square	.196	.260	.286	.292	.319	.326
R-square change		.064	.026	.006	.027	.008
F	49.254***	65.129***	59.251***	53.667***	51.696***	26.523***
F change		192.928***	26.693***	8.695***	28.991***	1.239

Source: HIV Interventions for Young, Appalachian Risk-Takers Survey (Zimmerman 2005)

Note: Standard errors in parenthesis.

a: *exclusively opposite-sex* is the reference category.

b: *high school diploma* is the reference category.

Note: * $p < .05$, ** $p < .01$, and *** $p < .001$.

Table 4.3b. Regression Coefficients Predicting Grade Point Average for Females

	Model 1 (base)	Model 2 (school)	Model 3 (family)	Model 4 (faith)	Model 5 (risk)	Model 6 (interactions)
SEXATTRACT^a						
same-sex attraction	-.509** (.194)	-.246 (.190)	-.159 (.189)	-.109 (.189)	.047 (.182)	.770* (.378)
unsure	-.441** (.164)	-.470** (.160)	-.508*** (.159)	-.521*** (.158)	-.438** (.152)	-.259 (.251)
Potential Protective Factors						
<i>School</i>						
SCHOOLBELONG		.401*** (.035)	.320*** (.037)	.303*** (.037)	.197*** (.036)	.201*** (.038)
<i>Family</i>						
CLOSEPARENT			.010 (.048)	-.012 (.049)	-.053 (.047)	-.069 (.050)
PARENTMONITOR			.284*** (.053)	.228*** (.053)	.073 (.054)	.099 (.056)
BOTHPARENT			.312*** (.061)	.286*** (.060)	.237*** (.058)	.231*** (.060)
<i>Faith</i>						
RELIGBELIEF				.082* (.038)	.049 (.037)	.057 (.038)
RELIGBEHAVE				.118*** (.035)	.074* (.034)	.057 (.035)
<i>Risk</i>						
LABOR					-.608*** (.048)	-.631*** (.051)
ALCOHOL					-.090 (.070)	-.079 (.072)
MARIJUANA					-.506*** (.089)	-.443*** (.092)

Table 4.3b. Regression Coefficients Predicting Grade Point Average for Females (continued).

FATHERED ^b						
no diploma	-.309*** (.077)	-.285*** (.075)	-.300*** (.074)	-.272*** (.074)	-.269*** (.071)	-.274*** (.071)
college graduate	.358*** (.103)	.331*** (.101)	.303** (.100)	.285** (.099)	.264** (.096)	.283** (.096)
don't know	-.441*** (.094)	-.396*** (.092)	-.303*** (.092)	-.271** (.092)	-.281** (.088)	-.279** (.089)
R-square	.156	.196	.216	.226	.285	.296
R-square change		.041	.020	.009	.059	.012
F	42.385***	51.544***	46.531***	43.247***	50.173***	26.322***
F change		128.762***	21.472***	14.805***	69.481***	2.052**

Source: HIV Interventions for Young, Appalachian Risk-Takers Survey (Zimmerman 2005)

Note: Standard errors in parenthesis.

a: *exclusively opposite-sex* is the reference category.

b: *high school diploma* is the reference category.

Note: * $p < .05$, ** $p < .01$, and *** $p < .001$.

Question 4: Moderators of the Relationship Between Sexual Minority Status and Grade Point Average.

My final analytic task was to identify variables that moderated the relationship between sexual minority status and grade point average. I did this by examining interactions between social context and sexual attraction variables (Table 4.3, Model 6). My continuous measures were mean centered in these models to limit collinearity. Furthermore, I recognize that the addition of terms and degrees of freedom, and the corresponding reduction in power, make detection of significant interactions difficult (Cohen et al. 2003)

For same-sex attracted males, both marijuana use and religious belief were significant moderators. The interaction between same-sex attraction and marijuana use was positive while the interaction between same-sex attraction and religious belief was negative.

A number of moderators were significant in the female model. Significant interactions between same-sex attraction and marijuana use, labor market pessimism, and religious belief were all negative. The interaction between same-sex attraction and religious behavior was significant and positive. The only variable that (negatively) moderated grade point average for females unsure of their attraction was parental monitoring.

CHAPTER FIVE: DISCUSSION

In this chapter I highlight the contributions of the current project to the empirical study of queer and rural young people and to the human ecological theoretical model of adolescence. I conclude by discussing study limitations and implications for researchers and practitioners.

Empirical Contributions

The descriptive analyses in this study illuminated several uninvestigated dimensions of rural queer adolescents. The similarities—as well as the differences—between same-sex attracted, opposite-sex attracted, and unsure students, as well as the generally positive responses from rural sexual minorities, are important contributions of this work. The descriptive statistics tell us that, contrary to popular narratives, the typical rural (Appalachian) sexual minority student feels happy, safe, and attached to school; finds religion very important and is actively involved in religious activities; feels very close to at least one parent; and is optimistic about securing employment as an adult. Granted, these social outcomes for sexual minority students were generally poorer than what was reported by heterosexual students, but they represent a strong foundation from which to engage in asset-based research “that focuses on understanding the ways in which LGBT youth negotiate their development within various social contexts” (Horn et al. 2009:863).

Unlike the sole existing quantitative study of rural gay young people (Rostosky et al. 2003), my analyses accounted for differential experiences based on gender and type of attraction (per the advice of Kosciw et al. 2009 and others). Very few statistical claims of difference between sexual minority and straight males can be made from these data. The

gaps between sexual minority and exclusively opposite-sex attracted males in levels of school belonging, religious belief and behavior, parental monitoring, and labor market pessimism are statistically indistinguishable from zero. This does not necessarily mean that differences between sexual minority and heterosexual students on these variables don't exist within entire population of young males in Appalachian Kentucky, but rather that we cannot draw such a conclusion from the data we have at hand. Nonetheless, sexual minority boys are not as different from their peers on these measures as I had expected.

Sexual minority females were significantly different from their exclusively opposite-sex attracted peers on a number of variables. The most dramatic difference was the elevated levels of alcohol and marijuana use by same-sex attracted females as compared to unsure and opposite-sex attracted females. Same-sex attracted girls were also significantly less likely to feel a sense of belonging at school, to find religion important, or to have a strong relationship with a parent. The gendered patterns described here are entirely consistent with the work of Russell et al. (2001) and Pearson et al. (2007) with regard to school belonging, familial ties, and religion. Sexual minority females in most population-based studies have reported relationship stresses with parents, highlighting a potentially untapped asset in female family support.

Of course, educational outcomes were the primary focus of this study; as hypothesized, there were indeed statistically significant differences in the grade point averages of sexual minority and opposite-sex attracted students. The well-established gay-straight academic achievement gap documented among the general population of adolescents (Russell et al. 2001; Pearson et al. 2007; Wilkinson and Pearson 2009)

appears to be present in rural locales. Additionally, the pattern of higher achievement by females versus males mirrors the findings found in much of the rural education literature. Presumably the overrepresentation of female-oriented professional work (that requires academic credentials) in rural communities (e.g., teachers and nurses) contributes to this gender disparity.

My overarching objective, though, was not simply to identify the academic deficiencies of rural gay youth, but to understand how the social characteristics of rural communities—particularly those in the faith, family, and school domains—influence the academic performance of students of all attraction types. Because previous scholars had documented the protective role of faith, family, and schooling on the educational outcomes of rural students, I expected those domains to have positive effects on the grade point averages of sexual minority students. This was only true in a limited number of cases.

For males unsure of their attraction, sense of school belonging was strongly associated with higher grade point averages when controlling for other variables in multivariate analysis. The protective role of school contexts for unsure males should be encouraging to those who wish to close attraction-based gaps in achievement. While school belonging also served a protective function for exclusively opposite-sex attracted males, same-sex attracted males experienced no significant academic benefit from feeling safe and connected to school. My human ecological hypothesis—grounded firmly in existing rural and queer literatures—did not hold true for same-sex attracted males. In fact, no social context variable played a protective role on the grade point averages of sexual minority males in the study.

While religiosity tends to be associated with better educational outcomes for (rural) students in general (Milot and Ludden 2009), the opposite was true among the sexual minority males here. Same-sex attracted males who reported higher levels of religious belief actually had significantly lower grade point averages. Participation in religious activities, on the other hand, contributed to higher grade point averages for heterosexual students. This suggests that rural faith communities are only developmental assets to particular segments of the adolescent population. The differential impact of religion on school-based outcomes had not been evident in previous rural sociological studies that did not disaggregate by sexuality.

