RELATIONSHIP BETWEEN RELIGIOSITY, VIOLENT BEHAVIOR AND GANG ACTIVITY AMONG ECONOMICALLY DISADVANTAGED ADOLESCENTS

by

DAVID McKENZIE

CONNIE KOHLER, COMMITTEE CHAIR
JOHN M. BOLLAND
SUSAN L. DAVIES
PAULINE JOLLY
BRADLEY E. LIAN

A DISSERTATION
Submitted to the graduate faculty of The University of Alabama at Birmingham, in partial fulfillment of the requirements for the degree of Doctor of Philosophy

BIRMINGHAM, ALABAMA
2012
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DAVID McKENZIE

HEALTH EDUCATION & HEALTH PROMOTION

ABSTRACT

Few studies have examined the relationship between religiosity, violent behavior and gang activity in disadvantaged youth. This research study analyzed data from a population of low-income adolescents in Mobile, Alabama. The research objectives were to assess the relationship between adolescent religiosity and involvement in violent behavior and gang activity, and to determine if there were gender differences between boys and girls regarding religiosity, violent behavior and gang activity. It was hypothesized that there would be an inverse relationship between religiosity and violent behavior and gang activity, and that girls would be more religious than boys and less likely to be involved in violent behavior and gang activity.

Data was obtained from the Mobile Youth Survey, a longitudinal multiple cohort study, for the years 1998-2008. Observations from 8,998 boys and 10,158 girls were used. Religiosity, violent behavior and gang activity were measured based on the responses to specific questions on the survey. Responses were coded and analyzed using SAS\textsuperscript{R} software. Mixed methods analyses were performed separately by gender, with violent behavior and gang activity as dependent variables and religiosity as the independent
variable. Mediators included in the multiple regression models were age of respondent, sense of hopelessness, sense of self worth, anger, parental control, feelings towards parents, and neighborhood connectedness.

Results showed that religiosity was inversely associated with violent behavior and gang activity for both boys and girls. Girls were more religious than boys, and less likely to be involved in violent behavior and gang activity. In both boys and girls, religiosity declined steadily from age 10-18. Further research is needed to determine the factors responsible for the gender difference in religiosity and the decline in religiosity with age.

Keywords: religiosity, violent behavior, gang activity, Mobile Youth Survey
DEDICATION

To Veronica, Brian, Catherine, Keith and Norma, who made it easy.

To my teachers, advisors and mentors, who made it hard.
ACKNOWLEDGEMENTS

Heartfelt thanks to my committee chair Dr. Connie Kohler for her kind support and expert guidance, and to my committee members Dr. John Bolland from the University of Alabama, Dr. Susan L. Davies (UAB), Dr. Pauline Jolly (UAB), and Dr. Brad Lian from Mercer University, for their patience and guidance. Special thanks to Dr. Bolland for providing me access to his data, and to Dr. Bolland and Dr. Lian for helping me with the statistical analysis of the data.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABSTRACT</td>
</tr>
<tr>
<td>DEDICATION</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
</tr>
</tbody>
</table>

## CHAPTER

### 1 INTRODUCTION

The Problem ................................................................. 1
Factors Associated with Violent Behavior and Gang Activity .. 3
Gaps in Existing Research ............................................. 5
Addressing the Gaps ....................................................... 6
Research Objectives ....................................................... 7

### 2 LITERATURE REVIEW

Definition of Religiosity .................................................. 9
Measurement of Religiosity .............................................. 10
Youth Violence and Gang Activity .................................... 12
Religiosity, Adolescents and Public Health, including Violent Behavior and Gang Activity .............................................. 16
Possible Application of the Theory of Planned Behavior to the relationship between Religiosity, Violent Behavior and Gang Activity........ 27

### 3 METHODS

Study Design: Parent Study ............................................. 32
Measures ........................................................................ 34
Data Analysis ................................................................... 41
4 RESULTS ........................................................................................................................................45

5 DISCUSSION ..................................................................................................................................54

Summary of Results ..............................................................................................................................54
Religiosity, Violent Behavior and Gang Activity ..................................................................................57
Religiosity of Girls compared to Boys .................................................................................................60
Involvement of Girls in Violent Behavior and Gang Activity ...............................................................61
Application of the Theory of Planned Behavior to the Research Study ............................................62
Strengths and Limitations of the Research Study ...............................................................................65
Recommendations for Future Research ..............................................................................................68
Implications for Public Health Practice ..............................................................................................70
Conclusions .............................................................................................................................................71

LIST OF REFERENCES ........................................................................................................................73

APPENDIX .............................................................................................................................................80

A THE UNIVERSITY OF ALABAMA AT BIRMINGHAM INSTITUTIONAL REVIEW BOARD FOR HUMAN USE FORM 4: IRB APPROVAL FORM .............................................................................................80

B THE UNIVERSITY OF ALABAMA INSTITUTIONAL REVIEW BOARD FOR THE PROTECTION OF HUMAN SUBJECTS APPROVAL LETTER ........................................................................................................82

C MOBILE YOUTH SURVEY 2010 .......................................................................................................84
**LIST OF TABLES**

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mobile Youth Survey variables of interest: Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents</td>
</tr>
<tr>
<td>2</td>
<td>Frequencies, by Age and Gender, of Religiosity among Adolescents in Mobile, Alabama, from the Mobile Youth Survey, 1998-2008</td>
</tr>
<tr>
<td>3</td>
<td>Frequencies, by Age and Gender, of Violent Behavior among Adolescents in Mobile, Alabama, from the Mobile Youth Survey, 1998-2008</td>
</tr>
<tr>
<td>4</td>
<td>Frequencies, by Age and Gender, of Gang Activity among Adolescents in Mobile, Alabama, from the Mobile Youth Survey, 1998-2008</td>
</tr>
<tr>
<td>5</td>
<td>Results of the multiple regression model, with the dependent variable = fighting, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents</td>
</tr>
<tr>
<td>6</td>
<td>Results of the multiple regression model, with the dependent variable = carrying a knife or gun, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents</td>
</tr>
<tr>
<td>7</td>
<td>Results of the multiple regression model, with the dependent variable = seeing someone cut, stabbed or shot, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents</td>
</tr>
<tr>
<td>8</td>
<td>Results of the multiple regression model, with the dependent variable = pulling or using a knife or gun, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents</td>
</tr>
<tr>
<td>9</td>
<td>Results of the multiple regression model, with the dependent variable = gang activity, for the relationship between religiosity and gang activity among economically disadvantaged adolescents</td>
</tr>
</tbody>
</table>
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Conceptual Framework of Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents..........................8</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Conceptual Framework incorporating the Theory of Planned Behavior into the Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents ........................................31</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Revised Conceptual Framework incorporating the Theory of Planned Behavior into the Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents ..........................64</td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

The Problem

Youth violence and gang activity are significant problems in urban populations. It has been shown that violent behavior and gang activity in adolescents increases proportionately with the size of the urban population. According to the National Youth Gang Survey, only 10% of cities with a population under 25,000 report significant problems with youth violence or gang activity (Egley et al, 2006). In contrast, 58% of cities with populations between 50,000 and 100,000, 85% of cities between 100,000 and 250,000, and 100% of cities over 250,000, have significant youth violence and gang activity problems (Egley et al, 2006). According to the 2000 United States census, the city of Mobile, Alabama falls into the category of cities with populations over 250,000, with over 400,000 people living in the Mobile metropolitan area.

In larger cities, youth gang violence accounts for a large and disproportionate amount of criminal activity. For example, youth gang members make up only 15% of the adolescent criminal population in Seattle, Washington (population 600,000), yet they commit 85% of the robberies in the city. Similarly, in Denver, Colorado (population 600,000), youth gang members make up only 14% of the adolescent criminal population but commit 79% of adolescent violent crime (Thornberry et al, 2003). Generally speaking, adolescent gang members are up to seven times more likely to commit violent crime than adolescent non-gang members (Howell, 2003).
The economic impact of youth violence and gang activity is significant. Since law enforcement agencies do not routinely record gang crimes under that specific category, it is difficult to provide precise figures on the economic impact of gang violence (Howell, 2006). However, a study done by Hutson et al in 1992 estimated the total medical cost of gang violence in Los Angeles County was over $1 billion per year. Waters et al (2005) estimated the cost of interpersonal violence in the United States of America as 3.3% of the Gross Domestic Product, but this estimate did not differentiate adolescent gang violence from other forms of interpersonal violence. Corso et al (2007) estimated the total costs associated with violence in the United States of America as almost $65 billion, due primarily to lost productivity and secondarily to medical costs. Zagar et al (2009) showed that average total costs for raising delinquent and violent youth were approximately twice the cost of raising their non-delinquent non-violent peers. The largest difference in costs was the total cost of raising a homicidal youth (almost $4 million) compared to a control group youth ($150,000), due to victimization and justice system costs.

In addition to the economic costs of youth violence, there are social, physiological and psychological effects. Soares (2006) estimated the social welfare cost of violence in 73 countries by examining mortality rates. The reduction in life expectancy due to violence was estimated to increase the social costs of violence by 40% in the United States of America, and by 57% in Latin America. Kliewer (2006) examined the physiological costs associated with violence exposure in African American youth living in high-violence urban areas, and found that witnessing violence was associated with increases in cortisol levels, leading to elevated heart rates and elevated blood pressure.
Suglia et al (2010) found that both cortisol levels and post-traumatic stress symptoms were increased in children exposed to community violence.

Factors Associated with Violent Behavior and Gang Activity

Many factors are thought to influence adolescent behavior and the likelihood of adolescents becoming involved in violent behavior and gang activity. One significant factor is the age of the adolescent. Smith (2002) and Pearce (2004) found that both violent behavior and gang activity peak between 16 and 18 years of age.

Other factors found to influence youth violence and gang activity are a sense of hopelessness and a lack of self worth. Kazdin (1983) found a direct relationship between the degree of hopelessness in adolescents and the likelihood of aggressive behavior and delinquency. Harter (1984) reported that increased feelings of self worth decreased the likelihood of gang activity. Other factors associated with violent behavior and gang activity in adolescents include gender (Farrington and Loeber, 2000), rejection, antisocial behavior, and academic failure (Dishion et al, 2005), poor academic performance and parental abuse (Wright and Fitzpatrick, 2006), and size of population (Egley et al, 2006).

The degree of adolescent anger, and the lack of effective mechanisms to control anger, have been found to be directly related to violent behavior (Eckhardt, 1995; Smith, 1994; Spielberger, 1995). Two effective anger control mechanisms are parental control and adolescent attitudes towards parents. Lamborn (1991) reported that adolescents with
authoritative parents were less likely to be involved in misconduct and delinquency. Cohen (1985) reported that adolescents with positive parental feelings had better self-esteem and were better able to handle stressful events, making them less likely to express violence.

Another factor found to influence adolescent behavior is neighborhood connectedness. Resnick (2004) found that adolescents with a strong sense of neighborhood connectedness were less likely to be involved in violent behavior or gang activity.

Few studies have focused specifically on religiosity, defined as an individual's religious activities and beliefs (Musgrave, 2002), and its relationship to youth violence and gang activity. Pearce et al (2004) examined the influence of intergenerational religious dynamics on juvenile delinquency. Their study found that, when maternal and child religiosity were similar, children were less likely to be involved in violent behavior. When religiosity was dissimilar between mother and child, the children were more likely to be involved in violent behavior.

Resnick et al (2004) analyzed the National Longitudinal Study of Adolescent Health and identified religiosity as a protective factor against becoming involved in violent behavior. Smith and Faris (2002) analyzed data from the Monitoring the Future national high school senior survey to examine the influence of religiosity on violent behavior and other activities. They found an inverse relationship between religiosity and violent behavior.

Gaps in Existing Research
There have been few studies that examine the relationship between religiosity, violent behavior and gang activity in disadvantaged youth, and there has been relatively little research done to investigate the impact of religiosity in low-income populations in the United States of America. Many studies on religiosity, crime and violence in low-income populations do not adequately address the direct effects and the indirect effects of religiosity on crime, and do not use multiple indicators to control for measurement errors (Johnson, 2000).

The United States Department of Health and Human Services published a comprehensive review of the role of religiosity in the lives of the low-income population in July 2009 (Joshi et al). Over 7000 studies were found that focused on religiosity and health in general, but less than 100 studies focused on religiosity and the low-income population, in eight outcome areas of interest to policymakers, such as mental and physical health outcomes and substance abuse. Most of these studies used only cross-sectional data and relied on only a single-item measure of religiosity. The Joshi et al review identified a limited number of studies that dealt with religiosity, crime and violent behavior in low-income youth. Two of these studies found a positive relationship between frequency of church attendance and lower crime and violence for low-income youth (DuRant, 1996; Johnson, 2000), while three studies found no relationship (Johnson, 2008; Giordano, 2008; Cox, 2003).

There is a number of research gaps found in the literature on the role of religiosity in low-income populations. There is a reliance on one-item measures to assess religiosity, rather than using more comprehensive multi-dimensional measures. There are a limited
number of studies that specifically explore the role of religiosity in violence and gang activity that are limited to low-income groups. There is a need for several measurement options to be used to explore a topic as broad as violence and to control for measurement errors. There is a need for more longitudinal research, rather than cross-sectional studies, to explore the long-term effect of religiosity on, violence and gang activity. Longitudinal studies allow for an evaluation of how effects change over time, and are more powerful for detecting change than study designs with no observations over time, such as cross-sectional studies (Shadish, Cook and Campbell, 2002). There is also a need for study samples which contain a sufficient proportion of disadvantaged, low-income, minority youth.

Addressing the Gaps

This study begins to address research gaps in the literature pertaining to religiosity, violent behavior and gang activity in adolescents, by analyzing selected data from a survey database consisting of responses to the Mobile Youth Survey, or MYS. The MYS is a longitudinal multiple cohort study that has been conducted annually since 1998 among low-income adolescents aged 10-18 years in Mobile, Alabama. To date, over 10,000 young people have been surveyed.

Analysis of the MYS survey data will help to address the research gaps in several ways. This research study will measure religiosity using the responses to two questions in the MYS, thereby increasing the potential reliability of the measure. This study will add
to the limited number of studies specifically exploring the role of religiosity in crime, violence and gang activity in low-income groups. This study will use several measurement options, in the form of different survey questions, to explore the relationship of religiosity to violent behavior and gang activity. This study will use ten years of data from a longitudinal study. Finally, this study will use survey responses from over 10,000 disadvantaged, low-income minority youth.

Research Objectives

The research questions (objectives) to be addressed through the analysis of the MYS database are as follows.

1. Assess the relationship between adolescent religiosity and involvement in violent behavior.
2. Assess the relationship between adolescent religiosity and involvement in gang activity.
3. Determine if there are gender differences between boys and girls regarding religiosity, violent behavior, and gang activity.

I hypothesize that there will be an inverse relationship between religiosity and violent behavior and between religiosity and gang activity in the adolescent study population, and that there will be a gender difference between boys and girls relative to religiosity, violent behavior and gang activity. Figure 1 is a conceptual framework for the hypothesized relationship between religiosity and violent behavior and between
religiosity and gang activity among adolescents in the Mobile study population. The conceptual framework includes other factors (age, hopelessness, self worth, gender, rejection, anti-social behavior, academic performance, parental abuse, anger, parental control, and neighborhood connectedness) found to be associated in different studies with violent behavior and gang activity in adolescents.

Figure 1. Conceptual Framework of Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents.

![Conceptual Framework Diagram]
CHAPTER 2
LITERATURE REVIEW

Definition of Religiosity

Religiosity is a term used to describe a person's practice of religion, i.e. their religious activities and beliefs (Musgrave, 2002). The term religiosity is often used synonymously with spirituality, but there is a subtle distinction. While religiosity refers to religious activities and beliefs within a formal structure, spirituality refers more to an inherent quality within all human beings that involves a belief in something greater than oneself, i.e. a belief in a higher power that may or may not be clearly defined as God (Musgrave, 2002).

Religiosity is further broken down into different components, classifications or dimensions depending on the author. For example, six dimensions of religiosity have been proposed, based on three components of religious behavior with each component having two classifications (Cornwall, 1986). The components are cognition or knowing, affect or feeling, and behavior or doing. Cognition describes what one knows about their religion, and is classified as traditional orthodoxy i.e. knowledge about the religion in general e.g. Protestantism, and particularistic orthodoxy e.g. knowledge about Lutheranism, a particular faith tradition within the general practice of Protestantism. Affect describes one's feelings about the religion, classified as spiritual feeling in general and also as one's physical commitment to the church. Behavior describes how one
practices religion, both through religious behavior (adherence to the principles of the religion) and through religious participation in formal rituals.

Other authors have described different dimensions of religiosity. Their numerous descriptions and definitions can be simplified into two categories or components (Joshi, 2009): intrinsic (or internal or individual or private or non-organizational) religiosity, which is the way an individual practices their religious beliefs e.g. a Muslim praying five times a day pointing east towards Mecca, and extrinsic (or external or public or organizational) religiosity, which describes involvement in a formal religious institution e.g. frequency of church attendance and Bible study attendance.

Measurement of Religiosity

Religiosity has been assessed using numerous measurement scales or instruments. These instruments typically take the form of questionnaires or surveys that measure different constructs and attempt to describe how these constructs impact or influence health outcomes. Some examples of existing scales include the Brief Multidimensional Measure of Religiousness/Spirituality, the Christian Spiritual Participation Profile, the Faith Development Scale, and the Faith Maturity Scale.

The Brief Multidimensional Measure of Religiousness/Spirituality or BMMRS (Felzer Institute, 1999) is a 38-item questionnaire. It measures a broad range of dimensions pertaining to religiousness and spirituality. The BMMRS measures intrinsic
religiosity e.g. religious coping and support, and values and beliefs, and extrinsic religiosity such as religious preference and organizational religiousness.

The Christian Spiritual Participation Profile (Thayer, 2004) is a 50-item questionnaire that assesses intrinsic religiosity for example personal experience in developing and maintaining a relationship with God, non-organizational religiosity and spiritual growth.

The Faith Development Scale (Leak, 1999) is a short 8-item scale that measures intrinsic religiosity, for example religious maturity and beliefs, religious activities, and acceptance of change. It also measures extrinsic religiosity, for example frequency of attendance at an established church.

The Faith Maturity Scale (Benson, 1993) is a 38-item scale that measures intrinsic religiosity, for example, values, community involvement, and the extent of personal spiritual growth.

Religiosity has also been measured in non-Christian faiths. For example, the Hindu Religious Coping Scale measures mental health, religious coping strategies and acculturation of Hindus in the United States (Tarakeshwar, 2003), and the Muslim Religiosity Scale (Krauss, 2007) has been used to measure the religious beliefs of Hindus, Muslims, Buddhists, and Christians in Malaysia.
Youth Violence and Gang Activity

A comprehensive review of the epidemiology of youth violence was conducted by Farrington and Loeber (2000). They discovered a number of trends. Very few acts of youth violence resulted in arrests. As a result, young perpetrators of violence tended to be persistent, frequent, and repeat offenders. Violent juveniles tended to have concurrent problems with substance abuse, high dropout rates, and victimization. An early age of onset of violence predicted a large number of subsequent offences. A number of major long-term risk factors for youth violence were identified, including high impulsiveness, low intelligence, poor parental supervision, frequent and harsh use of physical discipline i.e. beatings, parental violence, large family size, poverty, single parent households, peer delinquency, living in a high-crime community, and gang membership.