Similarly, family contexts had a significant positive influence on the grade point averages of opposite-sex attracted males, but were insignificant for sexual minority students. Though contrary to the rural sociological literature that emphasizes tight-knit rural families and intergenerational rural family ties, this finding reinforces LGBTQ research that has documented familial stress in households with gay adolescents.

One of the most fascinating findings was the protective role afforded by marijuana for same-sex attracted young men. Unlike students of any other attraction type, the recent use of marijuana was associated with higher grade point averages for same-sex attracted males. This finding is a departure from the vast majority of adolescent research. Perhaps the use of marijuana acts as a coping strategy for rural gay male students in response to challenges and stressors in other contexts. Certainly, the use of marijuana as a coping strategy is firmly established in the literature, but its efficacy in enhancing academic performance among youth has not been documented before.

No social context had a protective role on grade point average among sexual minority females; once again, my human ecological hypothesis did not hold. While school belonging and household structure both contributed to positive academic outcomes for heterosexually-attracted females, neither variable did so for sexual minorities. The only significant (at $p < .05$) predictor of grade point average for same-sex attracted females was marijuana use. In sharp contrast to same-sex attracted males, and consistent with previous literature, recent marijuana use among same-sex attracted females was associated with significantly lower academic outcomes. Though only marginally significant ($p < .1$), there is some evidence that attendance at religious services and youth activities contributes to academic success for same-sex attracted females. This is not true for females of other attraction types; participation in a religious community may be a uniquely important asset in the lives of young same-sex attracted women.

Higher levels of parental monitoring and labor market pessimism were associated with poor academic performance for females unsure of their attraction. As discussed above, strained relationships between sexual minority girls and their parents is a common theme in the LGBTQ youth literature. While previous studies primarily addressed same-sex attracted and bisexual attracted students, the data in the present study show that weak parental ties pose an even greater risk to females unsure of their attraction. The findings also tell us that the consequences of poor family relationships for unsure females extend beyond the home and into school-based outcomes.

No one, to my knowledge, has looked closely at factors that mediate and moderate the relationship between sexual attraction and grade point average in rural locales. I expected for the variation in grade point average between sexual minority

students and opposite-sex attracted students to be explained largely by differences in how rural gay and straight students experience their social worlds. In other words, my presumption was that sexual minority status itself is not responsible for depressed academic outcomes, but rather weak ties with school, faith, and family institutions, which in turn contribute to low grade point averages. This appeared to be true for almost every sexual minority subgroup in the study.

When not controlling for any social contexts, same-sex attracted males had significantly lower grade point averages than exclusively opposite-sex attracted males. That relationship became insignificant (to $p > .05$) when I considered school belonging. When I took into account school belonging scores, attraction data no longer had any explanatory power, so same-sex attraction itself is not an academic risk factor for males. The disproportionately low levels of school engagement reported by same-sex attracted males subsequently predict lower grade point averages. The mediating role of school belonging exhibited here suggests that the gay-straight achievement gap among males can be attributed to weak attachments to school environments experienced by sexual minority youth. This is largely consistent with the previous literature on school-based outcomes of sexual minority males and it also supports the human ecological notion that school contexts—and rural schools in particular—greatly influence educational outcomes.

The case of males unsure of their attraction is a bit different. The grade point average gap between those students and exclusively opposite-sex attracted students persists when controlling for school, family, and faith contexts. Contrary to my expectations, social contexts do not account for the differences in grade point averages

for unsure males. It is only when I control for risk factors that the unsure attraction variable loses its significance. For males unsure of their attraction, alcohol use, marijuana use, and/or labor market pessimism explains their depressed levels of academic achievement.

The mediation patterns among females largely mirror the patterns of males. Significant differences in the grade point averages of same-sex and exclusively opposite-sex attracted females disappeared when school belonging is accounted for. The coefficient on the same-sex attraction variable decreased almost to zero as other social contexts were entered into the model. Same-sex attraction is not an academic risk factor among females per se; as hypothesized, differential levels of school attachment explain the variation in grade point average.

The gap in grade point averages between females unsure of their attraction and opposite-sex attracted females was not mediated by any of the social contexts of interest. Although some partial mediation was apparent in family and risk models, ultimately the grade point average gap persisted. There are a few possible explanations for this finding. First, it could be that uncertainty of romantic attraction is itself a mechanism for lower grade point averages among girls. A direct link between sexual attraction and grade point average seems unlikely, though, so an alternative explanation is that the academic experiences of unsure girls are influenced more directly by individual- and institutional-level factors that are not accounted for in my models.

A number of significant interactions between sexual attraction and social contexts illustrated the heterogeneity of sexual minority experiences. In several cases, the relationship between social context and grade point average varied in strength and

direction depending on attraction type. My hypothesis was that significant interactions in school, faith, and family contexts would be positive because, in the absence of formal LGBTQ social services in rural Kentucky, these domains would offer heightened levels of support to sexual minority students. This was not always the case.

Significant interactions among males were only evident for same-sex attracted respondents; there was no moderation found among males unsure of their attraction. Figure 5.1 illustrates how religious belief moderates the relationship between sexual attraction and grade point average. Contrary to my expectations, the interaction between same-sex attraction and religious belief was negative. Among the least religious males, same-sex attracted students reported the highest grade point averages. As religiosity increased, the mean grade point averages of opposite-sex attracted and unsure males increased, but the opposite occurred for same-sex attracted males. The gay-straight achievement gap actually widens as students reported higher levels of religious importance. This finding gives credence to the notion that rural faith traditions (potentially hostile towards gay men) disproportionately harm the psychosocial well-being of gay men.

A surprising behavior that narrows the gap between same-sex and exclusively opposite-sex attracted males is marijuana use. Figure 5.2 shows that among non-users, same-sex attracted boys have on average the lowest grade point average. However, same-sex attracted boys have the highest grade point average among users. While the mean grade point average of other students is higher for non-users than users, marijuana use increased the mean grade point average of same-sex attracted males. This finding is incompatible with virtually all existing adolescent research, but the effect is incredibly

strong and not likely attributable to chance. My informed reading of this phenomenon is that same-sex attracted males effectively use marijuana as a coping mechanism against stresses in other social domains; the use of marijuana ameliorates the risks associated with other contexts. The diversity of experiences with respect to sexual attraction and marijuana use was not evident in statistical models that did not control for interaction effects. The absence of moderated analysis is perhaps the reason why previous studies of the general population have not found a similar effect.

FIGURE 5.1. INTERACTION BETWEEN SEXUAL ATTRACTION AND RELIGIOUS BELIEF ON GRADE POINT AVERAGE AMONG MALES.

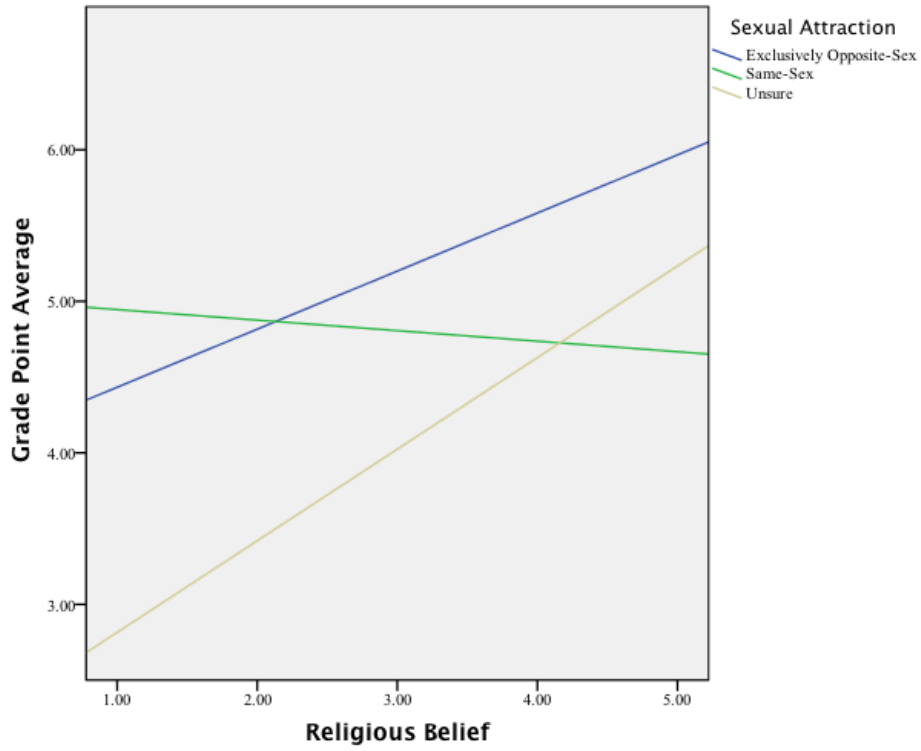
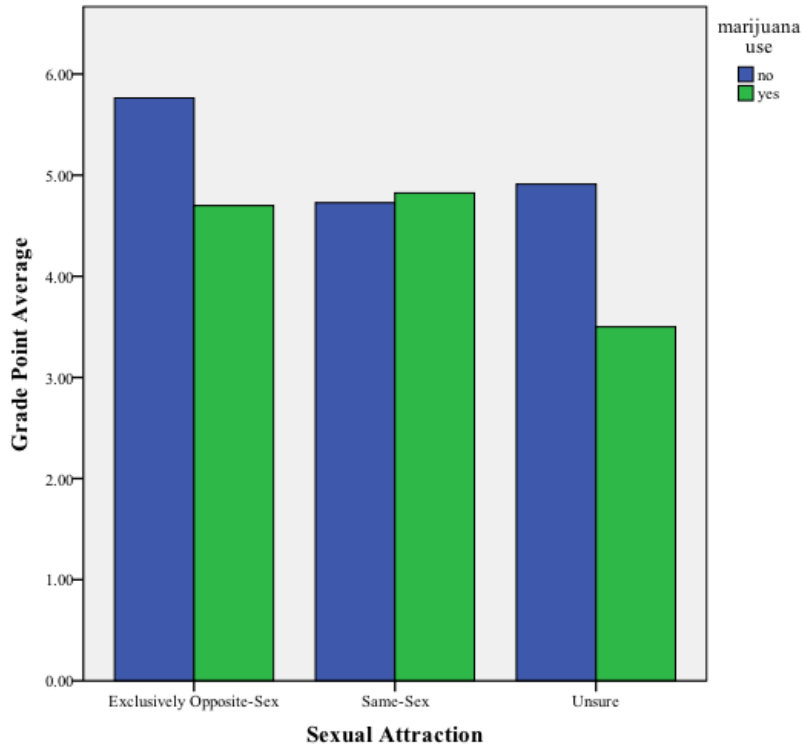