In general, boys are more violent than girls (Farrington and Loeber, 2000), and reasons for engaging in violent activity also differ between boys and girls. Yonas et al (2005) found that both boys and girls reported romantic relationships, a perceived need to earn respect, idleness, witnessing violence, and gang membership as common reasons to commit violent acts. Reasons unique to boys included fighting over money and fighting over drugs. Reasons unique to girls included fighting over offensive gossip.

There are many predictors of gang involvement and activity in adolescents. Dishion et al (2005) found that rejection by the peer group, anti-social behavior, and academic failure were predictive of gang involvement for most adolescents. Wright and Fitzpatrick (2006) examined risk factors associated with fighting and gang activity in African American children and adolescents. They found that poor grades and parental
abuse were associated with a higher frequency of fighting and gang activity. Gatti et al (2005) tested three hypotheses related to adolescent gang involvement and delinquency. The selection hypothesis was that adolescents who commit more crimes join gangs. The facilitation hypothesis was that gang membership facilitates delinquent behavior, and the enhancement hypothesis was that selection and facilitation work interactively. They found that the facilitation hypothesis explained the behavior of transient gang members, while the enhancement hypothesis best explained the behavior of more stable gang members.

Pacheco (2009) stated that adolescents join gangs for “security and love”. They receive a sense of purpose and positive reinforcement from their peers in the gang. The Office of Juvenile Justice and Delinquency Prevention estimates that, in the United States of America in 2006, less than 1% of all youth ages 10-17 were members of gangs. According to Pacheco, these adolescents are filling a void in their lives, substituting the structure and acceptance of the gang for the emotional support and security that they lack in their home environment. There are a number of risk factors associated with youth involvement in gangs. Family risk factors include a stressful abusive home life, low parental education and low educational expectations, limited or no English speaking parents, and general lack of parental support. Community related risk factors include a high transient population, high criminal activity, lack of school and recreational facilities, lack of youth employment opportunities, and poor police relations with the community. Personal risk factors include low self-esteem, low education, and drug and alcohol abuse. School risk factors include poor attendance, low teacher expectations, poor academic standards, and poorly maintained school buildings.
Violent behavior and gang activity among adolescents tends to increase as the size of the population increases. The National Youth Gang Survey (Egley et al, 2006) shows that only 10% of cities with a population under 25000 report significant problems with youth violence or gang activity, whereas 58% of cities with populations between 50000 and 100000, 85% of cities between 100000 and 250000, and 100% of cities over 250000 (including Mobile according to the 2000 US Census) report these problems. In larger cities, youth gang violence accounts for a disproportionate amount of criminal activity. For example, in Seattle, gang members make up 15% of the adolescent criminal population but commit 85% of robberies, and in Denver, gang members, while only 14% of the young criminal population, commit 79% of adolescent violent crime (Thornberry et al, 2003). In general, adolescents who are in gangs are up to seven times more likely to commit violent crimes than young people who are not gang members (Howell, 2003).

It is difficult to provide a precise estimate of the economic impact of gang violence because law enforcement agencies do not routinely record gang crimes as such (Howell, 2006). Hence, specific youth crime and gang activity data for Mobile is lacking. Since gang crimes are not routinely recorded in this category, updated and specific estimates of economic impact are scarce. Waters et al (2005) estimated the cost of interpersonal violence in the United States of America as 3.3% of the Gross Domestic Product, but this estimate did not differentiate adolescent gang violence from other forms of interpersonal violence. Corso et al (2007) estimated the total costs associated with violence in the United States of America as almost $65 billion, due primarily to lost productivity and secondarily to medical costs. A study by Hutson et al (1992) estimated that the total medical cost of gang violence in Los Angeles County during the early
1990's was over $1 billion annually. Zagar et al (2009) studied data from groups of violent and delinquent youth and compared them to control groups of non-violent and non-delinquent youth with regards to direct and indirect costs of raising these youths from birth to 17 years of age. Their study showed that average total costs for raising delinquent and violent youth were approximately twice the cost of raising their non-delinquent non-violent peers. The largest difference in costs was the total cost of raising a homicidal youth (almost $4 million) compared to a control group youth ($150,000), due to victimization and justice system costs.

In addition to the economic costs of youth violence, there are social, physiological and psychological effects. Soares (2006) estimated the social welfare cost of violence in 73 countries by examining mortality rates. The reduction in life expectancy due to violence was estimated to increase the social costs of violence by 40% in the United States of America, and by 57% in Latin America. Kliewer (2006) examined the physiological costs associated with violence exposure in African American youth living in high-violence urban areas, by measuring salivary cortisol immediately before and after viewing a community violence video, and one week after the video viewing. It was found that witnessing violence was associated with increases in cortisol levels, leading to elevated heart rates and elevated blood pressure. Further research was recommended to determine the long-term physiological effects of violence exposure. Suglia et al (2010) examined cortisol responses and post-traumatic stress symptoms related to community violence in urban youth ages 7-13. Both cortisol levels and post-traumatic stress symptoms were found to be increased in these children, and these increases were associated with community violence exposure.
Most theories of religious development in adolescents have the cognitive developmental theory of Piaget as their foundation (Piaget and Inhelder, 1958). This theory proposes that thought or cognition moves from concrete imagery and literal beliefs in childhood to more abstract thinking in adolescence. Religious beliefs and values begin to take on the meanings that they will have in adulthood in adolescence. Elkind (1970) found that religious beliefs and practices develop throughout childhood, in three stages that are similar to the preoperational, concrete operational, and formal operational stages of cognitive development in Piaget’s theory. According to Elkind, stage 1 of religious development occurs in pre-school aged children, when they begin to use signs and symbols to represent real objects. At this stage, children are able to use categorical thinking, but they do not understand what distinguishes one category (such as a particular religion) from another. Stage 2 of religious development occurs in the elementary school years, when there is an increased level of religious understanding, based on observable behavior rather than on thoughts and feelings. Stage 3 of religious development begins in pre-adolescence or early adolescence, when abstract concepts such as differences in religious beliefs begin to be understood, and there is personal reflection and exploration of religious beliefs. It is in stage 3 of religious development that lifetime religious practices and beliefs become established, so that adolescent responses to religious questions at this stage will be similar to their adult responses.
Fowler (1991) developed a theory of faith development similar to Elkind’s theory, in which faith develops in the context of interpersonal relationships over a lifetime. In Fowler’s theory there are four stages of faith consciousness. The first stage is primal faith, which occurs in infancy, and is related to the development of a sense of trust in the caregiver responsible for the infant’s wellbeing. The second stage is intuitive-projective faith, when children, lacking the capacity for logical reasoning, are trying to make sense out of their life experiences. At this stage children use their imagination and use symbols to understand what they are taught about religion, and the emotional basis for religious faith is established. The third stage is mythic-literal faith, occurring during the elementary school years when concrete operational thoughts begin to develop. Children in this stage are able to think logically about real events in their everyday life, but they have difficulty fully understanding abstract concepts such as religion. As a result, they will accept the religious beliefs and practices of their parents without question, even though they do not understand religious concepts in any detail or depth. The fourth and final pre-adult stage of faith development is synthetic-conventional faith, occurring during the pre-adolescent and early adolescent years when formal operational thought is established. At this stage adolescent children are able to compare and contrast religious concepts, and question religious beliefs that they were raised with.

Oser (1991) developed a stage theory of the development of religious judgment that is similar to the stage theories of Elkind and Fowler. Oser described four stages of development of religious judgment in children. In stage 1, children have a literal view of God and religion, in which God must be obeyed to avoid immediate punishment. In stage 2, older children and adolescents have a less punitive view of God. God is more
approachable, and through prayer and obedience to religious rituals health and happiness will be rewarded. At the same time, God is less likely to intervene directly in everyday life. Stage 3 begins in adolescence, where individual responsibility is seen as more important to wellbeing, and God is viewed as being only indirectly related to everyday life. A small percentage of older adolescents go through stage 4, where they return to a more fundamentalist view of God as the ultimate authority in their lives, but most adolescents remain in stage 3.

In contrast to the age-related stage theories of Elkind, Fowler and Oser, an attachment theory focusing on individual differences in religious beliefs was developed by Kirkpatrick (1997). This theory proposes that individuals’ religious beliefs are influenced primarily by their parents, in infancy and early childhood, and the nature of this influence is affected by the quality of the parent-child relationship. Children with strong parental attachment are more likely to adopt the religious beliefs of their parents than children with weak parental attachment.

There are many proposed mechanisms whereby religiosity influences adolescent behavior. These mechanisms include creation of social capital and social support, promotion of healthy behavior, promotion of pro-social behavior and inhibition of anti-social behavior, and provision of a sense of purpose and meaning in life (George et al, 2000). Religiosity builds social capital and creates social support for children and adolescents who belong to a religious community by providing a network of caring adults who serve as resources for emotional support (King and Furrow, 2001). Religiosity promotes healthy behavior in many ways. For example, most religions have proscriptions against drug and alcohol use, include dietary restrictions, and promote a healthy body as
well as a healthy mind and spirit (McBride et al, 1996). Pro-social behavior is promoted through involvement in community service activities. For example, Hodgkinson and Weitzman (1997) found that school groups and church groups were the two most frequent ways that adolescents became involved in service activities. Religiosity can also provide purpose and meaning in life during adolescence, at a time when young people are searching for institutions to provide answers to questions concerning the meaning of life (Bridges and Moore, 2002).

The effect of religiosity on young people has been studied for several decades. One early study (Hirschi and Stark, 1969) found no significant effect of religiosity on juvenile delinquency, but most subsequent studies find an inverse relationship (i.e. a positive effect) between religiosity and juvenile substance abuse and delinquency (Cochran, 1989; Evans, 1993; Wallace, 1997; Smith, 2003). Religiosity may also exert a protective influence on youth at risk for suicide (Donahue, 1995), possibly by lowering depression and hopelessness (Wright, 1993).

Religiosity has also been shown to enhance adolescent health behaviors by improving diet, exercise, and sleep habits (Jessor, 1998), and reducing the likelihood of risk behaviors (Wallace, 1998). It may also improve problem-coping skills (Shortz, 1994) and reduce school dropout rates (Scharf, 1998).

There are other control factors or predictive factors that affect adolescent behavior and may influence the propensity toward violent behavior and gang activity. The age of the adolescent has been shown to be a significant predictive factor, e.g. by Smith (2002) and Pearce (2004), who reported violent behavior and gang activity peaking in the later teenage years, 16-18. A sense of hopelessness and a lack of self worth are important
influences. Kazdin (1983) found that the degree of hopelessness in adolescents was directly related to the likelihood of aggressive behavior and delinquency. Harter (1984) found that increased feelings of self worth made it less likely that an adolescent would become involved in gang activity. Many authors (e.g. Eckhardt, 1995; Smith, 1994; Spielberger, 1995) have found that the degree of anger in adolescents, and the lack of effective control mechanisms to suppress anger, are directly related to the likelihood of violent behavior.

Parental control and attitudes towards parents are important predictive factors in violent behavior and gang activity in adolescents. For example, Lamborn (1991) reported that adolescents with authoritative parents were less likely to be involved in misconduct and delinquency, including violence and gang activity, than adolescents with neglectful parents or indulgent parents. Cohen (1985) showed that adolescents with positive feelings towards their parents reported enhanced self-esteem and social support which increased their ability to handle stressful events and made them less likely to be violent.

Neighborhood connectedness also plays a role in modifying adolescent behavior. Resnick (2004) found that adolescents with a strong sense of connectedness to their neighborhoods were less likely to be involved in violence or delinquency including gang activity.

Some studies have focused directly on religiosity and youth violence, gang activity and juvenile delinquency. Pearce et al (2004) explored the influence of intergenerational religious dynamics on juvenile delinquency, focusing on the mother-child relationship. The authors used data from the National Longitudinal Study of Adolescent Health, a study of adolescents in grades 7-12 conducted in two waves in 1995.
and 1996. In-home interviews of parents and children were conducted. Some of the children were randomly sampled with in-depth questions related to religious beliefs and criminal involvement including violent activity. Religiosity was measured with a two-item scale asking about frequency of religious service attendance and about the importance of religion. Delinquency involvement was measured based on self-reports of fourteen different delinquency activities including fighting in a group and stabbing or shooting someone. Sensitive questions were asked by having the adolescents listen to the questions through earphones and respond using a laptop computer, to avoid social desirability bias. The youth sample was limited to children with a biological, step- or adopted mother, resulting in a total sample of 10,444 adolescents and their mothers. The authors found that both the mother's religiosity and the child's religiosity were inversely related to the child's subsequent delinquency when both mother and child were similarly religious. When mother and child were religiously different, children were more likely to be delinquent.

This study highlighted the importance of mother-child religious similarity and its effect on subsequent adolescent delinquency. One possible explanation for this is that mother-child religious similarity may foster parent-child closure, an important concept in social control theory (Smith, 2003) in which the parent teaches the child moral order through religious instruction, the child develops learned competencies such as restraint and self-control, and develops social and organizational ties that are positive (e.g. youth volunteer organizations) rather than negative (e.g. gang activity).

Resnick et al (2004) also used findings from the National Longitudinal Study of Adolescent Health to identify individual- , family- and community-level risk factors and
protective factors for violent behavior in adolescents. The authors used multivariate regression models controlling for demographic covariates. The key outcome variable was year two (one year after initial data collection) violence involvement, measured on a validated scale of violence perpetration. Predictive risk factors included a history of violence involvement, violence victimization, weapon carrying, problems at school, and substance abuse. Protective factors against violence involvement in year two included religiosity, parental expectations, parental connectedness, connectedness with other adults, connectedness with school, and higher grade point average. Probability profiles were performed to assess the ability of the protective factors to offset the risk factors. It was shown that the presence of protective factors significantly reduced the percentage of youth violence perpetration, even in the presence of risk factors. The authors concluded that their findings supported the use of a dual strategy of enhancing protective factors while reducing predictive factors in order to reduce youth violence perpetration.

Smith and Faris (2002) used data from the Monitoring the Future national survey of high school seniors to examine the influence of religion on adolescent delinquency, risk behaviors and social activities. Four religiosity factors were measured: frequency of church attendance, importance of religion, years of participation in church youth groups, and religious affiliation. Thirty delinquency- and risk-related questions were asked, including smoking, drinking, drug use, fighting and vagrancy. Nine control factors were identified, including race, age, sex, and education of parents. Multiple regression models were run separately for each religion variable so as to test the relationship between different religiosity factors and avoid confounding. The authors found that religiosity had an inverse relationship with smoking, drinking, drug use, fighting and vagrancy. It was a
positive predictor of behavior in school, volunteerism, and frequency of sport participation and exercise. These relationships were statistically significant even after controlling for the nine control factors. The authors did note, however, that the study was cross-sectional, so it was difficult to determine the direction of cause and effect, and the study was self-administered, so self-selection and social desirability could have introduced bias into the results.

There are five recent studies that examine the relationship between religiosity, crime and violent behavior in low-income youth. Two of these studies (DuRant, 1996; Johnson, 2000) found a positive relationship between the frequency of church attendance and lower crime and violence for low-income youth. Three of these studies (Cox, 2003; Giordano, 2008; Johnson, 2008) found no significant relationship between the frequency of church attendance and lower crime and violence for low-income youth.

DuRant et al (1996) examined the influences of church attendance (the single measure of religiosity used), exposure to violence, depression, multiple drug use, and demographic variables on young adolescents’ intentions to use violence to resolve conflicts. The Intentions to Use Violence in Hypothetical Situations Scale was administered to 225 young adolescents of mean age 12.9 + 1 years, 49.4% male and 88.7% African American, in two middle schools serving low-income and working-class communities. The adolescents were asked how they would resolve conflicts in 15 different hypothetical situations. Each hypothetical situation had 10 possible responses ranging from humor or avoidance to severe violence e.g. gun use. The Intentions to Use Violence in Hypothetical Situations Scale was significantly correlated with lower church attendance, age, school grade, frequency of smoking tobacco and marijuana, frequency of
alcohol and crack cocaine use, exposure to violence, and depression. Amongst these variables, frequency of church attendance, exposure to violence, and frequency of smoking tobacco and marijuana and using alcohol and crack cocaine accounted for 36.6% of the variation in the scale. The authors concluded that adolescents who attended religious services more often were less likely to report that they would use violence to resolve interpersonal conflict.

Johnson et al (2000) tested the hypothesis that the religiosity of an individual at-risk youth living in poor inner-city areas would be protective from drug use and other illegal activities, i.e. that religiosity would be a protective factor that buffered or shielded at-risk inner-city African-American youths from negative behaviors. They used data from a 1979-1980 interview survey of 2358 young black males from impoverished inner-city areas of Boston, Chicago and Philadelphia. The survey instrument used was the Survey of Inner-City Black Youth developed by the National Bureau of Economic Research. Black males ages 16-24 living in neighborhoods with at least 70% black residents and 30% of families living below the poverty line were surveyed. The single measure of religiosity used was church attendance. They concluded that the frequency of attending religious services (church attendance) had significant inverse effects against drug use and other illegal activities, i.e. church attendance had a protective effect. This effect was thought to be due to the youths bonding to an institution of informal social control in the form of the church. Since the study was based on cross-sectional data, causal inferences could not be made. However, the research findings suggested a protective role of youth religiosity against criminal activity.
Cox et al (2003) investigated the role of different risk factors and protective factors in the relationship between domestic violence and child maltreatment. Interviews were conducted with 219 families with children aged 6 years (46%) or 7 years (54%) old. The families interviewed were predominantly low income (66%), African American (65%), and headed by single mothers (52%). Trained interviewers conducted two-hour interviews with the mothers, and measured demographics, maternal functioning, life events, and the behavior of the children. The children were administered measures of cognitive development and psychological functioning, including parental support and witnessing violence. Maternal and family risk factors measured included age at child’s birth, number of children, maternal education, household income, childhood abuse, history of abusive relationships, depression, alcohol consumption, and maternal stress. Protective factors measured included parental support received by the child, degree of family functioning, social support for the caregiver, and maternal involvement in a religious community. Maternal religious involvement was evaluated by a single measure, frequency of church attendance. The study determined that young maternal age, low education, low income, and a lack of involvement in a religious community i.e. low frequency of church attendance, added to the risk of child maltreatment associated with domestic violence. However, the relationship between frequency of church attendance, domestic violence and child maltreatment was not significant.

Giordano et al (2008) examined the role of spirituality and religious participation in youths as influences on adult patterns of criminality. They analyzed a long-term follow-up study, i.e. a longitudinal study, of 152 subjects interviewed as adolescents in 1982 and as adults in 1995 and 2003. The study data was derived from the Ohio
Lifecourse Study, a three-wave interview study. The first interviews were conducted in 1982 when the adolescents were in juvenile correctional institutions. This first wave consisted of 127 boys and 127 girls, average age 16.3 years old, with 37.5% African-Americans and 62.5% white youths. The second wave of surveys in 1995 included 210 subjects from the first wave. The third wave of surveys in 2003 included 152 of the 210 subjects from the second wave, and consisted of 75 males and 77 females, average age 37.2 years old. Measures of religiosity used were church attendance (a measure of religious participation) and perceived closeness to God (a measure of spirituality).

Criminality was measured in terms of self-reported delinquency and incarceration in the two adult follow-up interviews. The study revealed no significant association between youth religiosity and adult involvement in criminal activity. Some individuals showed evidence that religiosity exerted a protective effect on criminality, but the protective effect was not consistent and not predictable.

Johnson (2008) examined the hypothesis that religious involvement in African American youth would significantly shield them from the effects of neighborhood disorder and lessen their involvement in youth crime. The study analyzed data from the fifth wave of the National Youth Survey from 1725 respondents ages 15 through 21 years old. The data included measures of neighborhood disorder and religious involvement. Measures of neighborhood disorder included vandalism, abandoned houses, and burglaries in the neighborhood. The single measure of religious involvement was frequency of church, mosque or synagogue attendance. Multivariate analysis indicated that frequent church attendance significantly interacted with the effects of neighborhood
disorder on youth crime, but the frequency of involvement in crime, while reduced, was not significantly reduced ($p = 0.11$).

Possible Application of the Theory of Planned Behavior to the relationship between Religiosity, Violent Behavior and Gang Activity

The Theory of Planned Behavior or TPB is an example of an intrapersonal or individual health behavior theory, focusing on factors within an individual, such as knowledge, attitudes and beliefs, which affect health behavior (Montano and Kasprzyk, 2002). The Theory of Planned Behavior states that an individual's intention to perform a desired behavior is a function of their attitude toward performing the behavior, their beliefs about what people who are relevant to them think that they should do (i.e. their subjective norm), and their perception as to whether or not they have control over carrying out the desired behavior, or perceived behavioral control (Cottrell and Girvan, 2006). The TPB is an extension by Ajzen (1988) of the earlier Theory of Reasoned Action or TRA (Fishbein and Ajzen, 1975), by adding the construct of perceived behavioral control to the TRA's constructs of attitude toward behavior and subjective norm in order to deal with behaviors over which people have incomplete voluntary control (Ajzen, 1991).

The Theory of Planned Behavior considers three constructs, attitude toward a behavior, subjective norm, and perceived behavioral control to be conceptually independent yet inter-related determinants of behavioral intention. Attitude toward a
behavior is the degree to which a person is favorably or unfavorably disposed toward a particular behavior, subjective norm is the perceived social pressure to perform or not perform a behavior, and perceived behavioral control is the perceived ease or difficulty of performing the behavior in light of past experience and anticipated obstacles (Ajzen, 1991). The relative importance of these three constructs in determining behavioral intention will vary with the particular situation and behavior.

The central factor in the Theory of Planned Behavior is the construct of behavioral intention, which is the individual's intention to perform a particular behavior. Generally speaking, the stronger the intention to perform the behavior, the more likely the behavioral outcome is to occur. Behavior is also influenced by perceived behavioral control, the voluntary control that the person has or thinks they have over deciding whether or not to perform a certain behavior. The behavioral intention construct represents a person's motivation to perform a behavior. Perceived behavioral control represents the person's ability to perform the behavior. Together, behavioral intention and perceived behavioral control represent a person's actual control over a behavior (Ajzen, 1991). Perceived behavioral control is related to the concept of self-efficacy (Bandura, 1982), which is an individual's judgment as to how well they can carry out a desired action or behavior. Self-efficacy beliefs influence choice of action, degree of preparation for that action, and the effort put forth to carry out that action. The Theory of Planned Behavior relates the construct of self-efficacy to the construct of perceived behavioral control, and places these constructs within a general framework of relationships between attitudes, beliefs, intentions, and behavior (see Figure 2).
The Theory of Planned Behavior also considers three kinds of salient beliefs to be antecedents to the constructs of attitudes toward behavior, subjective norm, and perceived behavioral control (Ajzen, 1991). Behavioral beliefs refer to the person's knowledge about a particular behavior, and influence attitudes toward a behavior. Normative beliefs relate to the likelihood of important referent groups approving or disapproving of a certain behavior, and determine a person's subjective norms. Control beliefs involve a person's belief that they have or do not have the required resources to perform a behavior, and determine a person's perceptions of behavioral control. Together, these salient beliefs are the ultimate determinants of a person's intentions and actions.

The Theory of Planned Behavior has been used to explain the influence of religiosity on adherence to breast cancer screening guidelines in African American women (Gullatte, 2006). Attitude towards the screening guidelines was affected by the degree of religiosity/spirituality of the women, with more religious women having a more fatalistic attitude ("God's will") towards getting screened, resulting in a decreased behavioral intention to adhere to screening guidelines, with negative behavioral action occurring i.e. decreased self breast exams or mammograms. The people relevant to these women (the subjective norm) also tended to be more religious, negatively impacting the behavioral intention and the desired behavior. Perceived behavioral control was also negatively affected by religiosity, with more religious women having more of an external locus of control ("leave it up to God") and less of a motivation to learn about screening guidelines and to practice them.

The theory of planned behavior can be applied to help explain the relationship of religiosity to violent behavior and gang activity among adolescents in Mobile, Alabama.
Religiosity could inversely affect positive attitudes towards violent behavior and gang activity, with more religious young people being less likely to be violent or involved in gang activity (Cochran, 1989; Evans, 1993; Wallace, 1997; Smith, 2003). The degree of anger, and lack of control mechanisms to suppress anger, could directly affect attitudes towards violent behavior and gang activity. Parental control (Lamborn, 1991), attitudes towards parents (Cohen, 1985), and neighborhood connectedness (Resnick, 2004) could influence adolescent beliefs about how key people in their lives feel about their behavior (i.e. subjective norms) and motivate them to behave in such a way as to gain the approval of these people, by abstaining from violent behavior and gang activity. Perceived behavioral control could be directly influenced by feelings of hopelessness (Kazdin, 1983) and decreased self worth (Harter, 1984), affecting the adolescents’ beliefs that they have the ability to exert control over their behavior and resist violent behavior and gang activity (see Figure 2).
Figure 2. Conceptual Framework incorporating the Theory of Planned Behavior into the Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents.
CHAPTER 3
METHODS

Study Design: Parent Study

The study design involves an analysis of survey data consisting of responses to the Mobile Youth Survey (MYS; Bolland, 2003; Bolland, Lian and Formichella, 2005). The MYS is a longitudinal multiple cohort study of low-income adolescents, predominantly African-American, aged 10-18 years. The survey is administered in seven public housing developments and six non-public housing neighborhoods in the most impoverished parts of Mobile and Prichard, Alabama, within the Mobile Metropolitan Statistical Area. These neighborhoods are predominantly African-American. Within these neighborhoods the African-American population ranges from 84.5% to 100% of the total population. Poverty rates in the neighborhoods range from 31.5%-81.4%. Median household incomes range from $6,696-$18,426 (United States Census, 2000).

Gangs reportedly present in Mobile include the Crips and the Bloods. These predominantly African American street gangs originated in California, and have spread to the southeastern United States in recent years (National Gang Center, 2012).

The MYS has been conducted annually since 1998. In the summer of 1998 (May, June, and July, when schools were no longer in session), active and passive recruitment took place within the public housing units and non-public housing units in Mobile and
Prichard. Housing units were selected at random. During active recruitment, adolescents living in the selected areas were asked to participate in the Mobile Youth Survey, after receiving parental consent. Passive recruitment within the selected neighborhoods consisted of posted flyers advertising the study and calling for participants to contact the study administrators. In subsequent years similar recruitment strategies were used. An important feature of the study was that all previous respondents were actively recruited each following year, generating a stream of longitudinal data as the study respondents are followed throughout their adolescence.

Mobile Youth Survey administration takes place in a group setting at various community locations, with 10-20 study participants per room. Participants received a $10 incentive from 1998-2004 for taking the survey. Since 2005 the incentive for taking the survey has been $15. To date, over 10,000 young people have been surveyed. Individuals in the survey are assigned unique identification numbers that allow them to be tracked annually. The initial survey consisted of 294 multiple choice questions, adapted and modified from existing scales (e.g. Benson et al, 1993; Kazdin et al, 1983; Harter, 1982), addressing a number of psychosocial variables, including questions on religiosity, violent behavior and gang activity (see Appendix C. Mobile Youth Survey 2000). School connectedness items and additional questions regarding parental relationships and attribution style were added in 2006, increasing the total number of items in the survey to four hundred and six.
Measures

Measures derived from the Mobile Youth Survey (MYS) were used as variables in this study. The independent variable used in this study is religiosity. The dependent variables are violent behavior (fighting, carrying a knife or gun, seeing someone cut, stabbed or shot, and pulling or using a knife or a gun) and gang activity. Other variables included in the analyses are age, sense of hopelessness, sense of self worth, externalized and internalized anger, parental control (curfew and parental monitoring), feelings towards parents or warmth toward mother, and neighborhood connectedness. The variables, the MYS questions used to measure the variables, the source of the questions, and the range of Cronbach alpha coefficients for the questions or scale items used, are presented in Table 1.
Table 1. *Mobile Youth Survey variables of interest: Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents.*

<table>
<thead>
<tr>
<th>Variable</th>
<th>MYS Questions</th>
<th>Source</th>
<th>alpha(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>1</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>Beliefs and Attitudes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religiosity</td>
<td>17-18</td>
<td>None</td>
<td>0.53-0.62</td>
</tr>
<tr>
<td><strong>Behavior</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fighting</td>
<td>268-270</td>
<td>Browne et al, 2001</td>
<td>0.62-0.65</td>
</tr>
<tr>
<td>Carrying a knife or gun</td>
<td>284-291</td>
<td>Browne et al, 2001</td>
<td>0.62-0.65</td>
</tr>
<tr>
<td>Seeing someone cut, stabbed or shot</td>
<td>292-293</td>
<td>Browne et al, 2001</td>
<td>0.62-0.65</td>
</tr>
<tr>
<td>Pulling or using a knife or a gun</td>
<td>303-308</td>
<td>Browne et al, 2001</td>
<td>0.62-0.65</td>
</tr>
<tr>
<td>Gang activity</td>
<td>327-330</td>
<td>None</td>
<td>0.62-0.65</td>
</tr>
<tr>
<td><strong>Psychosocial Variables</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sense of hopelessness</td>
<td>188-193</td>
<td>Kazdin, 1983</td>
<td>0.69-0.75</td>
</tr>
<tr>
<td>Sense of self-worth</td>
<td>254-262</td>
<td>Harter, 1984</td>
<td>0.62-0.65</td>
</tr>
<tr>
<td>Externalized anger</td>
<td>278</td>
<td>Spielberger &amp; Sydeman, 1991</td>
<td>0.57-0.67</td>
</tr>
<tr>
<td>Internalized anger</td>
<td>283</td>
<td>Spielberger &amp; Sydeman, 1991</td>
<td>0.41-0.56</td>
</tr>
<tr>
<td>Curfew</td>
<td>78-81</td>
<td>Lamborn et al, 1991</td>
<td>0.63-0.71</td>
</tr>
<tr>
<td>Parental monitoring</td>
<td>82-87</td>
<td>Lamborn et al, 1991</td>
<td>0.56-0.65</td>
</tr>
<tr>
<td>Feelings towards parents or warmth toward mother</td>
<td>30-35</td>
<td>Lamborn et al, 1991</td>
<td>0.61-0.71</td>
</tr>
<tr>
<td>Neighborhood connectedness</td>
<td>385-395</td>
<td>Glynn, 1981; Perkins et al, 1990</td>
<td>0.55-0.63</td>
</tr>
</tbody>
</table>

\(^a = \) range of Cronbach alpha coefficient for scales

Cronbach’s alpha is a coefficient derived from the ratio of the variances of each item used in a scale to the covariances between the items (Zinbarg et al, 2006). It is used to assess the internal consistency or reliability of a scale. It is an indicator of the degree to which the questions on a scale measure a construct or variable, and the extent to which that measure will give the same result every time it is applied. Cronbach’s alpha ranges from zero to one. Generally speaking, the higher the alpha of a scale item, the more reliable the scale item is at measuring a construct. For a scale with a few items, each item
should have a high Cronbach’s alpha. For a scale such as the MYS which has hundreds of items, a lower Cronbach’s alpha may be permissible for individual scale items.

More detailed information about each variable is discussed below.

Independent variable

Religiosity. Religiosity was measured based on dichotomized responses to two questions: “About how often do you go to church, worship services, or other religious activities?” with response options of “Never” and “Once in a while” coded as 0 and “About once a month”, “About 2 or 3 times a month”, and “Once a week or more” coded as 1, and “How important is religion to you?” with “Not important” coded as 0 and “Somewhat important” and “Very important” coded as 1, so the religiosity score could be either zero or one. The questions were summed and the scale ranged from 0 to 2.

Dependent variables

Violent behavior. Violent behavior was measured based on responses to various questions. The separate variables related to violent behavior were fighting, carrying a knife or gun, seeing someone cut, stabbed or shot, and pulling or using a knife or a gun.

Fighting (Browne et al, 2001). Adolescents were asked the questions: “Have you ever been in a physical fight (a fight with hitting, kicking, or pushing)?”; “In the past 3 months (90 days) were you in a physical fight?”; and “In the past month (30 days) were you in a
physical fight?” Responses were coded as a dichotomous variable with “No” = 0 and “Yes” = 1. The questions were summed and the scale ranged from 0 to 3.

*Carrying a knife or gun* (Browne et al, 2001). Adolescents were asked the questions:

“Have you ever carried a knife or razor?” (coded as a dichotomous variable with “No” = 0 and “Yes” = 1); and “In the past 3 months (90 days), did you carry a knife or razor?”; “In the past month (30 days), did you carry a knife or razor?”; “In the past week (7 days), did you carry a knife or razor?”; “Have you ever carried a gun?”; “In the past 3 months (90 days), did you carry a gun?”; “In the past month (30 days), did you carry a gun?”; and “In the past week (7 days), did you carry a gun?”, coded as dichotomous variables with “No” = 0 and “Yes, just once” and “Yes, more than once” = 1. The questions were summed and the scale ranged from 0 to 7.

*Seeing someone cut, stabbed or shot* (Browne et al, 2001). Adolescents were asked the questions: “Have you ever seen someone being cut, stabbed, or shot?” (coded as a dichotomous variable with “No” = 0 and “Yes” = 1); and “In the past 3 months (90 days), did you see someone being cut, stabbed, or shot?” (coded as a dichotomous variable with “No” = 0 and “Yes, just once” and “Yes, more than once” = 1). The questions were summed and the scale ranged from 0 to 2.

*Pulling or using a knife or a gun* (Browne et al, 2001). Adolescents were asked the questions: “Have you ever pulled a knife or a gun on someone else?” (coded as a dichotomous variable with “No” = 0 and “Yes” = 1); and “In the past 3 months (90 days), did you pull a knife or a gun on someone else?”; “In the past month (30 days), did you pull a knife or a gun on someone else?”; “Have you ever cut or stabbed someone else?”; “In the past year (12 months), did you cut or stab someone else?”; “Have you ever shot a
gun at someone else?”; and “In the past year (12 months), did you shoot a gun at someone else?”. Responses were coded as dichotomous variables with “No” = 0 and “Yes, just once” and “Yes, more than once” = 1. The questions were summed and the scale ranged from 0 to 7.

Gang activity. Gang activity was measured based on responses to various questions. Adolescents were asked the questions: “How much do you worry about gangs in your neighborhood?” (coded as a dichotomous variable with “Not at all” = 0 and “Some” and “Very much” = 1); and “Have you ever been involved in a gang?”; “Are you currently involved in a gang?”; and “Do you hang out with members of a gang?” (coded as dichotomous variables with “No” = 0 and “Yes” = 1). The questions were summed and the scale ranged from 0 to 4.

Other Variables included in the analysis

Age. Age is based on responses to the question “How old are you?” with response options ranging from 10 to 18 years.

Sense of hopelessness (Kazdin, 1983). Hopelessness is an additive scale with a range of 0-6 based on dichotomous agree (coded as 1)/disagree (coded as 0) responses to the following six statements: “All I see ahead of me are bad things, not good things”; “There’s no use in really trying to get something I want because I probably won’t get it”; “I might as well give up because I can’t make things better for myself”; “I don’t have good luck now and there’s no reason to think I will when I get older”; “I never get what I want, so it’s dumb to want anything”; and “I don’t expect to live a very long life”.
**Sense of self worth** (Harter, 1984). Adolescents were asked to respond to a series of nine statements related to self worth, and asked to indicate which statements were most like them. Responses were coded as dichotomous variables with positive responses = 1 and negative responses = 0. Sense of self worth is an additive index with a range of 0 to 9.

**Anger.** Variables related to anger were externalized anger and internalized anger.  
*Externalized anger* (Spielberger & Sydeman, 1995). Adolescents were asked the question: “When I get angry, I get into fights”. Responses were coded as a dichotomous variable with “Often true for me” and “Sometimes true for me” = 1 and “Almost never true for me” = 0.

*Internalized anger* (Spielberger & Sydeman, 1995). Adolescents were asked the question: “When I get angry, I figure out what to do about it by myself”. Responses were coded as a dichotomous variable with “Often true for me” and “Sometimes true for me” = 1 and “Almost never true for me” = 0.

**Parental control.** Variables related to parental control were curfew and parental monitoring.

*Curfew* (Lamborn et al, 1991). Adolescents were asked the questions: “Are you allowed to stay out as late as you want on school nights?”; “Are you allowed to stay out after dark on school nights?”; “Are you allowed to stay out as late as you want on weekend nights?”; and “Are you allowed to stay out after dark on weekend nights?”. Responses were coded as dichotomous variables with “No” = 0 and “Yes” = 1. These items were summed to form an index with a range of 0 to 4.
**Parental monitoring** (Lamborn et al, 1991). Adolescents were asked the questions: “Does your mother or father know who you hang out with?; “Does your mother or father know exactly where you are most afternoons (after school) and during the day on weekends and during the summer?” (coded as dichotomous variables with “No” = 0 and “Yes” = 1); and “How much does your mother or father really know about what you do most afternoons (after school) and during the day on weekends and during the summer?” (coded as dichotomous variables with “They don’t know” = 0 and “They know a little” and “They know a lot” = 1); “How much does your mother or father really know about where you go at night?” (coded as dichotomous variables with “They don’t know” = 0 and “They know a little” and “They know a lot” = 1); “Does your mother or father try to find out how you spend your time?” (coded as dichotomous variables with “No” = 0 and “Yes” = 1); and “How much does your mother or father really know about how you spend your time?” (coded as dichotomous variables with “They don’t know” = 0 and “They know a little” and “They know a lot” = 1). Parental control is an additive index based on the above items, with a range of 0 to 6.

**Feelings towards parents or warmth toward mother** (Lamborn et al, 1991). Adolescents were asked to respond to a series of statements about the person who was most like a mother to them: “I can usually count on her to help me out if I have some kind of problem”; “She usually keeps pushing me to do my best in whatever I do”; “We do fun things together”; “She usually helps me if there is something I don’t understand”; “When she wants me to do something, she usually explains the reasons why”; and “She spends time just talking with me”. Responses were coded as dichotomous variables with “I don’t have anyone who is like a mother to me” and “Disagree” = 0 and “Agree” = 1.
Feelings towards parents or warmth toward mother is an additive index based on the above items, with a range of 0 to 6.

*Neighborhood connectedness* (Glynn, 1981; Perkins et al., 1990). Adolescents were asked to agree or disagree with a series of statements about their neighborhood: “I feel I am an important part of my neighborhood”; “If I moved away from my neighborhood, I would be sorry to leave”; “Very few of my neighbors know me”; “I have friends in my neighborhood who know they can depend on me”; “I do not like living in my neighborhood”; “There are people in my neighborhood, other than my family, who really care about me”; “I have friends in my neighborhood I can depend on”; “If you don’t look out for yourself in my neighborhood, no one else will”; “No one in my neighborhood takes any interest in what their neighbors are doing”; “It is hard to make good friends in my neighborhood”; and “If I am upset about a personal problem, there are people in my neighborhood I can turn to”. Responses were coded as dichotomous variables with “Agree” = 1 and “Disagree” = 0. Neighborhood connectedness is an additive index based on the above items, with a range of 0 to 11.