FIGURE 5.2. INTERACTION BETWEEN SEXUAL ATTRACTION AND MARIJUANA USE ON GRADE POINT AVERAGE AMONG MALES.



A number of variables moderated the relationship between sexual attraction and grade point average for females. The first (and only) significant moderator for females unsure of their attraction was parental monitoring. Among same-sex and opposite-sex attracted females, increases in parental monitoring are accompanied by sharp increases in grade point average. Figure 5.3 shows that the opposite occurs for unsure females; unsure females who report low levels of parental monitoring have higher grade point averages than unsure females who report high levels of parental monitoring.

Figure 5.4 shows how sexual attraction and religious belief interact. Among females reporting the lowest levels of religious importance, same-sex attracted students had the highest grade point averages. However, as a group they received very little benefit from more religious belief; same-sex attracted females with high levels of religious belief report only marginally higher grade point averages and lag far behind highly religious peers. The positive effect of religious belief evident in preliminary models is far more robust among heterosexually-attracted females than for sexual minorities.

The significant interaction between religious behavior and sexual attraction among females is modeled in Figure 5.5. Here we see that a grade point average gap between same-sex and opposite-sex attracted students only exists among females who rarely participate in religious activities. The gap was absent among females who are active in religious services and youth groups. Once again, participation in a religious community plays a strong protective role for same-sex attracted females. This is not entirely surprising given that immersion in religious culture has a more acute effect on

sexual minority girls than sexual minority boys (Miller and Stark 2002; Rostosky et al. 2004; Wilkinson and Pearson 2009).

Figure 5.6 illustrates how the relationship between marijuana use and grade point average varies by attraction type for females. Exclusively opposite-sex attracted and same-sex attracted females who did not use marijuana had almost identical mean grade point averages. However, among those who had used marijuana recently, same-sex attracted students lagged behind. Sexual minority females experienced a larger grade point average penalty for marijuana use than their opposite-sex attracted peers.

Finally, Figure 5.7 models the significant interaction between same-sex attraction and labor market pessimism. Same-sex attracted females who were very optimistic about getting a good job in the future had lower grade point average than their equally optimistic peers. Labor market pessimism doesn't appear to have as dramatic a negative effect for same-sex attracted students as for unsure and opposite-sex attracted students. In fact, among females who do not believe they will secure a good job, same-sex attracted females have the highest grade point averages.

FIGURE 5.3. INTERACTION BETWEEN SEXUAL ATTRACTION AND PARENTAL MONITORING ON GRADE POINT AVERAGE AMONG FEMALES.

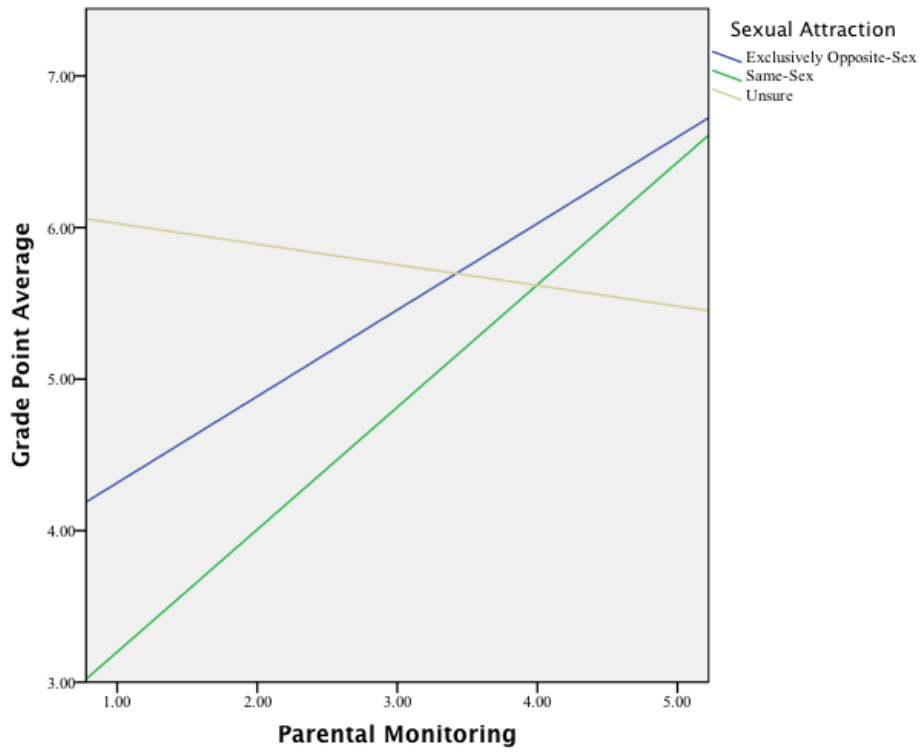


FIGURE 5.4. INTERACTION BETWEEN SEXUAL ATTRACTION AND RELIGIOUS BELIEF ON GRADE POINT AVERAGE AMONG FEMALES.

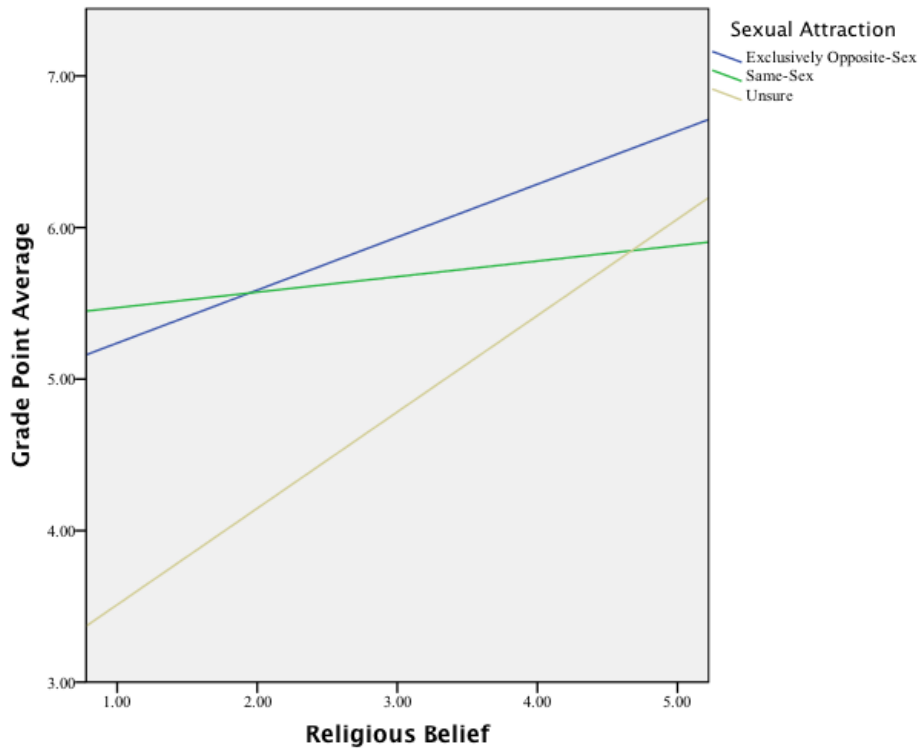


FIGURE 5.5. INTERACTION BETWEEN SEXUAL ATTRACTION AND RELIGIOUS BEHAVIOR ON GRADE POINT AVERAGE AMONG FEMALES.