Data Analysis

Frequencies and means of the individual variables of interest, religiosity, violent behavior and gang activity, were determined and tabulated by age and gender using SAS® software, and t-tests were performed from the means and standard deviations within each age group to determine if the means within groups were significantly different.
Analyses (Daniel, 2005; Streiner and Norman, 2008) using religiosity as the independent variable along with several other theoretically important measures and violent behavior and gang activity as dependent variables were performed on the Mobile Youth Survey database, 1998-2008, using the PROC MIXED function of SAS$^R$ software. Linear mixed methods were used for these analyses to control for longitudinal nonindependence of observations. In estimating these models, a cross-lagged framework was employed in which the dependent variable is measured at year 1 and the independent variables (including the previous value of the dependent variable) are measured at year 0. In effect, the regression estimates indicate the effects of the independent variables on changes in the dependent variable. This cross-lagged panel approach allows stronger causal inference than would be possible if both independent and dependent variables were measured at a single time point (e.g. time 0). Table 1 above summarizes the variables included in these models.

The mixed method analysis was used to predict the variance in the dependent variables (violent behavior, gang activity) based on linear combinations of independent variables (religiosity) interacting with the other variables in the model (age, sense of hopelessness, sense of self worth, externalized anger, internalized anger, parental control/curfew/parental monitoring, feelings towards parents/warmth toward mother, and neighborhood connectedness) which can change the relationship between the dependent and independent variables. The general form of the multiple regression model is:

$$Y = b_1X_1 + b_2X_2 + \ldots b_nX_n + c$$

where $Y$ = the dependent variables;
b = the regression coefficients = the amount that the dependent variable Y changes when the independent variable X changes by one unit;

X = the independent variables;

and c = a constant, where the regression line intercepts the y-axis i.e. the value of the dependent variable Y when all the independent variables are zero.

The multiple regression models were based on lagged scores (a one year lag at time 0-1) of the independent variables in order to better ensure causality by accounting for temporal precedence. The models included the previous year’s dependent variable as an independent variable at time 0-1 in the model as well, since the best predictor of current year’s behavior is generally the previous year’s behavior.

The following models were constructed for this study, and separate models were run for each gender (boys, girls):

Violent Behavior (at time 0) = Religiosity (at time 0-1) + age + Violent Behavior (at time 0-1) + sense of hopelessness (at time 0-1) + sense of self worth (at time 0-1) + externalized anger (at time 0-1) + internalized anger (at time 0-1) + parental control/curfew/parental monitoring (at time 0-1) + feelings towards parents/warmth toward mother (at time 0-1) + neighborhood connectedness (at time 0-1)

and

Gang Activity (at time 0) = Religiosity (at time 0-1) + age + Gang Activity (at time 0-1) + sense of hopelessness (at time 0-1) + sense of self worth (at time 0-1) + externalized anger (at time 0-1) + internalized anger (at time 0-1) + parental control/curfew/parental monitoring (at time 0-1) + feelings towards parents/warmth toward mother (at time 0-1) + neighborhood connectedness (at time 0-1).
Four separate dependent variables were run for Violent Behavior: Fighting, Carrying a knife or gun, Seeing someone cut, stabbed or shot, and Pulling or using a knife or a gun, so a total of five models (four for Violent Behavior and one for Gang Activity) were run for each gender.
CHAPTER 4

RESULTS

The total number of adolescents ages 10-18 in the Mobile Youth Survey between 1998 and 2008 was 22,133, with 10,501 boys and 11,632 girls. Of this number, observations from 8998 boys and 10,158 girls were used. Observations from 1503 boys and 474 girls were not used because of problems with their surveys, e.g. incomplete or missing data.

The frequencies by age and gender of religiosity, violent behavior and gang activity among the adolescent population in the Mobile Youth Survey are tabulated in Tables 2, 3 and 4. The results of the multiple regression models are summarized for boys and girls in Tables 5-9.

Table 2. Frequencies, by Age and Gender, of Religiosity among Adolescents in Mobile, Alabama, from the Mobile Youth Survey, 1998-2008.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age 10yo</th>
<th>Age 11yo</th>
<th>Age 12yo</th>
<th>Age 13yo</th>
<th>Age 14yo</th>
<th>Age 15yo</th>
<th>Age 16yo</th>
<th>Age 17yo</th>
<th>Age 18yo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religiosity</td>
<td>1108,1202</td>
<td>1131,1206</td>
<td>1236,1291</td>
<td>1332,1425</td>
<td>1369,1445</td>
<td>1354,1452</td>
<td>1266,1323</td>
<td>1168,1292</td>
<td>983,1115</td>
</tr>
<tr>
<td>Number</td>
<td>6.55,6.91</td>
<td>6.38,6.71</td>
<td>6.21,6.54</td>
<td>5.94,6.32</td>
<td>5.72,6.00</td>
<td>5.43,5.80</td>
<td>5.24,5.75</td>
<td>5.18,5.76</td>
<td>5.08,5.51</td>
</tr>
<tr>
<td>Mean</td>
<td>2.35,2.36</td>
<td>2.38,2.36</td>
<td>2.30,2.28</td>
<td>2.27,2.20</td>
<td>2.19,2.23</td>
<td>2.18,2.20</td>
<td>2.18,2.19</td>
<td>2.11,2.23</td>
<td>2.08,2.22</td>
</tr>
<tr>
<td>S.D.</td>
<td>5.22</td>
<td>4.78</td>
<td>5.50</td>
<td>6.33</td>
<td>4.00</td>
<td>6.38</td>
<td>8.50</td>
<td>9.87</td>
<td>6.14</td>
</tr>
</tbody>
</table>

Key: S.D. = Standard Deviation, M = male, F = female
a = Minimum 2.00, Maximum 10.00

Table 2 shows that, for all age groups, girls scored higher than boys in religiosity.

The differences in mean religiosity scores between boys and girls were significant at all age groups, with t values ranging from 9.87 to 4.00, all t > 1.984, with p < 0.05. For both
boys and girls, religiosity scores were highest at age 10 and lowest at age 18, and religiosity scores consistently declined from year to year as the boys and girls aged.

Table 3. Frequencies, by Age and Gender, of Violent Behavior among Adolescents in Mobile, Alabama, from the Mobile Youth Survey, 1998-2008.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Violent Behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fighting</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td>1105,1197</td>
<td>1096,1197</td>
<td>1126,1202</td>
<td>1233,1282</td>
<td>1337,1416</td>
<td>1367,1438</td>
<td>1353,1453</td>
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<td>1163,1286</td>
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<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>2.38,1.85</td>
<td>2.43,1.85</td>
<td>2.38,1.83</td>
<td>2.17,1.80</td>
<td>2.15,1.83</td>
<td>2.11,1.66</td>
<td>2.00,1.47</td>
<td>1.96,1.40</td>
<td>1.84,1.29</td>
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<td>S.D.</td>
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<td>1.72,1.75</td>
<td>1.72,1.70</td>
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<td>1.60,1.59</td>
<td>1.62,1.62</td>
<td>1.62,1.50</td>
<td>1.62,1.42</td>
<td>1.62,1.38</td>
<td>1.57,1.32</td>
</tr>
<tr>
<td>t</td>
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<td>11.60</td>
<td>12.22</td>
<td>8.81</td>
<td>7.44</td>
<td>11.25</td>
<td>13.25</td>
<td>14.00</td>
<td>13.75</td>
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<td></td>
</tr>
<tr>
<td>Carry knife, gun</td>
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<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Number</td>
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<td>1204,1256</td>
<td>1323,1397</td>
<td>1340,1422</td>
<td>1341,1439</td>
<td>1258,1311</td>
<td>1159,1277</td>
<td>968,1105</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>1.09,0.51</td>
<td>1.20,0.66</td>
<td>1.36,0.84</td>
<td>1.59,1.13</td>
<td>1.90,1.46</td>
<td>2.05,1.64</td>
<td>2.21,1.58</td>
<td>2.27,1.72</td>
<td>2.51,1.57</td>
</tr>
<tr>
<td>S.D.</td>
<td></td>
<td></td>
<td>2.14,1.57</td>
<td>2.22,1.74</td>
<td>2.30,1.84</td>
<td>2.42,2.11</td>
<td>2.60,2.36</td>
<td>2.65,2.42</td>
<td>2.74,2.42</td>
<td>2.76,2.53</td>
<td>2.83,2.43</td>
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<td>t</td>
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<td>9.00</td>
<td>8.67</td>
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<td>5.86</td>
<td>9.00</td>
<td>7.86</td>
<td>11.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>See cut, stab, shot</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td>1094,1186</td>
<td>1137,1205</td>
<td>1230,1287</td>
<td>1339,1411</td>
<td>1362,1435</td>
<td>1356,1456</td>
<td>1265,1320</td>
<td>1166,1286</td>
<td>978,1116</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>0.82,0.78</td>
<td>0.85,0.70</td>
<td>0.80,0.73</td>
<td>0.78,0.74</td>
<td>0.84,0.80</td>
<td>0.94,0.76</td>
<td>0.93,0.76</td>
<td>0.98,0.70</td>
<td>1.05,0.72</td>
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<tr>
<td>S.D.</td>
<td></td>
<td></td>
<td>1.00,1.00</td>
<td>0.97,0.96</td>
<td>0.94,0.93</td>
<td>0.92,0.89</td>
<td>0.92,0.93</td>
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<td>0.97,0.88</td>
<td>0.98,0.87</td>
<td>1.02,0.86</td>
</tr>
<tr>
<td>t</td>
<td>1.33</td>
<td>5.00</td>
<td>1.93</td>
<td>1.93</td>
<td>1.93</td>
<td>9.00</td>
<td>8.50</td>
<td>9.33</td>
<td>11.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pull/use knife, gun</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td></td>
<td></td>
<td>1087,1173</td>
<td>1121,1202</td>
<td>1216,1272</td>
<td>1319,1410</td>
<td>1355,1430</td>
<td>1341,1442</td>
<td>1258,1321</td>
<td>1157,1279</td>
<td>967,1109</td>
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<tr>
<td>Mean</td>
<td></td>
<td></td>
<td>0.21,0.11</td>
<td>0.30,0.17</td>
<td>0.36,0.29</td>
<td>0.49,0.41</td>
<td>0.65,0.51</td>
<td>0.69,0.55</td>
<td>0.75,0.54</td>
<td>0.74,0.52</td>
<td>0.83,0.48</td>
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<tr>
<td>S.D.</td>
<td></td>
<td></td>
<td>0.78,0.55</td>
<td>0.95,0.72</td>
<td>1.05,0.95</td>
<td>1.18,1.10</td>
<td>1.37,1.23</td>
<td>1.40,1.26</td>
<td>1.47,1.24</td>
<td>1.43,1.22</td>
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<td>1.93</td>
<td>1.67</td>
<td>4.67</td>
<td>4.67</td>
<td>5.25</td>
<td>5.50</td>
<td>8.75</td>
<td></td>
</tr>
</tbody>
</table>

Key: S.D. = Standard Deviation, M = male, F = female  
  a = Minimum 0.00, Maximum = 5.00  
  b = Minimum 0.00, Maximum 7.00  
  c = Minimum 0.00, Maximum 3.00  
  d = Minimum 0.00, Maximum 5.00

Table 3 shows that, for all age groups, girls scored lower than boys in measurements of violent behavior, i.e. fighting, carrying a knife or gun, seeing someone cut, stabbed or shot, and pulling or using a knife or gun. The difference in mean fighting scores between boys and girls was significant at all age groups, with t values ranging from 7.44 to 14.00, with all t > 1.984, with p < 0.05. In boys, fighting scores were highest
at age 11 and lowest at age 18. In girls, fighting scores were highest at age 10 and lowest at age 18.

The differences in mean carrying a knife or gun scores between boys and girls were significant at all age groups, with t values ranging from 5.86 to 11.75, with all t > 1.984, with p < 0.05. In boys, scores for carrying a knife or gun steadily increased from 1.09 at age 10 to 2.51 at age 18. In girls, scores for carrying a knife or gun were lowest at age 10 at 0.51, peaking at 1.72 at age 17 and then declining to 1.57 at age 18.

The differences in mean scores between boys and girls for seeing someone cut, stabbed or shot were not significant at age 10 (t = 1.33 < 1.984), age 12 (t = 1.93 < 1.984), age 13 (t = 1.93 < 1.984) or age 14 (t = 1.93 < 1.984), but were significant at age 11 (t = 5.00 > 1.984) and ages 15-18, with p < 0.05. In boys, scores for seeing someone cut, stabbed or shot were lowest at age 13 at 0.78, and highest at age 18 (1.05). In girls, scores were lowest at ages 11 and 17, and highest at age 14.

The differences in mean scores between boys and girls for pulling or using a knife or gun were significant at every age except ages 12 (t = 1.93 < 1.984) and 13 (t = 1.67 < 1.984), with p < 0.05. In boys, scores for pulling or using a knife or gun increased with each year of age, from a low of 0.21 at age 10 to a high of 0.83 at age 18. In girls, scores rose with each year of age from 0.11 at age 10 to a peak of 0.55 at age 15, before declining gradually to 0.48 at age 18.
Table 4. Frequencies, by Age and Gender, of Gang Activity among Adolescents in Mobile, Alabama, from the Mobile Youth Survey, 1998-2008.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Gender</th>
<th>10yo</th>
<th>11yo</th>
<th>12yo</th>
<th>13yo</th>
<th>14yo</th>
<th>15yo</th>
<th>16yo</th>
<th>17yo</th>
<th>18yo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>1099,1196</td>
<td>1134,1204</td>
<td>1230,1283</td>
<td>1338,1421</td>
<td>1363,1443</td>
<td>1351,1454</td>
<td>1266,1323</td>
<td>1165,1291</td>
<td>972,1112</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean'</td>
<td>0.70,0.37</td>
<td>0.67,0.35</td>
<td>0.67,0.44</td>
<td>0.71,0.53</td>
<td>0.89,0.48</td>
<td>0.89,0.43</td>
<td>0.89,0.33</td>
<td>0.96,0.31</td>
<td>0.93,0.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.D.</td>
<td>1.34,0.99</td>
<td>1.31,0.95</td>
<td>1.28,1.04</td>
<td>1.30,1.13</td>
<td>1.41,1.05</td>
<td>1.39,1.02</td>
<td>1.43,0.91</td>
<td>1.44,0.87</td>
<td>1.43,0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>t</td>
<td>11.00</td>
<td>10.66</td>
<td>7.66</td>
<td>6.00</td>
<td>13.67</td>
<td>15.33</td>
<td>18.67</td>
<td>21.67</td>
<td>24.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Key: S.D. = Standard Deviation, M = male, F = female

Table 4 shows that the differences in mean scores between boys and girls for gang activity were significant at all age groups, with t values ranging from 6.00 to 24.00, and all t > 1.984 with p < 0.05. Boys scored higher in gang activity than girls at all age groups. Gang activity scores for boys plateaued between 0.67 - 0.71 from age 10-13, climbed to another plateau of 0.89 from age 14-16, and peaked at age 17 (0.96) before slightly declining at age 18. In girls, gang activity scores started from 0.37 and 0.35 at ages 10 and 11 respectively, rose to a high of 0.53 at age 13, then declined steadily to 0.21 at age 18.

Table 5. Results of the multiple regression model, with the dependent variable = fighting, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents.

<table>
<thead>
<tr>
<th>Boys (n = 4693)</th>
<th>Girls (n = 5457)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect</td>
<td>Estimate</td>
</tr>
<tr>
<td>Age</td>
<td>-0.0736</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.0331</td>
</tr>
<tr>
<td>Fighting</td>
<td>0.2934</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>0.0062</td>
</tr>
<tr>
<td>Self worth</td>
<td>-0.0536</td>
</tr>
<tr>
<td>Ext. anger</td>
<td>-0.2011</td>
</tr>
<tr>
<td>Int. anger</td>
<td>-0.0197</td>
</tr>
<tr>
<td>Curfew</td>
<td>-0.0634</td>
</tr>
<tr>
<td>Parent. mon.</td>
<td>-0.0284</td>
</tr>
<tr>
<td>Feel. to mom</td>
<td>0.0166</td>
</tr>
<tr>
<td>Neigh. conn.</td>
<td>0.0245</td>
</tr>
</tbody>
</table>

Key: Ext. anger = externalized anger, Int. anger = internalized anger, Parent. mon. = parental monitoring, Feel. to mom = feeling to mother, Neigh. conn. = neighborhood connectedness
As can be seen in Table 5, for boys, age (p < 0.0001), religiosity (p = 0.0007), sense of self worth (p < 0.0001), externalized anger (p < 0.0001), parental control represented by curfew (p = 0.0003) and parental monitoring (p = 0.0019), and feelings of neighborhood connectedness (p = 0.0124) are all related to fighting, in a statistically significant manner in the multiple regression model. Religiosity and feeling of neighborhood connectedness were positively related to fighting for boys, while age, sense of self worth, externalized anger, curfew and parental monitoring are negatively related to fighting. For girls, age (p < 0.0001), sense of self worth (p < 0.0001), externalized anger (p < 0.0001), and curfew (p < 0.0001) are all negatively related to fighting, in a statistically significant manner.

Table 6. Results of the multiple regression model, with the dependent variable = carrying a knife or gun, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t value</th>
<th>Pr&gt;t</th>
<th>Effect</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t value</th>
<th>Pr&gt;t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.0687</td>
<td>0.0169</td>
<td>4.06</td>
<td>&lt;0.0001</td>
<td>Age</td>
<td>0.0598</td>
<td>0.0133</td>
<td>4.48</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Religiosity</td>
<td>-0.0161</td>
<td>0.0157</td>
<td>-1.03</td>
<td>0.3029</td>
<td>Religiosity</td>
<td>0.0034</td>
<td>0.0126</td>
<td>0.27</td>
<td>0.7866</td>
</tr>
<tr>
<td><strong>Kgx</strong></td>
<td>0.3330</td>
<td>0.0153</td>
<td>21.79</td>
<td>&lt;0.0001</td>
<td><strong>Kgx</strong></td>
<td>0.4090</td>
<td>0.0139</td>
<td>29.35</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>0.0098</td>
<td>0.0223</td>
<td>0.44</td>
<td>0.6598</td>
<td>Hopelessness</td>
<td>-0.0308</td>
<td>0.0192</td>
<td>-1.61</td>
<td>0.1086</td>
</tr>
<tr>
<td>Self worth</td>
<td>-0.1006</td>
<td>0.0198</td>
<td>-5.09</td>
<td>&lt;0.0001</td>
<td>Self worth</td>
<td>-0.0627</td>
<td>0.0149</td>
<td>-4.22</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Ext. anger</td>
<td>-0.2431</td>
<td>0.0491</td>
<td>-4.95</td>
<td>&lt;0.0001</td>
<td>Ext. anger</td>
<td>-0.1766</td>
<td>0.0401</td>
<td>-4.40</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Int. anger</td>
<td>-0.0374</td>
<td>0.0483</td>
<td>-0.78</td>
<td>0.4382</td>
<td>Int. anger</td>
<td>0.0414</td>
<td>0.0409</td>
<td>1.01</td>
<td>0.3117</td>
</tr>
<tr>
<td>Curfew</td>
<td>-0.1685</td>
<td>0.0281</td>
<td>-6.00</td>
<td>&lt;0.0001</td>
<td>Curfew</td>
<td>-0.1189</td>
<td>0.0232</td>
<td>-5.13</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Parent. mon.</td>
<td>-0.0180</td>
<td>0.0144</td>
<td>-1.25</td>
<td>0.2132</td>
<td>Parent. mon.</td>
<td>-0.0498</td>
<td>0.0133</td>
<td>-3.73</td>
<td>0.0002</td>
</tr>
<tr>
<td>Feel. to mom</td>
<td>-0.0141</td>
<td>0.0313</td>
<td>-0.45</td>
<td>0.6525</td>
<td>Feel. to mom</td>
<td>-0.0044</td>
<td>0.0263</td>
<td>-0.17</td>
<td>0.8682</td>
</tr>
<tr>
<td>Neigh. conn.</td>
<td>0.0165</td>
<td>0.0155</td>
<td>1.06</td>
<td>0.2893</td>
<td>Neigh. conn.</td>
<td>0.0158</td>
<td>0.0114</td>
<td>1.40</td>
<td>0.1629</td>
</tr>
</tbody>
</table>

Key: Ext. anger = externalized anger, Int. anger = internalized anger, Parent. mon. = parental monitoring, Feel. to mom = feeling to mother, Neigh. conn. = neighborhood connectedness

As can be seen in Table 6, for boys, age (p < 0.0001), sense of self worth (p < 0.0001), externalized anger (p < 0.0001), and parental control represented by curfew
(p < 0.0001) are all related to carrying a knife or gun, in a statistically significant manner in the multiple regression model. Age is positively related to carrying a knife or gun for boys, while sense of self worth, externalized anger and curfew are negatively related. For girls, age (p < 0.0001), sense of self worth (p < 0.0001), externalized anger (p < 0.0001), and parental control represented by curfew (p < 0.0001) and parental monitoring (p = 0.0002) are related to carrying a knife or gun in a statistically significant manner. Age is positively related to carrying a knife or gun for girls, while sense of self worth, externalized anger, curfew and parental monitoring are negatively related.

Table 7. Results of the multiple regression model, with the dependent variable = seeing someone cut, stabbed or shot, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t value</th>
<th>Pr&gt;t</th>
<th>Effect</th>
<th>Estimate</th>
<th>Standard Error</th>
<th>t value</th>
<th>Pr&gt;t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>0.01005</td>
<td>0.0063</td>
<td>1.59</td>
<td>0.1125</td>
<td>Age</td>
<td>-0.0037</td>
<td>0.0053</td>
<td>-0.70</td>
<td>0.4835</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.0045</td>
<td>0.0059</td>
<td>0.77</td>
<td>0.4413</td>
<td>Religiosity</td>
<td>0.0056</td>
<td>0.0050</td>
<td>1.11</td>
<td>0.2677</td>
</tr>
<tr>
<td>Seectx</td>
<td>0.2814</td>
<td>0.0140</td>
<td>20.16</td>
<td>&lt;0.001</td>
<td>Seectx</td>
<td>0.3591</td>
<td>0.0122</td>
<td>29.42</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>0.0117</td>
<td>0.0084</td>
<td>1.40</td>
<td>0.1623</td>
<td>Hopelessness</td>
<td>0.0127</td>
<td>0.0077</td>
<td>1.66</td>
<td>0.0978</td>
</tr>
<tr>
<td>Self worth</td>
<td>-0.0392</td>
<td>0.0074</td>
<td>-5.28</td>
<td>&lt;0.0001</td>
<td>Self worth</td>
<td>-0.0251</td>
<td>0.0059</td>
<td>-4.22</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Ext. anger</td>
<td>-0.0550</td>
<td>0.0184</td>
<td>-2.99</td>
<td>0.0028</td>
<td>Ext. anger</td>
<td>-0.0802</td>
<td>0.0160</td>
<td>-5.00</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Int. anger</td>
<td>0.0098</td>
<td>0.0181</td>
<td>0.54</td>
<td>0.5895</td>
<td>Int. anger</td>
<td>0.0018</td>
<td>0.0163</td>
<td>0.11</td>
<td>0.9100</td>
</tr>
<tr>
<td>Curfew</td>
<td>-0.0523</td>
<td>0.0105</td>
<td>-4.98</td>
<td>&lt;0.0001</td>
<td>Curfew</td>
<td>-0.0325</td>
<td>0.0092</td>
<td>-3.53</td>
<td>0.0004</td>
</tr>
<tr>
<td>Parent. mon.</td>
<td>-0.0179</td>
<td>0.0054</td>
<td>-3.31</td>
<td>0.0009</td>
<td>Parent. mon.</td>
<td>-0.0177</td>
<td>0.0053</td>
<td>-2.21</td>
<td>0.0274</td>
</tr>
<tr>
<td>Feel. to mom</td>
<td>-0.0061</td>
<td>0.0118</td>
<td>-0.52</td>
<td>0.6038</td>
<td>Feel. to mom</td>
<td>-0.0076</td>
<td>0.0104</td>
<td>-0.73</td>
<td>0.4661</td>
</tr>
<tr>
<td>Neigh. conn.</td>
<td>0.0063</td>
<td>0.0058</td>
<td>1.07</td>
<td>0.2839</td>
<td>Neigh. conn.</td>
<td>0.0092</td>
<td>0.0046</td>
<td>2.01</td>
<td>0.0444</td>
</tr>
</tbody>
</table>

Key: Seectx = seeing someone cut, stabbed or shot, Ext. anger = externalized anger, Int. anger = internalized anger, Parent. mon. = parental monitoring, Feel. to mom = feeling to mother, Neigh. conn. = neighborhood connectedness

As can be seen in Table 7, for boys, sense of self worth (p < 0.001), externalized anger (p = 0.0028), and parental control represented by curfew (p < 0.0001) and parental monitoring (p = 0.0009) are all negatively related to seeing someone cut, stabbed or shot, in a statistically significant manner in the multiple regression model. For girls, sense of self worth (p < 0.0001), externalized anger (p < 0.0001), parental control represented by curfew (p = 0.0004) and parental monitoring (p = 0.0274), and feeling of neighborhood
connectedness \((p = 0.0444)\) are related to seeing someone cut, stabbed or shot, in a statistically significant manner. Feeling of neighborhood connectedness is positively related to seeing someone cut, stabbed or shot for girls, while sense of self worth, externalized anger, curfew and parental monitoring are negatively related to seeing someone cut, stabbed or shot.

Table 8. Results of the multiple regression model, with the dependent variable = pulling or using a knife or a gun, for the relationship between religiosity and violent behavior among economically disadvantaged adolescents.

<table>
<thead>
<tr>
<th>Boys (n = 4585)</th>
<th>Girls (n = 5413)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effect</td>
<td>Estimate</td>
</tr>
<tr>
<td>Age</td>
<td>0.0137</td>
</tr>
<tr>
<td>Religiosity</td>
<td>-0.0126</td>
</tr>
<tr>
<td>Pullx</td>
<td>0.3913</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>0.0118</td>
</tr>
<tr>
<td>Self worth</td>
<td>-0.0451</td>
</tr>
<tr>
<td>Ext. anger</td>
<td>-0.0746</td>
</tr>
<tr>
<td>Int. anger</td>
<td>-0.0424</td>
</tr>
<tr>
<td>Curfew</td>
<td>-0.0880</td>
</tr>
<tr>
<td>Parent. mon.</td>
<td>0.0032</td>
</tr>
<tr>
<td>Feel. to mom</td>
<td>0.0037</td>
</tr>
<tr>
<td>Neigh. conn.</td>
<td>0.0077</td>
</tr>
</tbody>
</table>

Key: 
Pullx = pulling or using a knife or a gun, Ext. anger = externalized anger, Int. anger = internalized anger, Parent. mon. = parental monitoring, Feel. to mom = feeling to mother, Neigh. conn. = neighborhood connectedness

Table 8 shows that, for boys, sense of self worth \((p < 0.001)\), externalized anger \((p = 0.0023)\), and parental control represented by curfew \((p < 0.0001)\) are all negatively related to pulling or using a knife or a gun, in a statistically significant manner, in the multiple regression model. For girls, age \((p = 0.0167)\), sense of self worth \((p < 0.0001)\), externalized anger \((p < 0.0001)\), parental control represented by curfew \((p < 0.0001)\) and parental monitoring \((p = 0.0010)\), and feeling of neighborhood connectedness \((p = 0.0379)\) are related to pulling or using a knife or a gun, in a statistically significant manner. Age and feeling of neighborhood connectedness is positively related to pulling.
or using a knife or a gun for girls, while sense of self worth, externalized anger, curfew and parental monitoring are negatively related.

Table 9. Results of the multiple regression model, with the dependent variable = gang activity, for the relationship between religiosity and gang activity among economically disadvantaged adolescents.

<table>
<thead>
<tr>
<th>Boys (n = 4680)</th>
<th>Girls (n = 5482)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effect</strong></td>
<td><strong>Estimate</strong></td>
</tr>
<tr>
<td>Age</td>
<td>0.0146</td>
</tr>
<tr>
<td>Religiosity</td>
<td>0.0009</td>
</tr>
<tr>
<td>Gangx</td>
<td>0.3381</td>
</tr>
<tr>
<td>Hopelessness</td>
<td>0.0115</td>
</tr>
<tr>
<td>Self worth</td>
<td>-0.0343</td>
</tr>
<tr>
<td>Ext. anger</td>
<td>-0.1273</td>
</tr>
<tr>
<td>Int. anger</td>
<td>-0.0450</td>
</tr>
<tr>
<td>Curfew</td>
<td>-0.0604</td>
</tr>
<tr>
<td>Parent. mon.</td>
<td>-0.0242</td>
</tr>
<tr>
<td>Feel. to mom</td>
<td>-0.0028</td>
</tr>
<tr>
<td>Neigh. conn.</td>
<td>0.0181</td>
</tr>
</tbody>
</table>

Key: Gangx = gang activity, Ext. anger = externalized anger, Int. anger = internalized anger, Parent. mon. = parental monitoring, Feel. to mom = feeling to mother, Neigh. connec. = neighborhood connectedness

Table 9 shows that, for boys, sense of self worth (p = 0.0010), externalized anger (p < 0.0001), parental control represented by curfew (p < 0.0001) and parental monitoring (p = 0.0015), and feeling of neighborhood connectedness (p = 0.0273) are all related to gang activity, in a statistically significant manner in the multiple regression model.

Feeling of neighborhood connectedness is positively related to gang activity for boys, while sense of self worth, externalized anger, curfew and parental monitoring are negatively related. For girls, age (p < 0.0001), sense of self worth (p = 0.0341), externalized anger (p = 0.0002), parental control represented by curfew (p = 0.0019) and parental monitoring (p = 0.0005), and feeling of neighborhood connectedness (p = 0.0140) are related to gang activity, in a statistically significant manner. Feeling of neighborhood connectedness is positively related to gang activity in girls, while age,
sense of self worth, externalized anger, curfew and parental monitoring are negatively related.
CHAPTER 5

DISCUSSION

Summary of Results

The research study had three main objectives. The first objective was to assess the relationship between religiosity and involvement in violent behavior among economically disadvantaged adolescents. The second objective was to assess the relationship between religiosity and involvement in gang activity among those same adolescents. The third objective was to determine if there are gender differences between boys and girls regarding religiosity, violent behavior, and gang activity.

Three hypotheses related to these objectives were tested. The first hypothesis was that there would be an inverse relationship between religiosity and violent behavior in the adolescent study population. The second hypothesis was that there would be an inverse relationship between religiosity and gang activity in the adolescent study population. The third hypothesis was that there would be gender differences between boys and girls relative to religiosity, violent behavior and gang activity.

Data from the Mobile Youth Survey, a multi-cohort longitudinal study of low-income adolescents living in Mobile, Alabama from 1998-2008 allowed us to address these objectives and hypotheses.
Objective 1. Assess the relationship between adolescent religiosity and involvement in violent behavior.

Eight regression models (four models for boys and four models for girls) were assessed for the four dependent variables representing violent behavior (fighting, carrying a knife or gun, seeing someone cut, stabbed or shot, and pulling or using a knife or a gun). For boys, religiosity was positively related to fighting, meaning that boys with greater religiosity were more likely to be involved in fighting. For the other dependent variables, for both boys and girls, no relationship was found between religiosity and involvement in violent behavior. Other variables of interest in the models were significantly related to the violent behavior measures. For boys and girls, age was positively related to carrying a knife or gun, meaning that older children were more likely to carry a weapon. For girls, age was also positively related to pulling or using a knife or a gun, meaning that older girls were more likely to use a weapon. For girls, feeling of neighborhood connectedness was positively related to seeing someone cut, stabbed or shot, and to pulling or using a knife or a gun. This indicates that girls with greater feelings of attachment to their neighborhoods are more likely to witness violence or to use a weapon. For boys and girls, age, sense of self worth, externalized anger, and curfew were negatively associated with fighting, meaning that younger children, children with lower self worth, less externalized anger and less curfew were more likely to be involved in fighting. Boys with less parental monitoring were also more likely to be involved in fighting. Boys and girls with lower sense of self worth, lower external anger, and less parental control with less curfew and less monitoring were more likely to witness violence. Boys and girls with lower self worth, lower externalized anger and less curfew
were more likely to use a weapon. Girls with less parental monitoring were also less likely to use a weapon.

These results do not support Hypothesis 1, that there would be an inverse relationship between religiosity and violent behavior in the adolescent study population.

Objective 2. Assess the relationship between adolescent religiosity and involvement in gang activity.

Two regression models were assessed using gang activity as the dependent variable; one for boys and one for girls. For both boys and girls, no relationship was found between religiosity and gang activity. Other variables in the models were found to be associated with gang activity. For both boys and girls, feeling of neighborhood connectedness was positively related to gang activity. This means that children with greater feelings of connectedness to their neighborhoods were more likely to be involved in gang activity. Sense of self worth, externalized anger, curfew and parental monitoring were negatively related to gang activity for both boys and girls, meaning that children with a lower sense of self worth, lower externalized anger, and lesser parental control by curfew or monitoring were more likely to be involved in gang activity. For girls, age was also negatively related to gang activity, meaning that younger girls were more likely to be involved in gang activity.

These results do not support Hypothesis 2, that there would be an inverse relationship between religiosity and gang activity in the adolescent study population.
Objective 3. Determine if there are gender differences between boys and girls regarding religiosity, violent behavior, and gang activity.

Paired t tests were performed to determine if the differences between boys and girls in mean religiosity, violent behavior and gang activity scores within each age group in our study were significant. Girls have higher religiosity scores than boys across all age groups in the study population, and these differences are significant (p < 0.05). Girls also have lower violent behavior scores than boys across all age groups. Differences between boys and girls in fighting scores and weapon carrying scores were significant (p < 0.05) across all age groups. Differences between boys and girls in scores for witnessing violence were significant (p < 0.05) at age 11 and ages 15-18. Differences between boys and girls in scores for weapon use were significant (p < 0.05) at every age except ages 12 and 13. Regarding gang activity, across all age groups, girls are significantly (p < 0.05) less likely to be involved in gang activity than boys.

These results support Hypothesis 3, that there would be gender differences between boys and girls relative to religiosity, violent behavior and gang activity.

Religiosity, Violent Behavior and Gang Activity

Religiosity, apart from being positively related to fighting in boys, was not related to the other measures of violent behavior (carrying a knife or gun, seeing someone cut, stabbed or shot, and pulling or using a knife or a gun), or to gang activity, in boys or girls. This finding differs from earlier studies such as Resnick et al (2004), who identified...
religiosity as a protective factor against becoming involved in violent behavior, and Smith (2002) who found that violent behavior and gang activity decreased as religiosity increased. Our study findings also differ from studies by DuRant et al (1996) and Johnson et al (2000), who found a positive relationship between frequency of church attendance and lower crime and violence in low-income youth. A study by Johnson et al (2008) found that religious involvement in African American youth, as measured by frequency of church attendance, somewhat reduced the frequency of violent behavior and gang activity, but this reduction was not significant.

Our finding that boys who are more religious have a greater likelihood of being involved in fighting is somewhat surprising, and has not been reported in previous studies. It could be that the more religious boys are subjected to taunting from their less religious peers, and this may cause them to be involved in more fights. It could also be that the measure of religiosity was weakened by boys reporting higher church attendance and importance of religion because it was socially desirable. Our study also showed that younger boys with lower self worth, lower externalized anger, and lesser parental control with less curfews and less monitoring were also more likely to be involved in fighting. It could be that these factors exerted more of an effect on the likelihood to get involved in fighting than religiosity in boys. Further research is needed to determine if more religious boys do indeed fight more, and to explain the causes of this behavior.

Our study found that lower parental supervision through a lack of curfew or monitoring is associated with violent behavior and gang activity. This finding is supported by other studies such as Farrington and Loeber (2000) and Pacheco (2009).
Wright and Fitzpatrick (2006) also found that, in African American children, poor parental supervision was associated with increased fighting and gang activity.

Our finding that a lower sense of self worth is associated with violent behavior and gang activity in children is supported by previous studies. Earlier studies such as Harter (1984) found that increased feelings of self worth decreased the likelihood of gang activity. More recent studies such as Pacheco (2009) found that low self-esteem was associated with increased gang activity.

Our study found that younger boys and girls were more likely to be involved in fighting, and younger girls were more likely to be involved in gang activity. Older boys and girls were more likely to carry a weapon, and older girls were more likely to use a weapon. Previous studies, such as Smith (2002) and Pearce (2004), have found that violent behavior and gang activity peak between ages 16-18 in both boys and girls.

Our study found that girls with greater feelings of neighborhood connectedness were more likely to use a weapon, and that both boys and girls with greater neighborhood connectedness were more likely to be involved in gang activity. Previous studies such as Resnick (2004) found that adolescents with a strong sense of neighborhood connectedness were less likely to be involved in violent behavior and gang activity. It could be that, in our study population, feelings of neighborhood connectedness were expressed by joining a neighborhood gang and defending gang territory with violence. Or it could be that in these neighborhoods it was socially desirable to belong to a gang and to participate in violent activities such as using a weapon. Further research is needed to determine if this is the case.
Our study found that lower externalized anger in both boys and girls was related to greater involvement in violent behavior and gang activity. Earlier studies, such as Smith (1994), Eckhardt (1995) and Spielberger (1995), have found that a higher degree of adolescent anger is directly related to the likelihood of violent behavior. It may be that, in our study population, externalized anger is being suppressed as internalized anger, and is expressed in the form of violent behavior and gang activity. However, the level of internalized anger was not significant in our study. It could be that our survey did not adequately measure or distinguish between externalized and internalized anger. Further research is needed to examine the role of externalized anger in violent behavior and gang activity in our study population.

Religiosity of Girls compared to Boys

The results of the study confirmed the hypothesis that there would be gender differences between boys and girls relative to religiosity. Girls in our study had higher religiosity scores than boys in all age groups. This is a consistent finding with most national surveys of religion, such as the National Study of Youth and Religion (Smith and Faris, 2002). Although it was expected that the girls in our study population would be more religious than the boys, it was surprising to find that religiosity scores consistently and steadily declined in both boys and girls from age 10-18. It may be that other factors, such as age, self worth, parental control, warmth towards mother and neighborhood connectedness, exert effects that decrease the strength of religiosity from year to year.
For example, it could be that as the young people age their increasing autonomy results in decreased church-going and decreased religiosity. While a measurement of autonomy itself was not available, further research is needed to help explain the consistent decline in religiosity seen in our study population throughout adolescence.