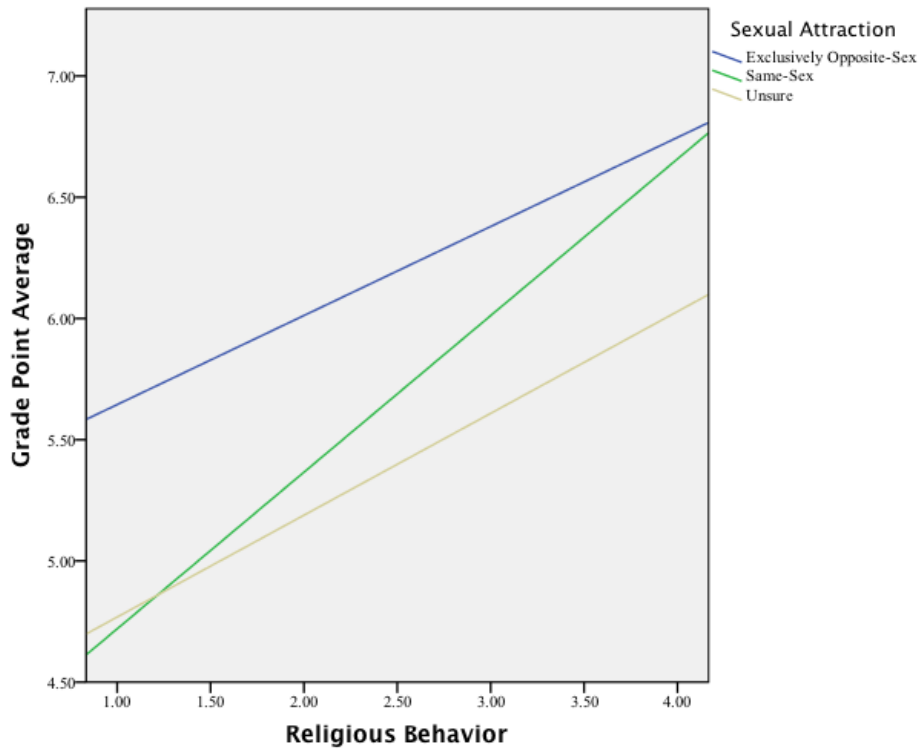


FIGURE 5.6. INTERACTION BETWEEN SEXUAL ATTRACTION AND MARIJUANA USE ON GRADE POINT AVERAGE AMONG FEMALES.

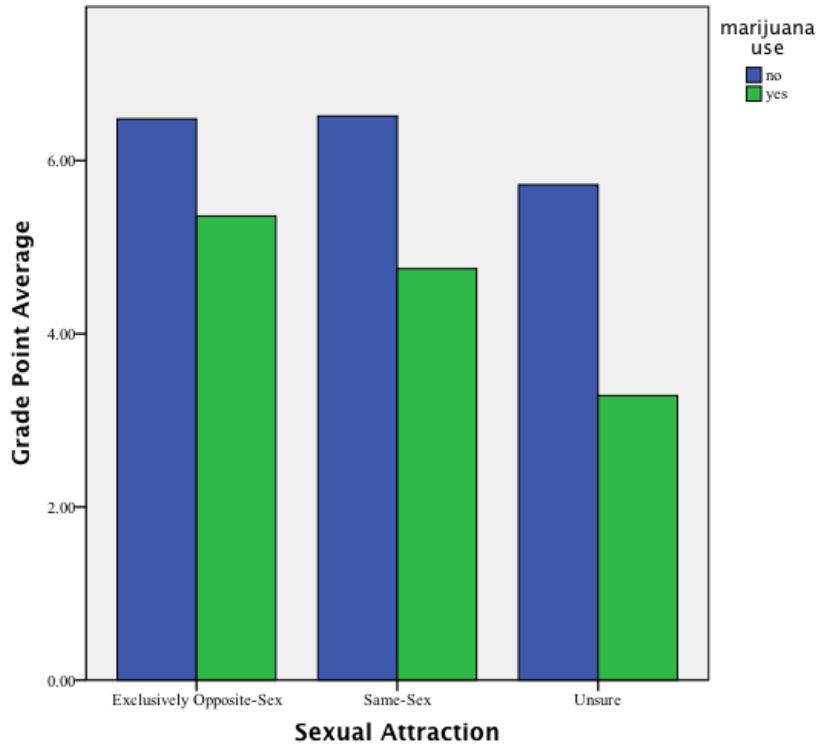
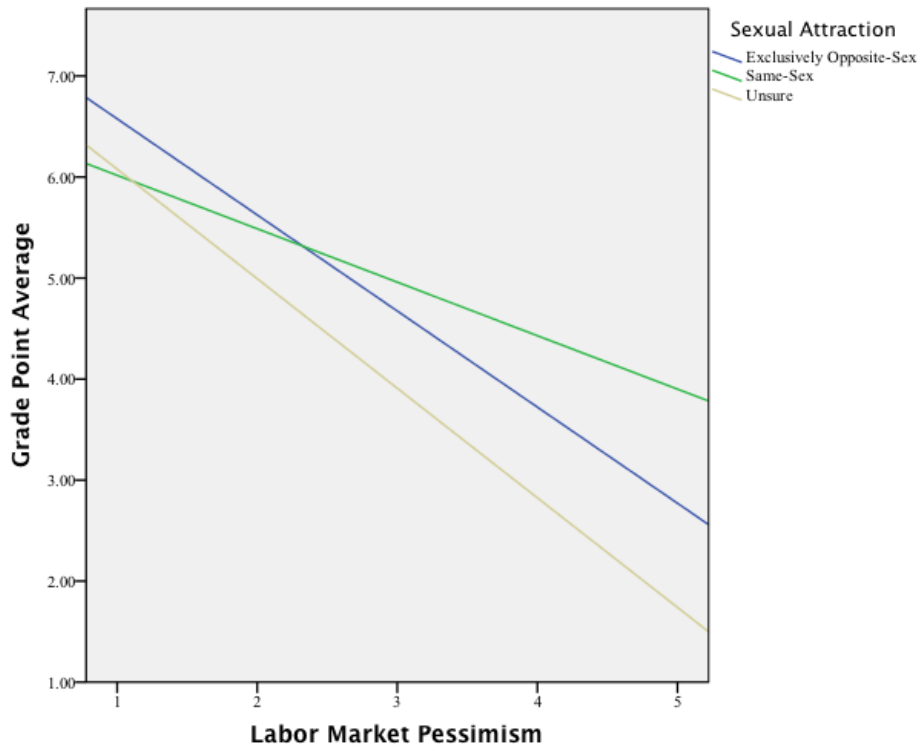


FIGURE 5.7. INTERACTION BETWEEN SEXUAL ATTRACTION AND LABOR MARKET PESSIMISM ON GRADE POINT AVERAGE AMONG FEMALES.



Theoretical Contributions

As a whole, the results of this study give fairly weak support to a human ecological model of educational outcomes among rural sexual minority adolescents. Most social contexts did not significantly influence the grade point averages of same-sex attracted students and students unsure of their attraction. Nonetheless, “by expanding the paradigm to consider the role of context in the lives of LGBT youth, we can begin to understand...the complex and nuanced ways that individuals’ lives are shaped by their social contexts” (Horn et al:863). Undoubtedly, the presence (and absence) of school, family, and faith effects in this study help present a clearer picture of the complex ecologies of rural queer young people. Despite convincing rural sociological claims that rural institutions serve as developmental assets to young people, their benefits do not seem to translate as powerfully to gay kids. This is particularly alarming when one considers that school, faith, and family contexts are often the only social institutions available to rural adolescents in search of psychosocial support (Shears et al. 2006).