Involvement of Girls in Violent Behavior and Gang Activity

The hypothesis that there would be gender differences between boys and girls relative to violent behavior and gang activity is supported by this research study. Girls were less likely to be involved in violence and gang activity than boys. This is also consistent with most large national studies. For example, violent crime accounted for only 3.4% of girls arrested in 1999 (Chesney-Lind and Brown, 1999), and nationwide only about 3% of gang members are female (Egley et al, 2006). Girls are generally less violent than boys (Farrington and Loeber, 2000). Both boys and girls report romantic relationships, a need to earn respect, witnessing violence, and gang membership as common reasons to commit violence, and girls also tend to fight more over offensive gossip (Yonas, 2005).

Our study found that younger girls were more likely to be involved in gang activity. Age is a significant control factor influencing the propensity of adolescents towards violent behavior and gang activity (Smith, 2002; Pearce, 2004), and it may be that girls are affected more by age and the associated pubertal changes than boys, accounting for their decreased weapon use and gang activity in mid- to late adolescence.
Self worth was negatively related to gang activity in this study, and it may be that younger girls have lower self worth making them more likely to become involved with gangs. Greater feelings of neighborhood connectedness were positively related to gang activity in this study, so it may be that younger girls had more neighborhood connectedness, and more gang activity, than older girls. Further research is needed to determine why girls are less involved in violence and gang activity than boys.

Application of the Theory of Planned Behavior to the Research Study

The theory of planned behavior, or TPB, is an extension by Ajzen (1988) of the earlier theory of reasoned action or TRA (Fishbein and Ajzen, 1975), created by adding the construct of perceived behavioral control to the TRA’s constructs of attitude toward behavior and subjective norm. The TPB was discussed previously as an interpersonal health behavior theory focusing on factors such as knowledge, attitudes and beliefs that affect individual health behavior. In this theory, the intention of the individual to perform a desired behavior is a function of their attitude toward performing the behavior, their beliefs about what people who are relevant to them think that they should do (i.e. their subjective norm), and their perception as to whether or not they have control over carrying out the desired behavior, or perceived behavioral control (Montano and Kasprzyk, 2008; Cottrell and Girvan, 2006).

The Theory of Planned Behavior can be applied to help explain the relationship between religiosity, violent behavior and gang activity among economically
disadvantaged adolescents. The degree of anger, and lack of control mechanisms to suppress anger, could directly affect attitudes towards violent behavior and gang activity. Parental control (Lamborn, 1991), attitudes towards parents (Cohen, 1985), and neighborhood connectedness (Resnick, 2004) could influence adolescent beliefs about how key people in their lives feel about their behavior (i.e. subjective norms) and motivate them to behave in such a way as to gain the approval of these people, by abstaining from violent behavior and gang activity. Perceived behavioral control could be directly influenced by feelings of hopelessness (Kazdin, 1983) and decreased self worth (Harter, 1984), affecting the adolescent's belief that they had the ability to exert control over their behavior and resist violent behavior and gang activity.

The results of the research study confirm the potential applicability of the theory of planned behavior to the study population in the Mobile Youth Survey. Religiosity was not significantly related to violent behavior or gang activity in our study population. Therefore, religiosity would not be included in the TPB as a valid construct for this study.

Our results showed that the variables related to violent behavior and gang activity in the economically disadvantaged adolescents in our study population were age, sense of self worth, externalized anger, parental control using curfew and monitoring, and neighborhood connectedness. The age of the population cannot be manipulated, therefore it could not be placed in a conceptual framework utilizing the TPB. The degree of externalized anger may directly affect attitudes towards violent behavior and gang activity. Parental control through impositions of curfew and parental monitoring, and feelings of neighborhood connectedness may influence the subjective norms of the study population by influencing the adolescents’ beliefs about how key people in their lives feel
about their behavior. Sense of self worth may influence the adolescents’ perceived behavioral control, affecting their beliefs that they have the ability to exert control over their behavior and resist violent behavior and gang activity.

Based on the results of the research study, therefore, we can revise our earlier conceptual framework of the Theory of Planned Behavior and make a revised framework incorporating externalized anger in the construct of attitude towards behavior, incorporating parental monitoring, curfew, and neighborhood connectedness in the construct of subjective norm, and incorporating self worth in the construct of perceived behavioral control.

**Figure 3. Revised Conceptual Framework incorporating the Theory of Planned Behavior into the Relationship between Religiosity, Violent Behavior and Gang Activity among Economically Disadvantaged Adolescents**
It must be emphasized that all the variables found to be significant in our study may not be applicable to our conceptual framework incorporating the Theory of Planned Behavior at all times. The conceptual framework illustrates which variables could be included in the Theory of Planned Behavior, but it is not meant to imply that all the variables would be applicable.

Strengths and Limitations of the Research Study

The conclusions derived from the results of the research study depend for their validity on the validity of the Mobile Youth Survey data, which in turn is dependent on the survey design. The strengths and limitations of the study are related therefore to the strengths and weaknesses of the survey design used (Alreck and Settle, 2004).

One of the main strengths of the Mobile Youth Survey is the large sample size. A large sample size means that the survey has more power i.e. the survey has a greater ability to show any variation existing across a wide range of variables. This means that the survey has a greater ability to find significant relationships that may exist between variables.

Another strength of the survey is its longitudinal design (Shadish, Cook and Campbell, 2002), over a long time span of 10 years, allowing for stronger claims to be made regarding causality. Longitudinal studies collect large amounts of individual data,
which is more representative of the population and therefore more accurate than cross-sectional data. The longitudinal design is useful for establishing causal relationships and making reliable inferences. It eliminates generational or cohort effects since the study participants are all from the same generation and have the same life experiences. Problems of selective memory or false memory are avoided by gathering data contemporaneously rather than retrospectively. Longitudinal studies also make use of both qualitative and quantitative data, allowing for a more in-depth analysis of the research problem.

The survey was also administered on paper in large groups with the researchers present, allowing for a longer survey with more questions asked, a higher cooperation level, and a longer attention span, resulting in more reliable survey data. The presence of the researchers during the survey also resulted in a high survey response rate. Interviewer bias (the influence of the interviewers presence on the respondents) was minimized by having the respondents read and answer the survey questions on paper in a self-administered survey.

A potential limitation of the survey was that the length of the survey may have led to a central tendency bias (tendency to "pick C", avoiding the extremes on either end of the scale), positive skew (tendency to choose the more positive answer choices), and a halo effect (tendency to allow the feelings about one survey question to carry over to the next question). Also, a social desirability bias may have occurred due to the presence of the researchers while the survey questions were answered, even though survey responses were anonymous. The results also suggest that social desirability bias might have operated in the cases of answers to religiosity questions and the question about fighting.
Despite having several advantages over cross-sectional studies, longitudinal studies also have several weaknesses. For example, since all the participants in the longitudinal study are from the same generation, there could be generational effects, i.e. the participants could be very homogenous in their survey responses, so the survey results might only apply to that generation. In other words, this could cause the survey to lack external validity. Longitudinal studies also can take a long time to conduct, and are very labor-intensive and time-consuming. Participant dropout or attrition over the course of a longitudinal study may create bias by decreasing the representativeness of the sample, since the dropouts may have different attributes from the study participants who remain. These studies require a high level of participant commitment. Without this commitment there may be difficulty getting full participation in succeeding waves of the longitudinal study since repeated contact is needed. Control or practice effects are also a problem in longitudinal designs. These effects occur when repeated interviewing of the same sample population influences their behavior, especially as they become increasingly familiar with the study. The increasing familiarity with a study is also known as testing or panel conditioning. As the longitudinal study progresses, the study population naturally ages, and maturation effects develop when the study cohort changes in behavior as they age. Also, even though the Mobile Youth Survey longitudinal study had good internal validity, issues of internal validity can develop in a longitudinal study because there is no randomized control group to compare to the study group.

The measurement of religiosity is another possible limitation of this study. Two measures of religiosity were used, frequency of church-going and importance of religion. There are many measures of religiosity used in many different scales, and there is no
consensus that any one measurement or combination of measurements is the most accurate. It is possible that the measurements used in this study did not adequately measure the religiosity of the study population.

Finally, this study was based on a secondary data analysis of the Mobile Youth Survey. Secondary data analysis has a number of advantages and disadvantages (Boslaugh, 2007). The data analyzed is readily available, and can provide relatively fast answers to research questions, saving the researcher time. The data is also relatively inexpensive, since the researcher does not have the expense of conducting fieldwork to collect data. The main disadvantage of secondary data analysis, however, is that the data have not been collected to answer the researcher’s specific research question, therefore the questions the researcher is interested in may not be addressed in a thorough manner. Also, secondary data may contain errors or be missing needed data. Further research pertaining to violent behavior and gang activity using this study population could utilize primary data collection to avoid the disadvantages of secondary data analysis.

Recommendations for Future Research

Religiosity, apart from being positively related to fighting in boys, was not related to the other measures of violent behavior (carrying a weapon, witnessing violence, or using a weapon), or to gang activity, in both boys and girls. While this finding is inconsistent with some earlier studies, further research is needed to determine if this
finding is related to economically disadvantaged adolescents alone, or to adolescents in
general.

An unexpected finding of this study was that boys who are more religious have a
greater likelihood of being involved in fighting. Further research is needed to determine if
more religious boys do indeed fight more, and to explain the causes of this behavior.

This study also determined that girls with greater feelings of neighborhood
connectedness were more likely to use a weapon, and that both boys and girls with
greater neighborhood connectedness were more likely to be involved in gang activity.
Previous studies indicated that adolescents with a strong sense of neighborhood
connectedness were less likely to be involved in violent behavior and gang activity.
Further research is needed to determine if, for example, in economically disadvantaged
adolescents, feelings of neighborhood connectedness are expressed by joining a
neighborhood gang and violently defending gang territory.

This study found that lower externalized anger was related to greater adolescent
involvement in violent behavior and gang activity. Previous studies have shown a direct
relationship between adolescent anger and violent behavior. Further research is needed to
explain this finding.

Further research is needed into the factors associated with the steady decrease in
religiosity noted in the study for both boys and girls from age 10-18, and also the
significant gender gap in religiosity between boys and girls. Further research is also
needed to determine why girls are less involved in violence and gang activity than boys.

The research study could be replicated in different urban populations e.g.
adolescents in Montgomery, Alabama. The study could also be modified for use in other
populations of young people. Finally, the study could be adapted to investigate the role of religiosity in adolescents in developing countries.

Implications for Public Health Practice

The revised conceptual framework incorporating the theory of planned behavior could be used by public health practitioners to address violent behavior and gang activity in economically disadvantaged adolescents. The theory of planned behavior involves the constructs of attitude toward behavior, subjective norm, and perceived behavioral control, which influence behavioral intention and ultimately behavior. Interventions such as anger management classes could be utilized to address externalized anger and ways to control anger, since anger may directly affect attitudes towards violent behavior and gang activity. It must be noted that this study found that lower externalized anger was related to greater adolescent involvement in violent behavior and gang activity, contrary to previous studies that have shown a direct relationship between adolescent anger and violent behavior. Therefore, our study data does not support the idea that externalized anger needs to be lowered. Further research is needed to explain this finding.

Subjective norms, the adolescents’ beliefs about how important people in the adolescents’ lives feel about their behavior, are influenced by parental control and feelings of neighborhood connectedness. Public health practitioners could conduct parenting classes focusing on the importance of parental control by parents imposing curfews and monitoring their children. If necessary, neighborhood curfews could also be
imposed by law enforcement authorities based in part on the advice of public health professionals.

Perceived behavioral control, the adolescents’ belief that they have the ability to control their behavior and resist violent behavior and gang activity, is influenced by the sense of self worth of the adolescents. Public health practitioners could work on strengthening adolescent self worth in workshops that could also address anger management.

Conclusions

Studies of religiosity are hampered by limited knowledge about how to measure it. Some of the relationships between religiosity and violent behavior and gang activity seen in this study were inconsistent with some of the published literature. Based on this study, religiosity is positively related to fighting in boys, but is not related to carrying a weapon, witnessing violence, using a weapon, or gang activity, in both boys and girls. Younger boys and girls were more likely to be involved in fighting, and younger girls were more likely to be involved in gang activity. Younger boys with lower self worth, lower externalized anger, and lesser parental control with less curfews and less monitoring are more likely to be involved in fighting. Girls with greater feelings of neighborhood connectedness were more likely to use a weapon, and both boys and girls with greater neighborhood connectedness were more likely to be involved in gang
activity. Lower externalized anger in both boys and girls was related to greater involvement in violent behavior and gang activity.

Findings in this study that were more consistent with the published literature were the differences between boys and girls. Girls had significantly higher religiosity scores than boys in all age groups. Religiosity scores consistently and steadily declined in both boys and girls from age ten to eighteen. Older boys and girls were more likely to carry a weapon, and older girls were more likely to use a weapon. Lesser parental supervision, with a lack of curfew or monitoring, was positively associated with violent behavior and gang activity in boys and girls. Also, a lower sense of self worth was positively associated with violent behavior and gang activity in children.

Although more research is needed in all areas, these findings have some useful implications for public health practice. The Theory of Planned Behavior could be applied to help explain the relationship between religiosity, violent behavior and gang activity among economically disadvantaged adolescents, and could be used to help plan public health interventions in this population.
LIST OF REFERENCES


APPENDIX A

THE UNIVERSITY OF ALABAMA AT BIRMINGHAM INSTITUTIONAL REVIEW BOARD FOR HUMAN USE FORM 4: IRB APPROVAL FORM
Form 4: IRB Approval Form
Identification and Certification of Research
Projects Involving Human Subjects

UAB's Institutional Review Boards for Human Use (IRBs) have an approved Federalwide Assurance with the Office for Human Research Protections (OHRP). The Assurance number is FWA00005960 and it expires on October 26, 2010. The UAB IRBs are also in compliance with 21 CFR Parts 50 and 56 and ICH GCP Guidelines.

Principal Investigator: MCKENZIE, DAVID M
Co-Investigator(s):
Protocol Number: E100505014
Protocol Title: Relationship Between Religiosity, Violent Behavior and Gang Activity Among Adolescents in Mobile, Alabama

The above project was reviewed on 5/18/10. The review was conducted in accordance with UAB's Assurance of Compliance approved by the Department of Health and Human Services. This project qualifies as an exemption as defined in 45CF46.101, paragraph 4.

This project received EXEMPT review.
IRB Approval Date: 5/18/10
Date IRB Approval Issued: 5/19/10

Sheila Moore, CIP
Director, Office of the Institutional Review Board for Human Use (IRB)

Investigators please note:

IRB approval is given for one year unless otherwise noted. For projects subject to annual review research activities may not continue past the one year anniversary of the IRB approval date.

Any modifications in the study methodology, protocol and/or consent form must be submitted for review and approval to the IRB prior to implementation.

Adverse Events and/or unanticipated risks to subjects or others at UAB or other participating institutions must be reported promptly to the IRB.
APPENDIX B

THE UNIVERSITY OF ALABAMA INSTITUTIONAL REVIEW BOARD FOR THE
PROTECTION OF HUMAN SUBJECTS APPROVAL LETTER
August 23, 2011

David McKenzie
3808 Dovewood Court
Montgomery, AL 36116

Re: IRB#: 10-OR-243-R1, Relationship Between Religiosity, Violent Behavior and Gang Activity among Adolescents in Mobile, Alabama

Dear Mr. McKenzie:

The University of Alabama Institutional Review Board has granted approval for your renewal application.

Your protocol has been given expedited approval according to 45 CFR part 46.101(b)(4) as outlined below:

(4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

Your application will expire on August 22, 2012. If your research will continue beyond this date, complete the relevant portions of IRB Renewal Application. If you wish to modify the application, complete the Modification of an Approved Protocol Form. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants. When the study closes, complete the appropriate portions of the IRB Study Closure Form.

Should you need to submit any further correspondence regarding this proposal, please include the above application number.

Good luck with your research.

Sincerely,

Carpentier T. Myles, MSM, CIH
Director & Research Compliance Officer
Office of Research Compliance
The University of Alabama
APPENDIX C

MOBILE YOUTH SURVEY 2010
YOUTH SURVEY 2010

We are conducting a study of young people living in your community, and you have been selected to be one of the participants in this study. Thank you for agreeing to participate. During the next hour-and-a-half, we will ask you to answer questions about yourself. These include questions about your:

- neighborhood
- hopes for the future
- educational experiences
- drug and alcohol use
- relationships with others
- sexual behavior
- health
- fighting

After you have completed the survey, we will pay you $15.00 for your time. We know that some of the questions are very personal; and if you would prefer not to answer any of these questions, that is okay.

We will not share your answers with anyone, so you do not have to worry that anything you say will get you or anyone else in trouble.

I agree to participate in this study.

Your Full Name (First, Middle, Last)

Your Street Address

Today’s Date

Month    Day    Year

Your Date of Birth

PLEASE TEAR OFF THIS PAGE AND WE WILL COLLECT IT
YOUTH SURVEY
2010

The questions we will be asking you today deal with things that are important to young people as they grow up and become adults. Some questions ask about what you know; others ask your opinion on things; and others ask about things you may or may not have done.

Some of these questions ask about very personal things that you may consider private. Please work by yourself, and do not talk with others while you are answering. It is important that you answer as many questions as you can, as honestly as you can. There is always an answer that lets you tell us when you have not done things, as well as when you have done them. Knowing what you haven’t done is just as important as knowing what you have done. All of your answers will be completely confidential—no one from your school or home will ever see your answers.

If you have any questions as we are going through this, please raise your hand and we will help you. Do you have any questions before we begin?

******************************************************************************

FOR EACH QUESTION, ANSWER BY FILLING IN THE CIRCLE TO THE LEFT OF YOUR ANSWER CHOICE.

EXAMPLE

1. What grade are you in now?
   O 4th grade
   O 5th grade
   O 6th grade
   O 7th grade

SERIAL #
BACKGROUND INFORMATION

First, we would like some information about you, so we can describe the kinds of people who answer this survey.

1. How old are you now?
   ☐ . . 9  ☐ . . 11  ☐ . . 13  ☐ . . 15  ☐ . . 17  ☐ . . 19
   ☐ . . 10  ☐ . . 12  ☐ . . 14  ☐ . . 16  ☐ . . 18

2. Are you male or female (a boy or a girl)?  ☐ . Male (boy)  ☐ . Female (girl)

3. Compared to others your age, do you think you look younger, about the same, or older?
   ☐ . Younger  ☐ . About the same  ☐ . Older

4. Did you go to school last year?  ☐ . No  ☐ . Yes

5. What grade in school will you be in next year?
   ☐ . I am not in school  ☐ . 7th  ☐ . 11th
   ☐ . 4th or lower  ☐ . 8th  ☐ . 12th
   ☐ . 5th  ☐ . 9th  ☐ . College or technical school

   ☐ . 6th  ☐ . 10th

6. Do you receive free or reduced cost lunch at school?
   ☐ . I don’t go to school  ☐ . No
   ☐ . Yes, I receive free lunches  ☐ . I don’t know
   ☐ . Yes, I receive reduced cost lunches

7. Do you want to finish high school?
   ☐ . I have graduated from high school  ☐ . Maybe
   ☐ . No  ☐ . Yes

8. Do you think you will finish high school?
   ☐ . I have graduated from high school  ☐ . Maybe
   ☐ . No  ☐ . Yes

9. Do you want to go to college?  ☐ . No  ☐ . Maybe  ☐ . Yes

10. Do you think you will go to college?  ☐ . No  ☐ . Maybe  ☐ . Yes

11. How good are your grades compared to other students in your school?
    ☐ . I am not in school  ☐ . Better
    ☐ . Worse  ☐ . One of the best
    ☐ . About the same

12. How much do you worry about getting good grades?
    ☐ . I am not in school  ☐ . Some
    ☐ . Not at all  ☐ . Very much
13. Have you ever been suspended from school?  ☐ . No ☐ . Yes

14. During the past year (12 months), were you suspended from school?
   ☐ . No ☐ . Yes

15. Have you ever been expelled from school?  ☐ . No ☐ . Yes

16. During the past year (12 months), were you expelled from school?
   ☐ . No ☐ . Yes

17. About how often do you go to church, worship services, or other religious activities?
   ☐ . Never
   ☐ . Once in a while
   ☐ . About once a month
   ☐ . About 2 or 3 times a month
   ☐ . Once a week or more

18. How important is religion to you?
   ☐ . Not important ☐ . Somewhat important ☐ . Very important

19. How often do you read or study a Holy Book (such as The Bible)?
   ☐ . Never
   ☐ . Once in a while
   ☐ . About once a month
   ☐ . About 2 or 3 times a month
   ☐ . Once a week or more

20. How long have you lived in your neighborhood?
   ☐ . Less than one year
   ☐ . About one year
   ☐ . About two years
   ☐ . About three years
   ☐ . About four years
   ☐ . Five years or longer

21. Have you ever been arrested?  ☐ . No ☐ . Yes

22. During the past year (12 months), were you arrested?  ☐ . No ☐ . Yes

23. During the past year (12 months), was anyone who lives in your apartment arrested?
   Don't include yourself.
   ☐ . No ☐ . Yes

The last questions in this section ask about how you describe yourself.


25. Are you white?  ☐ . No ☐ . Yes


27. Are you mixed race and/or Creole?  ☐ . No ☐ . Yes
FAMILY

People live in different kinds of families. Some kids live with their mother or their father. Others live with people who are like a mother or a father to them.

28. What person is most like a mother to you? (MARK ONLY ONE ANSWER.)
   ○ . . I don’t have anyone who is like a mother to me
   ○ . . My mother
   □ . . My stepmother
   ○ . . My grandmother
   ○ . . My aunt
   ○ . . My foster mother
   □ . . My father’s girlfriend
   ○ . . My older sister
   ○ . . Some other person

29. How often do you live with the person who is most like a mother to you?
   ○ . . I don’t have anyone who is like a mother to me
   ○ . . All of the time
   □ . . Most of the time
   □ . . Some of the time
   ○ . . None of the time

Please tell us about this person who is most like a mother to you.

30. I can usually count on her to help me out if I have some kind of problem.
   ○ . . I don’t have anyone who is like a mother to me
   ○ . . Agree
   □ . . Disagree

31. She usually keeps pushing me to do my best in whatever I do.
   ○ . . I don’t have anyone who is like a mother to me
   ○ . . Agree
   □ . . Disagree

32. We do fun things together.
   ○ . . I don’t have anyone who is like a mother to me
   ○ . . Agree
   □ . . Disagree

33. She usually helps me if there is something I don’t understand.
   ○ . . I don’t have anyone who is like a mother to me
   ○ . . Agree
   □ . . Disagree

34. When she wants me to do something, she usually explains the reasons why.
   ○ . . I don’t have anyone who is like a mother to me
   □ . . Agree
   ○ . . Disagree

35. She spends time just talking with me.
   ○ . . I don’t have anyone who is like a mother to me
   ○ . . Agree
   □ . . Disagree
36. When I am angry about something, she tries to be understanding.
   - I don’t have anyone who is like a mother to me
   - Agree
   - Disagree

37. She encourages me to talk about my problems.
   - I don’t have anyone who is like a mother to me
   - Agree
   - Disagree

38. If she knows something is bothering me, she asks me about it.
   - I don’t have anyone who is like a mother to me
   - Agree
   - Disagree

39. I tell her about my problems and troubles.
   - I don’t have anyone who is like a mother to me
   - Agree
   - Disagree

40. How sure are you that she knows what you need from her?
   - I don’t have anyone who is like a mother to me
   - Very sure
   - Kind of sure
   - Not at all sure

41. How sure are you that she understands you?
   - I don’t have anyone who is like a mother to me
   - Very sure
   - Kind of sure
   - Not at all sure

42. How sure are you that she understands how you are truly feeling about things?
   - I don’t have anyone who is like a mother to me
   - Very sure
   - Kind of sure
   - Not at all sure

43. How sure are you that she knows when things are going badly in your day, and that you need her help?
   - I don’t have anyone who is like a mother to me
   - Very sure
   - Kind of sure
   - Not at all sure

44. How sure are you that she understands when you are not feeling well?
   - I don’t have anyone who is like a mother to me
   - Very sure
   - Kind of sure
   - Not at all sure
For each of the following questions, please indicate which of the statements that are listed best describes your relationship with your mother or mother figure.

45. ☐ I find it easy to trust her.
    ☐ I am not sure I can trust her.
    ☐ I don’t have anyone who is like a mother to me.

46. ☐ I can count on her for help.
    ☐ It’s hard for me to count on her for help.
    ☐ I don’t have anyone who is like a mother to me.

47. ☐ She spends enough time with me.
    ☐ I don’t feel she spends enough time with me.
    ☐ I don’t have anyone who is like a mother to me.

48. ☐ I don’t really like talking with her about what I am thinking.
    ☐ I like talking with her about what I am thinking.
    ☐ I don’t have anyone who is like a mother to me.

49. ☐ I don’t really need her for much.
    ☐ I need her for a lot of things.
    ☐ I don’t have anyone who is like a mother to me.

50. ☐ I wish I felt closer to her.
    ☐ I am happy with our relationship.
    ☐ I don’t have anyone who is like a mother to me.

51. ☐ I don’t know if she really loves me.
    ☐ I am sure she really loves me.
    ☐ I don’t have anyone who is like a mother to me.

52. ☐ I think she really understands me.
    ☐ I think she really doesn’t understand me very well.
    ☐ I don’t have anyone who is like a mother to me.

53. ☐ I don’t know if she will be there for me when I need her.
    ☐ I am sure she will be there for me when I need her.
    ☐ I don’t have anyone who is like a mother to me.

54. ☐ I don’t think she listens to me.
    ☐ I think she does listen to me.
    ☐ I don’t have anyone who is like a mother to me.

55. ☐ I go to her when I am upset.
    ☐ I don’t go to her when I am upset.
    ☐ I don’t have anyone who is like a mother to me.

56. ☐ I feel better when she is around.
    ☐ I don’t feel better when she is around.
    ☐ I don’t have anyone who is like a mother to me.
Now we would like to know some things about the person who is most like a father to you.

57. What person is most like a father to you? (MARK ONLY ONE ANSWER.)
   - I don't have anyone who is like a father to me
   - My father
   - My stepfather
   - My grandfather
   - My uncle
   - My foster father
   - My mother's boyfriend
   - My older brother
   - Some other person

58. How often do you live with the person who is most like a father to you?
   - I don't have anyone who is like a father to me
   - Some of the time
   - All of the time
   - Most of the time

Please tell us about this person who is most like a father to you.

59. I can usually count on him to help me out if I have some kind of problem.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

60. He usually keeps pushing me to do my best in whatever I do.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

61. We do fun things together.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

62. He usually helps me if there is something I don't understand.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

63. When he wants me to do something, he usually explains the reasons why.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

64. He spends time just talking with me.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

65. When I am angry about something, he tries to be understanding.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree
66. He encourages me to talk about my problems.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

67. If he knows something is bothering me, he asks me about it.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

68. I tell him about my problems and troubles.
   - I don't have anyone who is like a father to me
   - Agree
   - Disagree

69. Think about the person who is most like a mother to you and the person who is most like a father to you. Do they live in the same house or apartment?
   - I don't have anyone who is like a mother to me
   - Most of the time
   - Some of the time
   - None of the time
   - I don't have anyone who is like a father to me
   - All of the time

Sometimes children do things that they are not allowed to do, or that their family doesn't like. Please tell us what your family does when you do something that you are not allowed to do or that they don't like.

70. They take my privileges away or ground me.
   - No
   - Yes

71. They give me extra chores or work to do around the house.
   - No
   - Yes

72. They yell at me or scold me.
   - No
   - Yes

73. They calmly discuss what happened with me.
   - No
   - Yes

74. They slap me or spank me or hit me.
   - No
   - Yes

Some families have rules about what children are allowed to do, and about what they are not allowed to do.

75. Does your family have rules about when you do homework?
   - No
   - Yes

76. Does your family have rules about dating?
   - No
   - Yes

77. Does your family have rules about fighting and hitting other people?
   - No
   - Yes

78. Are you allowed to stay out as late as you want on school nights?
   - No
   - Yes

79. Are you allowed to stay out after dark on school nights?
   - No
   - Yes

80. Are you allowed to stay out as late as you want on weekend nights?
   - No
   - Yes

81. Are you allowed to stay out after dark on weekend nights?
   - No
   - Yes
In the following questions, we want to know how much your mother or father—or the person who is most like a mother or father to you—knows about what you do.

82. Does your mother or father know who you hang out with?  
   | No | Yes |  
   | ⬜️ | ⬜️  |

83. Does your mother or father know exactly where you are most afternoons (after school) and during the day on weekends and during the summer?  
   | No | Yes |  
   | ⬜️ | ⬜️  |

84. How much does your mother or father really know about what you do most afternoons (after school) and during the day on weekends and during the summer?  
   | ⬜️ They don’t know | ⬜️ They know a little | ⬜️ They know a lot |  

85. How much does your mother or father really know about where you go at night?  
   | ⬜️ I don’t go out at night | ⬜️ They know a little | ⬜️ They know a lot |  

86. Does your mother or father try to find out how you spend your time?  
   | ⬜️ They don’t try | ⬜️ They try a little | ⬜️ They try a lot |  

87. How much does your mother or father really know about how you spend your time during the school year?  
   | ⬜️ They don’t know | ⬜️ They know a little | ⬜️ They know a lot |  

The last questions in this section ask about how you spend your time during the school year.

88. How many hours each week are you involved in organized sports, clubs, or other after-school activities? (Do not count "pick-up" games or hanging out with friends.)  
   | ⬜️ None; I’m not in any of these activities | ⬜️ 6 to 10 hours each week | ⬜️ More than 10 hours each week |  

89. How many hours each week do you work at a paid job?  
   | ⬜️ None; I don’t have a job | ⬜️ 11 to 20 hours each week | ⬜️ More than 20 hours each week |  

90. How many hours each week do you work at home doing chores (like cooking and cleaning) or babysitting family members?  
   | ⬜️ None; I don’t do any work at home | ⬜️ 6 to 10 hours each week | ⬜️ More than 10 hours each week |  

91. How many hours each week do you spend doing homework (school assignments to be done outside school hours)?  
   | ⬜️ None; I’m not in school | ⬜️ 6 to 10 hours each week | ⬜️ More than 10 hours each week |  

| ⬜️ 1 to 5 hours each week |
92. How many hours each week do you spend hanging out with your friends?
   - None; I don’t hang out with friends
   - 1 to 5 hours each week
   - 6 to 10 hours each week
   - 11 to 20 hours each week
   - More than 20 hours each week

93. How many hours each week do you hang out alone at home? (Don’t count time when you are asleep at night.)
   - None; I don’t hang out alone at home
   - 1 to 5 hours each week
   - 6 to 10 hours each week
   - 11 to 20 hours each week
   - More than 20 hours each week

FRIENDS AND SCHOOL

Think about the kids who are your best friends. We would like to know whether you agree or disagree with these statements about them.

94. They get irritated with me for no reason.
   - Agree
   - Disagree

95. They listen to what I have to say.
   - Agree
   - Disagree

96. I often feel angry with them.
   - Agree
   - Disagree

97. I feel alone even when I am with them.
   - Agree
   - Disagree

98. They understand me.
   - Agree
   - Disagree

99. They accept me as I am.
   - Agree
   - Disagree

100. I trust them.
    - Agree
    - Disagree

101. They protect me from people who might hurt me.
    - Agree
    - Disagree

102. They know what I am feeling even if I don’t tell them.
    - Agree
    - Disagree

103. They are more likely to watch out for themselves than to watch out for me.
    - Agree
    - Disagree

104. They stick with me, through good times and bad.
    - Agree
    - Disagree

105. They try pretty hard to figure out what’s wrong when I am upset.
    - Agree
    - Disagree

106. They are not very good about listening to me when I am feeling down.
    - Agree
    - Disagree

How often do your best friends . . .

107. keep their promises to you?
    - Often
    - Sometimes
    - Rarely or never

108. let you down when you are counting on them?
    - Often
    - Sometimes
    - Rarely or never

109. criticize your ideas?
    - Often
    - Sometimes
    - Rarely or never

110. hit or shove you in anger?
    - Often
    - Sometimes
    - Rarely or never

111. let you know that they appreciate you?
    - Often
    - Sometimes
    - Rarely or never

SERIAL #
The following questions ask about what your friends think.

112. How much does it bother you if your friends think you are a punk?
   ☐ . . . It bothers me a lot
   ☐ . . . It bothers me some
   ☐ . . . It doesn’t bother me at all

113. How important is it to do things your friends think are cool?
   ☐ . . . It is very important
   ☐ . . . It is somewhat important
   ☐ . . . It is not important at all

114. How many of your friends think you are a punk if you don’t drink alcohol?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

115. How many of your friends think you are a punk if you don’t use drugs?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

116. How many of your friends think you are a punk if you don’t carry a weapon?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

117. How many of your friends think you are a punk if you don’t want to fight when you are insulted or dissed or called out?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

118. How many of your friends think you are a punk if you do well in school?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

119. How many of your friends think you are a punk if you don’t have sex?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

120. How many of your friends think it’s cool if you don’t drink alcohol?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

121. How many of your friends think it’s cool if you don’t use drugs?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

122. How many of your friends think it’s cool if you don’t carry a weapon?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

123. How many of your friends think it’s cool if you don’t want to fight when you are insulted or dissed or called out?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

124. How many of your friends think it’s cool if you do well in school?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them

125. How many of your friends think it’s cool if you don’t have sex?
   ☐ . . . Most of them
   ☐ . . . Some of them
   ☐ . . . Almost none of them
Now please think about the school you attended last year.

126. I feel as if I don’t belong at my school.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

127. Most students at my school like me the way I am.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

128. It is hard for people like me to be accepted at my school.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

129. There’s at least one teacher in my school I can talk to if I have a problem.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

130. Most teachers at my school are interested in me.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

131. People at my school notice when I’m good at something.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

132. Teachers at my school are not interested in people like me.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

133. The teachers at my school respect me.
   ☐ . . Agree    ☐ . . Disagree    ☐ . . I wasn’t in school last year

BOYFRIENDS AND GIRLFRIENDS

134. Which of the following best describes your current romantic relationship status?
   ☐ . . I have a steady romantic relationship with one person
   ☐ . . I date, but don’t have a steady romantic relationship with one person
   ☐ . . I am not dating or seeing anyone right now
   ☐ . . I have never dated

135. How old is your current boyfriend or girlfriend?
   ☐ . . I don’t have a boyfriend or girlfriend
   ☐ . . 10 years old or younger
   ☐ . . 11 or 12 years old
   ☐ . . 13 or 14 years old
   ☐ . . 15 or 16 years old
   ☐ . . 17 or 18 years old
   ☐ . . 19 or 20 years old
   ☐ . . 21 to 25 years old
   ☐ . . 26 to 30 years old
   ☐ . . Older than 30 years old

136. How long have you been with your current boyfriend or girlfriend?
   ☐ . . I don’t have a boyfriend or girlfriend
   ☐ . . Less than 1 month
   ☐ . . 1 or 2 months
   ☐ . . 3 or 4 months
   ☐ . . 5 or 6 months
   ☐ . . 7 or 8 months
   ☐ . . 9 or 10 months
   ☐ . . 11 or 12 months
   ☐ . . 13 to 24 months
   ☐ . . More than 2 years
How often do you and your boyfriend or girlfriend...

137. ..... spend time together on a hobby?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

138. ..... hang out with friends together?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

139. ..... take time to be by yourselves, just the two of you?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

140. ..... talk about work or school together?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

141. ..... cuddle, hug, or kiss?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

How often does your boyfriend or girlfriend...

142. ..... keep his/her promises to you?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

143. ..... show concern for your feelings?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

144. ..... let you down when you are counting on him/her?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

145. ..... get angry with you?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

146. ..... criticize your ideas?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never

147. ..... act loving toward you?
  ○ . I don't have a boyfriend or girlfriend
  ○ . Often
  ○ . Sometimes
  ○ . Rarely or never
**How often does your boyfriend or girlfriend . . .**

148. . . . hit, push, grab, or shove you in anger?
   - . . . I don’t have a boyfriend or girlfriend  
   - . . . Often  
   - . . . Sometimes  
   - . . . Rarely or never

149. . . . let you know that he/she appreciates you?
   - . . . I don’t have a boyfriend or girlfriend  
   - . . . Often  
   - . . . Sometimes  
   - . . . Rarely or never

150. . . . threaten to leave you?
   - . . . I don’t have a boyfriend or girlfriend  
   - . . . Often  
   - . . . Sometimes  
   - . . . Rarely or never

Many people have boyfriends or girlfriends, and even if you don’t right now, chances are that you will someday. We would like you to think about what it would be like to be in a close dating relationship, and how you and your boyfriend/girlfriend might think or act.

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<thead>
<tr>
<th></th>
<th>Agree</th>
<th>Disagree</th>
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<tbody>
<tr>
<td>151.</td>
<td>It is easy to see why a boyfriend/girlfriend would really care about me.</td>
<td></td>
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<tr>
<td>152.</td>
<td>Most boyfriends/girlfriends will lie to you in order to make things easier for themselves.</td>
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<tr>
<td>153.</td>
<td>Once I’ve found the right boyfriend/girlfriend, I could really make a relationship work.</td>
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<tr>
<td>154.</td>
<td>Most boyfriends/girlfriends know what you are feeling even if you don’t tell them.</td>
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<tr>
<td>155.</td>
<td>Most boyfriends/girlfriends end up letting you down.</td>
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<tr>
<td>156.</td>
<td>Boyfriends/girlfriends are more likely to watch out for themselves than to watch out for you.</td>
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<tr>
<td>157.</td>
<td>Most boyfriends/girlfriends will stick with you in a relationship, through good times and bad.</td>
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<tr>
<td>158.</td>
<td>Even if I found a boyfriend/girlfriend I cared about, I would probably mess up the relationship.</td>
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<tr>
<td>159.</td>
<td>Most boyfriends/girlfriends will try pretty hard to figure out what’s wrong when you are upset.</td>
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<td>160.</td>
<td>Most boyfriends/girlfriends are not very good about listening to you when you are feeling down.</td>
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<tr>
<td>161.</td>
<td>I don’t think that anyone will ever really fall in love with me.</td>
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<tr>
<td>162.</td>
<td>Most boyfriends/girlfriends are pretty trustworthy.</td>
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**SERIAL #**
FEELINGS ABOUT YOURSELF AND OTHERS

Young people often face challenges that they worry about. Some of these challenges of growing up are listed below. We would like to find out how much you worry about each of these.