The crucial mediating role of school belonging—a sense of happiness, safety, fairness, and connectedness at school—on the grade point averages of same-sex attracted males and females support the claim that homophobic and heteronormative school cultures can have detrimental effects on the academic performance of gays and lesbians. As Russell et al’s (2001) seminal study concluded, “supportive teachers can help prevent school troubles of sexual minority youth; teachers need the awareness and training to help them be supportive of their sexual minority students” (p. 124). I have to assume, given these findings, that the benefit of a safe, supportive, and affirming school community is even more critical in rural communities where teachers and school staff

often have intimate and longstanding personal connections to students and their families. Rural (Appalachian) LGBTQ students likely struggle to find refuge at school when the school sometimes functions as an extension of the home and even of the church. The fact that school contexts have little impact on the academic lives of students unsure of their sexual attraction suggests that individual-level, psychological factors may play a greater role for students grappling with issues of sexuality.

Despite literatures that emphasize the importance of familial bonds in rural places, the sexual minority students in this study reported very few parental factors that impacted their academic outcomes. One explanation for the trivial role of family might be the historical and contemporary existence of gay kinship structures in which same-sex attracted people forge supportive kinship bonds with people from outside their biological families. Plenty of evidence shows that sexual minority youth attempt to distance themselves from their families; attempts by parents of LGBTQ youth to monitor their behavior might have adverse effects. Furthermore, Hektner (1995) claimed that academic decision-making presents conflict for rural youth when they must decide between their educational goals or staying close to home and maintaining family ties. For this reason, an inverse relationship between family ties and grade point average (as was evident among unsure females) makes a bit of sense in rural places.

Very little research has addressed the role of religion in the lives of rural sexual minority students, largely because of the assumptions that gay kids lack religious attachments and that religiosity is detrimental to LGBTQ youth. The protective nature of religious attendance among females in this study challenges the presumed hostilities towards gays and lesbians from faith-based institutions and the conceptualization of rural

places in general. Horn et al. (2009:865) described the paradox facing LGBTQ youth researchers:

“For LGBT youth, however, this relationship is complicated by the fact that many religions condemn non-heterosexual sexual orientations as unnatural and sinful. For LGBT youth, religious affiliated or living within a religiously-oriented community may actually be related to increased risks of victimization and/or negative mental health issues such as depression or anxiety. Conversely, not all religious affiliations hold negative positions regarding same-sex sexuality. For some young people, belonging to an affirming and supportive religious institution may provide a safe space that affirms one’s identity and leads to the formation of positive peer and adult relationships.”

My findings suggest that the role of religion on sexual minority youth (at least in terms of educational outcomes) varies by gender and by type of religious manifestation. Consistent with Lease, Home, and Noffsinger-Frazier (2005), participation in a religious community is an asset to female academic underperformance; placing a high degree of importance on religious teaching and believing in literal interpretations of scripture place same-sex attracted males and females at risk.

The salience of religious attendance—as opposed to the importance of religious experiences—suggests that the social capital benefits (e.g., social networks of supportive adults) of the religious community, rather than the beliefs themselves, are important for enhancing academic achievement. Indeed, “to the extent that sexual minority youth and young adults lack access to affirming faith communities and religious institutions that provide support for sexual minority identity development, distal religiosity will likely fail to serve as a positive developmental asset or protective factor” (Rostosky et al. 2008:560). Orthodox studies of educational outcomes that fail to account for myriad social contexts miss the important role of faith-based institutions.

Limitations

This study is limited in several critical ways. First, some of the data in the analyses—notably the variables measuring grade point average, economic disadvantage, and parental education—are based on perceptions and self reports that might not accurately reflect reality. The longitudinal nature of the data might also be problematic in that the survey waves were not collected at the same time across cohorts so seasonal variations and sociopolitical events are unaccounted for. The design of the survey may have contributed to unreliable reports of same-sex attraction; the attraction question was situated among questions pertaining to sexual health, including questions about HIV and other sexually transmitted infections. Since those questions highlight stigma associated with same-sex attraction, and since some students will opt against disclosing nonnormative attractions under any circumstances, my identification of same-sex attracted students is likely an undercount. The relatively small number of sexual minority students in the sample limits the robustness of my findings. The lack of significance in some analyses—particularly models with interaction terms—might be due to a lack of statistical power rather than the absence of the effect in question. Though quite common in the sociological literature, my attempts to perform operations on ordinal variables are also methodologically and analytically problematic. Additionally, because the data were collected at school—and because sexual minority students are more likely to drop out and have high rates of absenteeism (Garofalo et al. 1998)—the overrepresented subgroup of unschooled gay young people is not included in my sample.

One must be cautious in generalizing the findings of this project. While the sample at hand is large and reflective of diverse school contexts, it is not a probability

sample. The unique social context of the Appalachian (Kentucky) region, in a state without LGBT-inclusive employment and housing nondiscrimination protections, might shape the experiences of these participants differently than for students from other states and regions of the United States. As noted above, there is much heterogeneity among Appalachian cities and towns. Unfortunately, school-based and (geographic) community-based variations are unaccounted for in this study because school locales were not matched to students in these public-use data.

Implications

This work has important implications for future research and practice. As one of the first systematic, quantitative investigations of rural sexual minority youth, the findings of this study provide a benchmark against which future rural queer scholarship can be compared. Local leaders in rural communities are rarely confronted with the lived experiences of LGB people, but the data from this project allow them to make informed decisions when considering inclusive policies. Analysts of large scale datasets whose place-specific findings lack statistical power due to small numbers of rural same-sex attracted respondents should refer to these findings when drawing rural-specific conclusions.

Of all the statistical models constructed in this study, none accounted for more than about half the variation in student grade point averages. Most of the social context variables included in the models did *not* predict academic achievement. This provides an opening for future researchers to explore other individual- and institutional-level factors that contribute to the educational experience of rural sexual minority youth. For example, perhaps the educational outcomes of sexual minority students are influenced more by

mental health outcomes, temperament, presence of other sexual minorities at school, or schoolwide attitudes towards LGBTQ people than by the variables studied here. All of these data are accessible, but not reflected in the present study. Bernard (2004) asserted that protective factors in one context can compensate for risks in other contexts. As such, to better understand complex human ecologies, a requisite next phase of this project is the use of multi-level models and higher order interactions (the interaction of two or more contexts and sexual attraction) to reveal more about the imbeddedness and interrelationship of social contexts.

Furthermore, when sufficient data—be it quantitative or qualitative—exist for subgroup disaggregation, rural queer scholars should heed the advice of Kosciw et al. (2009) and “examine school experiences within various subgroups of LGBT youth (e.g., bisexual-identified youth, Latino/a youth, rural youth) and their potentially differing experiences and perspectives. Within these categories exist a multiplicity of experiences and future research should consider the diverse experiences of LGBT youth. Further research is also needed that examines the spectrum of identities, including, but not limited to, sexual orientation and gender identity, and their varying contributions toward school” (p. 986). In order to carry out this charge, new datasets must be constructed that include items explicitly about (trans)genders and sexualities.

Future investigations of rural queer young people must not rely entirely on survey methodology and statistical analysis. Qualitative methods will provide an opportunity to explore the diversity of sexual minority experiences, especially experiences of underrepresented subgroups like rural students of color, rural transgender youth, unschooled rural youth, and rural youth in poverty. Queer, feminist, and poststructuralist

methods will allow investigators to move beyond the study of *same-sex attraction* by incorporating a range of queer *identities*.

The methods employed in the present study required me to make numerous assumptions about the lives of participants. Qualitative research will also help address questions of *how* and *why* that were absent from the above analyses. Queries about how rural queers access social support and how they utilize families and faith communities are best answered through interviews, ethnography, and participatory action research. More specifically, this work leaves me wondering why sexual minority females report relatively weak parental ties while males do not, why religion and marijuana have converse effects on males and females, and why school belonging mediates the low grade point averages of same-sex attracted students but not unsure students. These questions can and should be explored qualitatively.

Finally, this study has implications for rural and Appalachian practitioners and community stakeholders. The data indicate to teachers and school leaders that LGB students are at risk of academic underperformance and as such threaten attainment of federal and state performance accountability goals. This is acutely important in the contemporary education policy climate that requires academic proficiency and high school completion from all students, and not just those who have positive school experiences. Schools and communities can no longer afford to let at-risk students slip through the cracks as they may have in the past. Encouragingly, the data also suggest that school climate plays an important role in the school-based outcomes of same-sex attracted students. School-based interventions, such as Gay-Straight Alliances, anti-bullying and zero indifference policies, and LGBTQ curricula, foster a greater sense of school

belonging among sexual minority young people (Lee 2002) and in turn might positively influence their academic performance.

The findings similarly inform the practices of faith-based and community leaders. They document a unique association between religiosity and educational outcomes among sexual minorities. Rural clergy and lay leaders should recognize that faith communities have great influence on sexual minority youth and that the influences of religious belief and participation extend far beyond places of worship. LGBTQ advocates should acknowledge the importance of faith communities in the developmental experiences of sexual minority adolescents. This can be done by fostering affirming congregations in rural communities or by connecting rural gays and lesbians to welcoming congregations in neighboring cities.

Conclusion

In this dissertation, I argued that because of strong interrelationships between rural social institutions and because marginalization of LGBTQ people occurs across contexts, an investigation of rural sexual minority educational outcomes must consider the complex human ecologies of rural communities. The overarching objective of this study was to determine whether rural school, faith, and family domains serve protective functions for sexual minority young people.

While the specificities of the answer to this question vary by gender and attraction type, it is indeed the case that rural social contexts have the potential to be developmental assets in the academic lives of rural sexual minority youth. The same contexts also have the potential to cause harm: “the same strong ties that present benefits for some may

exclude others, demand conformity, and thwart positive social and personal development” (Van Gundy et al. 2011:297-298).

APPENDIX A: HIV INTERVENTIONS FOR YOUNG, APPALACHIAN RISK-TAKERS SURVEY

UNIVERSITY OF KENTUCKY
RURAL HEALTH SURVEY, VERSION 44

Color 2
Hine

MARKING INSTRUCTIONS

- Use a No. 2 pencil only.
- Do not use ink, ballpoint, or felt tip pens.
- Make solid marks that fill the oval completely.
- Erase cleanly any marks you wish to change.
- Make no stray marks on this form.
- Do not fold, tear, or mutilate this form.

RIGHT MARK

WRONG MARKS


PLEASE BE HONEST.
YOUR ANSWERS ARE COMPLETELY CONFIDENTIAL.

1. How old are you now?
 13 15 17
 14 16 18 or older

2. Which of the following adults live with you all or most of the time? (Mark all that apply.)
 Mother Aunt or Uncle
 Father Grandparent(s)
 Stepmother Foster parent(s)
 Stepfather Other adult(s)

3. How many older brothers live at home?
 0 3
 1 4 or more
 2 I don't have older brothers.

4. How many older sisters live at home?
 0 3
 1 4 or more
 2 I don't have older sisters.

5. What is the highest level of schooling your mother completed?
 didn't go to high school
 completed some high school
 graduated from high school
 completed some college
 graduated from college
 graduate or professional school after college
 don't know

6. What is the highest level of schooling your father completed? V2
 didn't go to high school
 completed some high school
 graduated from high school
 completed some college
 graduated from college
 graduate or professional school after college
 don't know

7. How many years have you been a student at this school?
 1st year 4th year
 2nd year 5th year
 3rd year More than 5 years

8. What is the average grade you usually get in school (Grade Point Average)?
 Mostly A's Mostly C's
 About half A's and B's About half C's and D's
 Mostly B's Mostly D's
 About half B's and C's Mostly below D

9. What grade are you in?
 9th 10th 11th 12th

10. Are you:
 Male Female

11. What group do you belong to?
 White (non-Hispanic)
 Black/African-American
 Asian/Pacific Islander
 American Indian/Alaskan Native
 Hispanic/Latino(a)
 Other or Mixed Race: _____

12. If you bought a full school lunch tomorrow, what would you pay? (Even if you never buy a school lunch, think about what you would pay.)
 A full price A reduced price I wouldn't pay anything. It would be free.

13. How far in school do you expect to go?
 10th or 11th grade Vocational, trade, or business school Four-year college degree
 High school graduate Junior or community college degree Advanced degree (Master's, Ph.D., Law, M.D.)

14. How much do you agree or disagree with each of the following about your school?	Agree a lot	Agree a little	Don't agree or disagree	Disagree a little	Disagree a lot
I am happy to be at this school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel safe in my school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The teachers in my school treat me fairly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel like I am part of this school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

15. When I am an adult, I will have a good chance of getting a job that is good, steady, and dependable.
 Agree a lot Agree a little Don't agree or disagree Disagree a little Disagree a lot

16. Answer each of the following questions about your parent(s):	Always	Usually	Sometimes	Rarely	Never
My parent(s) know where I am after school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tell my parent(s) who I'm going to be with before I go out.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
When I go out at night, my parent(s) know where I am.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) think it's important to know who my friends are.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent(s) know how I spend my money.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

17. Answer the following questions about your parents:

	Not at all	Very little	Somewhat	Quite a bit	Very much	I don't have a mom/dad
How close do you feel to your mother?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much do you think she cares about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How close do you feel to your father?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How much do you think he cares about you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

18. Think about conversations you have had (or might have) with your mother or father about sexual relationships, birth control, and sexually transmitted diseases like HIV. When you answer how much you agree or disagree with the following statements, think about the one parent that you are most likely to discuss these things with.

	Agree a lot	Agree a little	Don't agree or disagree	Disagree a little	Disagree a lot
My parent tries to understand how I feel about these topics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I can ask my parent the questions I really want to know about topics like this.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My parent and I talk openly and freely about these topics.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Please tell us how often you do each of the following things.

WHEN I DO SOMETHING:

	Always	Often	Sometimes	Rarely	Never
I think about all of my choices very carefully.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do the first thing that comes into my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I compare all the good and bad things that might happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I go with whatever feels right to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider what effect it will have on my health.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't even think about it; I just do it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do whatever I think will be the most fun.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do the opposite of what my parents think I should do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to do things as soon as I think about them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I consider if it will be good or bad for my future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I act on the spur of the moment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

20. How attractive:

	Extremely attractive	Very attractive	Somewhat attractive	Not very attractive	Not at all attractive
Do you think <u>people of the opposite sex</u> would say you are?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Do <u>you</u> think you are?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. How much do you agree or disagree with the following?

	Agree a lot	Agree a little	Don't agree or disagree	Disagree a little	Disagree a lot
I would like to explore strange places.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to take a trip without planning where I'm going.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like to do scary things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would like to try bungee jumping.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like wild parties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like new and exciting experiences, even if I have to break the rules.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I get restless when I spend too much time at home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer friends who are exciting and unpredictable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

22a. GIRLS ONLY: How old were you when you had your first (menstrual) period?

- 9 or younger 10 11 12 13 14 15 or older I have never had a period.

22b. GUYS ONLY: At the beginning of 8th grade, how developed was your body (muscles, chest, body hair, voice) compared to other boys your age?

- A lot more developed Somewhat more developed About the same Somewhat less developed A lot less developed

23. How often do you attend religious services?

- Never Rarely Once or twice a month About once a week or more

24. How important is religion in your life?

- Extremely important Very important Somewhat important A little important Not at all important

25. Many churches, synagogues and other places of worship have special activities for teens, such as youth groups, Bible classes or choir. In the past 12 months, how often did you attend such youth activities?

- Never Rarely Once or twice a month About once a week or more

26. How much do you agree or disagree that your religion's sacred scriptures or holy book is the actual word of God and to be taken literally, word for word.

It is the actual word of God and is to be taken literally, word for word.

Agree a lot	Agree a little	Don't agree or disagree	Disagree a little	Disagree a lot
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

27. Please tell us if you have talked about each of the following topics in a class at school.

- Condoms
- Birth Control Pills
- AIDS or HIV
- Other STD's
- Waiting to have sex

Never talked about it	Talked about it once or twice	Talked about it several times
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

THESE NEXT FEW QUESTIONS ARE ABOUT LEARNING ABOUT PREVENTING PREGNANCY AND STD's.

28. Compared to most of your other subjects, how good are you at learning about the prevention of pregnancy and HIV?

A lot worse	About the same	A lot better
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. How good would you be at learning something new about the prevention of pregnancy and HIV?

Not at all good	OK	Very good
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

30. Compared to most of your other activities, how useful is learning about the prevention of pregnancy and HIV?

Not as useful	About the same	A lot more
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. For me, being good at learning about the prevention of pregnancy and HIV is:

Not at all important	Somewhat important	Very important
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

32. In general, I find learning about the prevention of pregnancy and HIV:

Very boring	OK	Very interesting
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

33. How much would you like learning about the prevention of pregnancy and HIV?

A little	Some	A lot
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

34. Compared to other things you learn about in school, how much would you like learning about the prevention of pregnancy and HIV?

Not as much	About the same	A lot more
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. For each statement below, mark "True" if you know the statement is true, mark "False" if you know it is false, and mark "Don't know" if you don't know or are not sure if the statement is true or false.

	True	False	Don't know
Latex condoms are better than animal-skin condoms for preventing STD's including AIDS.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using a condom whenever you have sex with someone with an STD will probably protect you from getting the disease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The best time to talk to a partner about sex is right before sex, when it's on their mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The chance of getting pregnant when no protection is used is 1 out of 25.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using condoms is the most effective way of all methods to avoid pregnancy AND sexually transmitted disease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The only teens who really need to worry about getting AIDS are homosexuals and injecting drug users.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
HIV is the only sexually transmitted disease that cannot be cured.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Most people who have AIDS look sick.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

36. Overall, how many boyfriends or girlfriends have you had in your life?
 0 1 2 3 4 5 6 7 8 9 10 or more

37. In which grade did you first:

	Never have	1st grade	2nd grade	3rd grade	4th grade	5th grade	6th grade	7th grade	8th grade	9th grade
Drink alcohol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Smoke marijuana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

38. Have you ever:

	No	Yes, once	Yes, a few times	Yes, many times
Done things when drinking that you normally would not do, and later regretted doing?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been unable to remember things that happened while you were drinking?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Been hassled by your friends or family because of your drinking?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39. On how many different **DAYS** have you had alcohol to drink in:

	None	1-2	3-5	6-9	10-19	20-39	40 or more
Your life time?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The last 3 months?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. The last time you drank alcohol, how many drinks did you have?
 (1 drink is 1 glass of wine, 1 wine cooler, 1 beer, 1 shot glass of liquor)
 1 2 3 4 5 6-9 10+ Never have

41. How many **TIMES** have you used marijuana (pot) in:

	None	1-2	3-5	6-9	10-19	20-39	40 or more
Your life time?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The last 3 months?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

42. Of your closest friends, how many do you think have ever had sex?
 All Most Some None

43. Of your closest friends who have had sex, how many do you think use condoms during sex?
 None of my friends have had sex All Most Some None

44. Please rate the following statements about having sex:

	Agree a lot	Agree a little	Don't agree or disagree	Disagree a little	Disagree a lot
I believe people my age should get as much sexual experience as they can.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe it's okay for people my age to have sex with a steady boyfriend or girlfriend.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe people my age should wait until they are married before they have sex.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe it's okay for people my age to have sex with someone they love.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

THINK ABOUT YOUR FIRST BOYFRIEND OR GIRLFRIEND THAT YOU SPENT TIME WITH OUTSIDE OF SCHOOL.

45. How old were you when you first started going out with this person?
 I have not had a boyfriend or girlfriend. 11 13 15 17
 10 or younger 12 14 16 18 or older

46. How old was this person when you started going out?
 I have not had a boyfriend or girlfriend. 11 13 15 17
 10 or younger 12 14 16 18 or older

47. How long did you go out with this person?
 I have not had a boyfriend or girlfriend. 1-2 months 7-11 months More than 2 years
 Less than 1 month 3-6 months 1-2 years I am still going out with this person.

48. Did you ever do any of the following with this person?

	Yes	No
<input type="radio"/> I have not had a boyfriend or girlfriend.		
Hold hands	<input type="radio"/>	<input type="radio"/>
Kiss	<input type="radio"/>	<input type="radio"/>
Touch each other's genitals or private parts	<input type="radio"/>	<input type="radio"/>
Touch each other with no clothes on	<input type="radio"/>	<input type="radio"/>
Have sexual intercourse	<input type="radio"/>	<input type="radio"/>

THINK ABOUT WHAT IS HAPPENING IN YOUR LIFE RIGHT NOW AND ANSWER THE NEXT SET OF QUESTIONS.

49. Do you have a boyfriend or girlfriend that you spend time with outside of school?

- Yes No

50. How old is this person?

- I do not have a boyfriend or girlfriend. 14 16 18 or older
 13 or younger 15 17

51. How long have you been going out with this person?

- I do not have a boyfriend or girlfriend. 1-2 months 7-11 months More than 2 years
 Less than 1 month 3-6 months 1-2 years

52. Have you ever done the following with this person?

- I do not have a boyfriend or girlfriend. **Yes** **No**
- | | | |
|--|-----------------------|-----------------------|
| Hold hands | <input type="radio"/> | <input type="radio"/> |
| Kiss | <input type="radio"/> | <input type="radio"/> |
| Touch each other's genitals or private parts | <input type="radio"/> | <input type="radio"/> |
| Touch each other with no clothes on | <input type="radio"/> | <input type="radio"/> |
| Have sexual intercourse | <input type="radio"/> | <input type="radio"/> |

53. How do you feel about your boyfriend or girlfriend?

- I do not have a boyfriend or girlfriend. → If you marked this answer, go to the next question (Question 54). **A lot** **Not at all**
- Do you feel:**
- | | | | | | |
|--------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| You can trust this person? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| You can depend on this person? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

THE NEXT GROUP OF QUESTIONS ASKS ABOUT YOUR EXPERIENCES WITH SEXUAL INTERCOURSE.

54. Have you ever had sexual intercourse ("going all the way" or vaginal sex)?

- Yes No

55. If you have never had sexual intercourse, please indicate if the following are your reasons for not having it:

- I have had sexual intercourse. → If you marked this response, please go to question 56. **No reason at all** **Yes, it might be a reason** **Definitely a reason**
- | | | | |
|---|-----------------------|-----------------------|-----------------------|
| I think it is wrong to have sex before marriage. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My religion says it is wrong to have sex before marriage. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am not ready. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am waiting for the right person. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am waiting until I get married. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I am waiting until I get older. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I do not want to get pregnant or get someone pregnant. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I do not want to get a disease. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I would be too embarrassed. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I don't have a boyfriend or girlfriend to have sex with. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| My boyfriend or girlfriend does not want to. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| I couldn't get birth control or protection. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

56. How likely do you think it is that you will have sexual intercourse in the next 4 months?

- Very sure I won't Slightly sure I won't Not sure if I will or won't Slightly sure I will Very sure I will

57. How likely do you think it is that you will use a condom every time you have sexual intercourse in the next four months?

- I don't plan to have sexual intercourse in the next 4 months
- Very sure I won't Slightly sure I won't Not sure if I will or won't Slightly sure I will Very sure I will

THESE QUESTIONS ARE ABOUT THE FIRST TIME YOU HAD SEXUAL INTERCOURSE.

58. How old were you when you had sexual intercourse for the first time?

- I have never had sexual intercourse. 12 14 16 18 or older
 11 or younger 13 15 17

59. How old was your partner when you had sexual intercourse for the first time?

- I have never had sexual intercourse. 12 14 16 18 or older
 11 or younger 13 15 17

60. Where were you the first time you had sexual intercourse?

- I have never had sexual intercourse. Boyfriend/girlfriend's home At a friend's home
 My home Car
 Outdoors, like in a field or woods Other: _____

61. Thinking back to the **first** time you had sexual intercourse, how would you describe your relationship with that person?

- I have never had sexual intercourse.
 Just met that day
 Casual dating partner
 Casual acquaintance
 Serious dating partner
 Friend
 Other: _____

62. What type of protection did you or your partner use the **first** time you had sexual intercourse? (Mark all answers that apply.)

- I have never had sexual intercourse.
 No method was used.
 Condoms
 Birth control pills
 Withdrawal (pulling out)
 Other methods: _____

63. How much did you want that **first** sexual intercourse to happen? I really didn't want it to happen I really wanted it to happen

I have never had sexual intercourse.

64. How pleasurable was the **first** time you had sexual intercourse? Not pleasurable at all Very pleasurable

I have never had sexual intercourse.

65. How nervous were you the **first** time you had sexual intercourse? Not nervous at all Very nervous

I have never had sexual intercourse.

66. How guilty did you feel the **first** time you had sexual intercourse? Not guilty at all Very guilty

I have never had sexual intercourse.

NOW THINK ABOUT THE LAST TIME YOU HAD SEXUAL INTERCOURSE AND ANSWER THESE QUESTIONS.

67. The **last** time you had sexual intercourse:

- I have never had sexual intercourse.
- | | Yes | No |
|---|-----------------------|-----------------------|
| Did you have alcohol to drink? | <input type="radio"/> | <input type="radio"/> |
| Did your partner have alcohol to drink? | <input type="radio"/> | <input type="radio"/> |
| Did you smoke marijuana? | <input type="radio"/> | <input type="radio"/> |
| Did your partner smoke marijuana? | <input type="radio"/> | <input type="radio"/> |
| Did you (or your partner) use a condom? | <input type="radio"/> | <input type="radio"/> |

68. What type of protection did you or your partner use the **last** time you had sexual intercourse? (Mark all that apply.)

- I have never had sexual intercourse.
 No method was used.
 Condoms
 Birth control pills
 Withdrawal (pulling out)
 Other methods: _____

69. Thinking about the **last** time you had sexual intercourse, how would you describe your relationship with that person?

- I have never had sexual intercourse.
 Just met that day
 Casual dating partner
 Casual acquaintance
 Serious dating partner
 Friend
 Other: _____

70. Of the times you have had sexual intercourse in the past 12 months, how often did:

- I have not had sexual intercourse in the past 12 months.
- | | Never | Sometimes | Half the time | Often | Always |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| You drink alcohol before or during sex? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| You use marijuana (pot) before or during sex? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| You (or your partner) use condoms? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| You (or your partner) use some form of prescription birth control, such as the Pill, Depo-Provera (the shot), or Norplant (implanted in the arm)? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

71. How much do you agree with the following statements?

(Even if you have never had sexual intercourse, please answer the questions by thinking about how you might feel.)

- | | Agree a lot | Agree a little | Don't agree or disagree | Disagree a little | Disagree a lot |
|---|-----------------------|-----------------------|-------------------------|-----------------------|-----------------------|
| <i>I feel confident that I could:</i> | | | | | |
| Put a condom on myself or my partner. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Remember to use a condom even after I have been drinking alcohol. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Use a condom correctly. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Stop to put a condom on myself or my partner even in the heat of passion. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

72. In the last 12 months, have you ever:	No	Yes, once	Yes, a few times	Yes, a lot
Had a chance or opportunity to have sex with someone?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Said "no" when someone was trying to talk you into having sex and you didn't want to?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had sex with someone when you didn't want to because you felt pressure from that person?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Told someone that you didn't want to have sex now, but that you might want to in the future?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Had sex without a condom when you wanted a condom to be used?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Said "no" to sex because a condom was not going to be used?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For the following statements, please answer by thinking about how sure you might feel in each situation.

73. How sure are you that you would be able to do the following?	I definitely can't do this	I probably can't do this	Maybe I can, maybe I can't	I probably can do this	I definitely can do this
Talk about using a condom if I were unsure of my partner's feelings about condoms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talk about using condoms with any sexual partner.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Talk a partner into using a condom when we have sexual intercourse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Say no to sex if my partner refused to use a condom.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tell someone that you don't want to have sex now, but you might want to in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decide not to make out with someone because I think it might lead to having sexual intercourse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Be sexually close with someone but decide to do something sexual other than intercourse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

74. How sure are you that you would be able to say NO to having sexual intercourse with someone:

	I definitely can't say no	I probably can't say no	Maybe I can, maybe I can't	I probably can say no	I definitely can say no
You want to date again?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who you want to fall in love with you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who is pushing you to have sexual intercourse?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who refuses to use a condom?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who is older than you?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Who dates a lot of different people?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

75. Suppose you were with your partner and he/she wanted to have sex and you didn't. Would you:

	I definitely would			I definitely would not		
Have sex if a condom was used?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Have sex without a condom?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tell him/her "no thanks"?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tell him/her "not without a condom"?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leave the situation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leave the situation unless a condom is used?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

76. If you have not used a condom each and every time you had sex in the last 12 months, indicate how important the following reasons are for why you did not use one.

- If you have used a condom each and every time you had sex in the last 12 months, mark this oval and go to question 77.
- If you have never had sex, mark this oval and go to question 78.

	No reason at all	Yes, it might be a reason	Definitely a reason
I don't think I could get a disease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I didn't expect to have sex—it was not planned.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't convince my partner to use one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My partner will think that I believe he/she has a disease.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't feel comfortable talking to my partner about condoms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
One of us uses birth control pills and that is enough.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No one in my town sells them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sex doesn't feel the same when you use condoms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is no place to buy condoms that won't get back to my parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

77. **During your life, how many people have you had sexual intercourse with?**

- 0 1 2 3 4 5 6 or more

78. **How would you feel if you or your partner got pregnant?**

- Very upset Somewhat upset Not upset or happy Somewhat happy Very happy

79. **Do you have any condoms (either with you or anywhere else)?**

- No Yes, I have 1 condom Yes, I have 2 or 3 condoms Yes, I have 4 or more condoms

80. **Which of these is true for you? (Mark one answer.)**

- I am sexually attracted to males I am sexually attracted to females
 I am sexually attracted to males and females I'm not sure who I'm attracted to

81. **How many times in your life have you had any kind of sexual experience:**

	Never	Once	2 times	3-5 times	6-10 times	11 or more times
With a <u>male</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
With a <u>female</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

82. **In the last 6 months, how many messages or ads about:**

	0	1-2	3-4	5-6	7-8	9 or more
<u>AIDS or HIV</u> have you heard on the <u>radio</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>AIDS or HIV</u> have you seen on <u>TV</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Abstaining or waiting to have sex</u> have you heard on the <u>radio</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Abstaining or waiting to have sex</u> have you seen on <u>TV</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Safer sex or using condoms</u> have you heard on the <u>radio</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<u>Safer sex or using condoms</u> have you seen on <u>TV</u> ?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

83. **On a school day,**

	0	1-2	3-4	5-6	More than 6
How many hours of radio do you usually listen to?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many hours of TV do you usually watch?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many hours do you spend on the internet?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many hours do you spend listening to CDs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

84. **On a Saturday or Sunday,**

	0	1-2	3-4	5-6	More than 6
How many hours of radio do you usually listen to?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many hours of TV do you usually watch?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many hours do you spend on the internet?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How many hours do you spend listening to CDs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

85. **Overall, how honest would you say you were in answering this questionnaire?**

- Not honest at all Fairly honest Completely honest
 Not very honest Very honest

86. **How much privacy do you feel you had when filling out this questionnaire?**

- No privacy Some privacy Total privacy
 A little privacy A lot of privacy

FOR OFFICE USE ONLY									
0	0	0	0	0	0	0	0	0	0
1	1	1	1	1	1	1	1	1	1
2	2	2	2	2	2	2	2	2	2
3	3	3	3	3	3	3	3	3	3
4	4	4	4	4	4	4	4	4	4
5	5	5	5	5	5	5	5	5	5
6	6	6	6	6	6	6	6	6	6
7	7	7	7	7	7	7	7	7	7
8	8	8	8	8	8	8	8	8	8
9	9	9	9	9	9	9	9	9	9

Thank you for completing this survey.

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VITA

1. *Date of Birth:* July 1, 1980

2. *Place of Birth:* Peoria, Illinois, USA

3. *Educational Institutions Attended:*

2005 Harvard University
Ed.M. in Education Policy and Management

2002 Bradley University
B.S. in Mathematics (with teaching credential)

4. *Professional Positions Held:*

2010-2012 University of Kentucky
Graduate Assistant
Department of Special Education and Rehabilitation Counseling

2006-2011 Bluegrass Community and Technical College
Instructor
Division of Mathematics and Statistic
Division of History, Languages and Social Sciences

2003-2011 The Johns Hopkins University
Instructor
Center for Talented Youth

2011 Educational Testing Service
Reader
Advanced Placement Statistics

2008-2010 University of Kentucky
Instructor
Department of Sociology

2006-2010 University of Kentucky
Research Assistant
Department of Community and Leadership Development

2002-2006 Boston Public Schools
Mathematics Teacher & Advisor
Boston Community Leadership Academy

2004-2005 The Steppingstone Foundation
Mathematics Teacher & Advisor
Steppingstone Academy

5. Scholastic and Professional Honors:

2012 National Science Foundation/National Council of Teachers of
Mathematics
Twelfth International Congress on Mathematical Education Travel
Grant

2011 American Sociological Association
Sydney S. Spivak Program in Applied Social Research and Social
Policy Community Action Research Initiative
“Rural LGBTQ Youth Project”

2010 University of Kentucky
Student Government Academic Excellence Scholarship

2009 National Science Foundation
East Asia & Pacific Summer Institutes
“Educational and Residential Experiences of Rural Sexual
Minority Young People” (#0914066)

2008 UCLA School of Law
The Williams Institute on Sexual Orientation, Law & Public Policy
Small Grant Program
“Migrants or Myth? Educational and Residential Experiences of
Rural Central Appalachian Sexual Minority Young People”

2008 HQ83 (Harvard Queers of '83)
Lenn Thrower '83 Memorial Fellowship for Research in GLBT
Studies
“Migrants or Myth? Educational and Residential Experiences of
Rural Central Appalachian Sexual Minority Young People”

2006 Kentucky Education Television
The KET Fund for Independent Production
“Appalachia in the Academy: The Making of Eastern Kentucky
Scholars”

2007 University of Kentucky
Association of Emeriti Faculty Endowed Fellowship

- 2004 Harvard Gay and Lesbian Caucus
Public Service Fellowship
“Sexual Minority Youth Rural Intervention Project”
- 2004 Harvard Graduate School of Education
James B. Conant Fellowship
- 2004 Harvard Graduate School of Education
Cronin Stipend

5. *Professional Publications:*

Journal Articles (refereed)

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6. *Name:* Christopher J. Stapel