163. How much do you worry about being pressured into doing something dangerous by your friends?
   - Not at all
   - Some
   - Very much

164. How much do you worry about not fitting in with other kids in the neighborhood or at school?
   - Not at all
   - Some
   - Very much

165. How much do you worry that your family has enough money to get by?
   - Not at all
   - Some
   - Very much

166. How much do you worry that you might not get a good job when you get older?
   - Not at all
   - Some
   - Very much

167. How much do you worry about getting along with people of other races?
   - Not at all
   - Some
   - Very much

168. When you are worried about something, do you have somebody you can talk with about it?
   - All the time
   - Most of the time
   - Some of the time
   - Never

Please agree or disagree with each of the following statements.

169. When I have a problem, I do a lot of thinking to understand it.
   - Agree
   - Disagree

170. It's best to ask for advice when I have a problem.
   - Agree
   - Disagree

171. I was taught to know the kinds of goals I should set for myself.
   - Agree
   - Disagree

172. I act the way I do because I was taught what's right and what's wrong.
   - Agree
   - Disagree

173. When I have to make a decision, I wait as long as I can to see what will happen.
   - Agree
   - Disagree

174. I've known since I was very young the kind of person that I want to be.
   - Agree
   - Disagree

175. I've spent a lot of time thinking about what's right and what's wrong.
   - Agree
   - Disagree

176. I try to put off thinking about or dealing with problems as long as I can.
   - Agree
   - Disagree

177. When I know something will make me upset, I try to avoid it.
   - Agree
   - Disagree

178. I like to deal with things the way my parents said I should.
   - Agree
   - Disagree

179. It's better to stick to my beliefs about what is right and wrong than to be open to different ideas.
   - Agree
   - Disagree

180. I try to avoid situations that make me think too hard.
   - Agree
   - Disagree

181. The problems I face are often interesting challenges that I like to figure out.
   - Agree
   - Disagree
<table>
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<tr>
<th></th>
<th></th>
<th>Agree</th>
<th>Disagree</th>
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<tbody>
<tr>
<td>182. If I don't worry about my problems they usually work out okay.</td>
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<tr>
<td>183. Before I make a big decision, I like to find out as much as I can about it.</td>
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<td>184. Most people can be trusted.</td>
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<td>185. Many people are friendly only because they want something from you.</td>
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<td>o</td>
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<tr>
<td>186. Most people don’t really care what happens to other people.</td>
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<tr>
<td>187. No matter how hard I study and how much I try in school, I don’t think I will get a very good job when I get older.</td>
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<td>188. All I see ahead of me are bad things, not good things.</td>
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<td>189. There's no use in really trying to get something I want because I probably won't get it.</td>
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<td>190. I might as well give up because I can’t make things better for myself.</td>
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<td>191. I don’t have good luck now and there’s no reason to think I will when I get older.</td>
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<tr>
<td>192. I never get what I want, so it’s dumb to want anything.</td>
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<tr>
<td>193. I don’t expect to live a very long life.</td>
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<td>194. I can easily be distracted even when I really need to finish a task.</td>
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<tr>
<td>195. I prefer to not make promises to other people.</td>
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<td>196. When I think about the future, I feel hopeful and optimistic.</td>
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<td>197. My opinions are often influenced by others.</td>
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<tr>
<td>198. I really don’t know what I’m good at.</td>
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<tr>
<td>199. I can’t seem to forgive myself for a lot of things I’ve done in the past.</td>
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<tr>
<td>200. When things don’t go my way, I remind myself of positive things in my life.</td>
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<tr>
<td>201. I really don’t know what I want out of life.</td>
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<td>o</td>
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<tr>
<td>202. I really don’t care about helping other people.</td>
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<tr>
<td>203. I’m afraid of what might happen to me in the future.</td>
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<tr>
<td>204. I don’t put much energy into trying to get something I want.</td>
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<tr>
<td>205. I’m only setting myself up for disappointment by looking forward to things in the future.</td>
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<td>206. I feel like I don’t have control over my life.</td>
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<td>o</td>
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<tr>
<td>207. Even when I have the opportunity to do things I am good at, I usually can’t get started.</td>
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</table>
208. Besides my closest friends and family, I'm not that concerned about what other people need.

209. When something doesn't work out for me, I just look forward to doing other things.

210. Sometimes I feel as if I can't control my behavior.

211. No matter how bad things get, I am confident they will get better.

212. Fear keeps me from trying to get what I want.

213. I'm not really sure what I believe in.

214. When I get really down, I have a hard time believing that things are going to get better.

215. When I think about the past, I feel sadness and regret.

216. I don't care about things anymore because they usually don't work out anyway.

217. I've got enough of my own problems, so it is hard to worry about other people's problems.

218. I have trouble deciding on a purpose in life.

219. I don't look forward to the future.

220. I'm hardly ever the first to start something; I usually follow the crowd.

221. It doesn't matter what I do, it's not going to change anything.

222. I don't have time to deal with other people's problems.

223. When something doesn't work out like I hoped it would, I feel like just quitting everything.

224. Most people just seem better able to do things than me.

225. I avoid tasks that might require too much of my time and energy.

226. Planning takes the fun out of things.

227. I put down the first answer that comes into my head on a test, and often forget to check it later.

228. I get involved in things that I later wish I could get out of.

229. I often blame others for my mistakes.

230. I care about how well I do at school or work.

231. I am able to lie easily and skillfully.

232. I feel bad or guilty when I do something wrong.
233. I sometimes act charming and nice to get things I want. Agree  Disagree  
234. I care about the feelings of others. Agree  Disagree  
235. I usually hide my feelings or emotions from others. Agree  Disagree  
236. I get angry when I am corrected or punished. Agree  Disagree  
237. When I am an adult, I expect to have a good job that I like and that will pay enough for me to live on. Agree  Disagree  
238. When I am an adult, I expect to have good friends I can talk to and do things with. Agree  Disagree  
239. When I am an adult, I expect to have a long and happy marriage. Agree  Disagree  
240. When I am an adult, I expect to spend time in jail or prison. Agree  Disagree  
241. Some people are just crazy; that’s how they are born, and that’s how they will die. Agree  Disagree  
242. People can try to act differently, but they really can’t change how crazy they are. Agree  Disagree  
243. Some people are just crazy, and there is nothing they can do to change that. Agree  Disagree  

Please tell us in the following questions how you feel when bad things happen to a friend or family member.

244. I have gotten very upset when I found out that a friend or family member had something very bad happen to them.  
☐ . . Yes  ☐ . . No  
245. I have bad dreams about the bad things that have happened to a family member or friend.  
☐ . . Almost never  ☐ . . Sometimes  ☐ . . Very often  
246. I have trouble sleeping at night when bad things happen to a family member or friend.  
☐ . . Almost never  ☐ . . Sometimes  ☐ . . Very often  
247. I think I would feel better if I could talk to someone about the bad things that happen to a family member or friend.  
☐ . . Almost never  ☐ . . Sometimes  ☐ . . Very often  
248. When bad things happen to a family member or friend, it feels like they are happening to me.  
☐ . . Almost never  ☐ . . Sometimes  ☐ . . Very often  
249. I think about bad things that have happened to a family member or friend, even when I don’t want to.  
☐ . . Almost never  ☐ . . Sometimes  ☐ . . Very often
250. After bad things happen to a family member or friend, I feel uncomfortable being with them because it reminds me of the bad things that happened.
   ○ . . Almost never  ○ . . Sometimes  ○ . . Very often

251. I worry that bad things might happen to a family member or friend.
   ○ . . Almost never  ○ . . Sometimes  ○ . . Very often

252. I get angry for no reason.
   ○ . . Almost never  ○ . . Sometimes  ○ . . Very often

253. I get startled easily.
   ○ . . Almost never  ○ . . Sometimes  ○ . . Very often

Now we are interested in how you think about yourself. For each of the following questions, please indicate which of the two statements that are listed is most like you.

254. ○ . . I am usually unhappy with myself.
    ○ . . I am usually happy with myself.

255. ○ . . I sometimes do things I know I shouldn’t do.
    ○ . . I hardly ever do things I know I shouldn’t do.

256. ○ . . I usually don’t like the way I behave.
    ○ . . I usually like the way I behave.

257. ○ . . I like the kind of person I am.
    ○ . . I don’t like the kind of person I am.

258. ○ . . I usually get into trouble because of the things I do.
    ○ . . I usually don’t do things that get me into trouble.

259. ○ . . I usually make good decisions.
    ○ . . I usually don’t make good decisions.

260. ○ . . I usually behave myself very well.
    ○ . . I often find it hard to behave myself.

261. ○ . . I am not happy with the way I do a lot of things.
    ○ . . The way I do things is fine.

262. ○ . . I don’t like the way I am leading my life.
    ○ . . I like the way I am leading my life.

Sometimes when pressures of life get to be too much and people can’t see any way out, they might think about killing themselves?

263. In the past year (12 months), did you seriously think about killing yourself?
    ○ . . No  ○ . . Yes

264. Have you ever tried to kill yourself?
    ○ . . No  ○ . . Yes

265. Have any of your friends ever tried to kill themselves?
    ○ . . No  ○ . . Yes
SAFETY AND FIGHTING

In this section, we would like to ask you about times you may have been in fights and what you do to protect yourself in your neighborhood and at school. Even if you have never been in fights, each question has an answer you can mark.

In the next two questions, “unsafe” means you feel in danger of being hurt, attacked, robbed, or beaten up.

266. How much of the time do you feel unsafe in your neighborhood?
   ( ) Never
   ( ) Sometimes
   ( ) Most of the time, but not all the time
   ( ) All the time

267. How much of the time do you feel unsafe at school?
   ( ) I don’t go to school
   ( ) Never
   ( ) Sometimes
   ( ) Most of the time, but not all the time
   ( ) All the time

The following questions ask about fighting and weapons. These questions are about things you may have done, seen, or had happen to you. Some of these questions ask whether you have ever done something, like fighting. Other questions ask whether you have done it during the last year. Still others ask whether you have done it more recently, during the past three months, or during the last month, or during the last week. Although these questions sound similar, they are different. Make sure to pay attention to the time frame.

268. Have you ever been in a physical fight (a fight with hitting, kicking, or pushing)?
   ( ) No
   ( ) Yes

269. In the past 3 months (90 days), were you in a physical fight?
   ( ) No
   ( ) Yes, just once
   ( ) Yes, more than once

270. In the past month (30 days), were you in a physical fight?
   ( ) No
   ( ) Yes, just once
   ( ) Yes, more than once

271. Have you ever tried to get other kids to fight each other?
   ( ) No
   ( ) Yes

272. In the past year (12 months), did you try to get other kids to fight each other?
   ( ) No
   ( ) Yes, just once
   ( ) Yes, more than once

273. In the past month (30 days), did you try to get other kids to fight each other?
   ( ) No
   ( ) Yes, just once
   ( ) Yes, more than once

274. Have you ever tried to stop other kids from fighting each other?
   ( ) No
   ( ) Yes
275. In the past year (12 months), did you try to stop other kids from fighting each other?
    ☐ . No  ☐ . Yes, just once  ☐ . Yes, more than once

276. In the past month (30 days), did you try to stop other kids from fighting each other?
    ☐ . No  ☐ . Yes, just once  ☐ . Yes, more than once

277. Do you have a quick temper?
    ☐ . All of the time  ☐ . Some of the time  ☐ . Most of the time  ☐ . None of the time

The next questions ask you about what you do when you get angry.

278. When I get angry, I get into fights.
    ☐ . Often true for me  ☐ . Sometimes true for me  ☐ . Almost never true for me

279. When I get angry, I talk about it with other people.
    ☐ . Often true for me  ☐ . Sometimes true for me  ☐ . Almost never true for me

280. When I get angry, I yell a lot.
    ☐ . Often true for me  ☐ . Sometimes true for me  ☐ . Almost never true for me

281. When I get angry, I get crazy or loco.
    ☐ . Often true for me  ☐ . Sometimes true for me  ☐ . Almost never true for me

282. When I get angry, I keep thinking about it for a long time.
    ☐ . Often true for me  ☐ . Sometimes true for me  ☐ . Almost never true for me

283. When I get angry, I figure out what to do about it by myself.
    ☐ . Often true for me  ☐ . Sometimes true for me  ☐ . Almost never true for me
The next questions are about weapons you might have carried, used, or had used against you.

284. Have you ever carried a knife or razor?
   ☐ . . No ☐ . . Yes

285. In the past 3 months (90 days), did you carry a knife or razor?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

286. In the past month (30 days), did you carry a knife or razor?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

287. In the past week (7 days), did you carry a knife or razor?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

288. Have you ever carried a gun?
   ☐ . . No ☐ . . Yes

289. In the past 3 months (90 days), did you carry a gun?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

290. In the past month (30 days), did you carry a gun?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

291. In the past week (7 days), did you carry a gun?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

292. Have you ever seen someone being cut, stabbed, or shot?
   ☐ . . No ☐ . . Yes

293. In the past 3 months (90 days), did you see someone being cut, stabbed, or shot?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

294. Has someone ever pulled a knife or gun on you?
   ☐ . . No ☐ . . Yes

295. In the past 3 months (90 days), did someone pull a knife or a gun on you?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once

296. Has someone ever cut or stabbed you bad enough that you had to see a doctor?
   ☐ . . No ☐ . . Yes

297. In the past year (12 months), did someone cut or stab you bad enough that you had to see a doctor?
   ☐ . . No ☐ . . Yes, just once ☐ . . Yes, more than once
298. Has someone ever shot a gun at you?
   ☐ . . No  ☐ . . Yes

299. In the past year (12 months), did someone shoot a gun at you?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

300. Have you ever told someone you were going to cut, stab, or shoot them?
   ☐ . . No  ☐ . . Yes

301. In the past 3 months (90 days), did you tell someone you were going to cut, stab, or shoot them?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

302. In the past month (30 days), did you tell someone you were going to cut, stab, or shoot them?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

303. Have you ever pulled a knife or a gun on someone else?
   ☐ . . No  ☐ . . Yes

304. In the past 3 months (90 days), did you pull a knife or a gun on someone else?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

305. In the past month (30 days), did you pull a knife or a gun on someone else?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

306. Have you ever cut or stabbed someone else?
   ☐ . . No  ☐ . . Yes

307. In the past year (12 months), did you cut or stab someone else?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

308. Have you ever shot a gun at someone else?
   ☐ . . No  ☐ . . Yes

309. In the past year (12 months), did you shoot a gun at someone else?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

310. Has a friend or anyone in your family ever been shot or stabbed?
   ☐ . . No  ☐ . . Yes

311. In the past year (12 months), was a friend or anyone in your family shot or stabbed?
   ☐ . . No  ☐ . . Yes, just once  ☐ . . Yes, more than once

312. Do you or anyone you live with keep a gun in your apartment for protection?
   ☐ . . No  ☐ . . Yes
Think about the things you saw or that happened to you in your neighborhood—not in your home or anywhere else, but in your neighborhood.

313. Have you ever seen someone being cut, stabbed, or shot in your neighborhood?
   ○ . . No  ○ . . Yes

314. During the past 3 months (90 days), did you see someone being cut, stabbed, or shot in your neighborhood?
   ○ . . No  ○ . . Yes, just once  ○ . . Yes, more than once

315. Has anyone ever pulled a knife or gun on you in your neighborhood?
   ○ . . No  ○ . . Yes

316. During the past 3 months (90 days), did anyone pull a knife or gun on you in your neighborhood?
   ○ . . No  ○ . . Yes, just once  ○ . . Yes, more than once

317. Has anyone ever cut you or shot a gun at you in your neighborhood?
   ○ . . No  ○ . . Yes

318. During the past year (12 months), did anyone cut you or shoot a gun at you in your neighborhood?
   ○ . . No  ○ . . Yes, just once  ○ . . Yes, more than once

The following section asks you what you think about fighting and carrying weapons. Please agree or disagree with each statement.

319. It is not possible to avoid fights in my neighborhood.
   ○  ○

320. If you don’t carry a knife or gun in my neighborhood, something bad might happen to you.
   ○  ○

321. Kids who are in a gang get respect from other kids in my neighborhood.
   ○  ○

322. When I get mad, I usually don’t care who gets hurt.
   ○  ○

323. Carrying a weapon lets other kids know that they shouldn’t mess with you.
   ○  ○

324. If someone else starts a fight with me, I am going to finish it.
   ○  ○

325. Hitting someone really knocks some sense into them.
   ○  ○

326. When you are in an argument, you should stand your ground to get what you want.
   ○  ○

327. How much do you worry about gangs in your neighborhood?
   ○ . . Not at all  ○ . . Some  ○ . . Very much
328. Have you ever been involved in a gang?
   ○ . No ○ . Yes

329. Are you currently involved in a gang?
   ○ . No ○ . Yes

330. Do you hang out with members of a gang?
   ○ . No ○ . Yes

DRUG AND ALCOHOL USE

The next questions are about cigarettes, alcohol, and other drugs. Some people have used cigarettes, alcohol, and drugs and some have not. Even if you have not, there are still answers for you to mark.

331. Have you ever smoked a cigarette?
   ○ . No ○ . Yes

332. In the past month (30 days), did you smoke cigarettes?
   ○ . No ○ . Yes, just once ○ . Yes, more than once

The next few questions are about drinking alcohol. By alcohol we mean beer, wine, wine coolers, malt liquor, and hard liquor. When you answer these questions, don’t count times when you just took a few sips of alcohol.

333. Have you ever drunk alcohol?
   ○ . No ○ . Yes

334. In the past month (30 days), did you drink alcohol?
   ○ . No ○ . Yes, just once ○ . Yes, more than once

335. In the past week (7 days), did you drink alcohol?
   ○ . No ○ . Yes, just once ○ . Yes, more than once

336. When you drink alcohol, how much do you drink?
   ○ . I have never drunk alcohol ○ . A little - Just enough to feel it
   ○ . Hardly any ○ . A lot - Enough to get drunk

337. Have you ever used crack or cocaine (rock)?
   ○ . No ○ . Yes

338. In the past year (12 months), did you use crack or cocaine?
   ○ . No ○ . Yes, just once ○ . Yes, more than once
339. Have you ever used marijuana (chronic, blunts, grass, herb, reefer)?
   ○ . No       ○ . Yes

340. In the past year (12 months), did you use marijuana?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

341. In the past month (30 days), did you use marijuana?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

342. Have you ever used amphetamines or methamphetamine (speed, uppers, ecstasy, crystal meth, MDMA)?
   ○ . No       ○ . Yes

343. During the last year (12 months), did you use amphetamines or methamphetamine?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

344. During the last month (30 days), did you use amphetamines or methamphetamine?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

345. Have you ever gotten drunk on alcohol or high on drugs?
   ○ . No       ○ . Yes

346. In the past year (12 months), did you get drunk on alcohol or high on drugs?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

347. In the past month (30 days), did you get drunk on alcohol or high on drugs?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

348. In the past week (7 days), did you get drunk on alcohol or high on drugs?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

349. In the past 3 months (90 days), did you go to school or work while you were drunk on alcohol or high on drugs?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

350. In the past 3 months (90 days), did you get into fights with other people while you were drunk on alcohol or high on drugs?
   ○ . No       ○ . Yes, just once       ○ . Yes, more than once

351. Do you think you have a drug or alcohol problem?
   ○ . No       ○ . Yes
352. **During the past year (12 months), did anyone tell you that you had a drug or alcohol problem?**
   - No
   - Yes

353. **During the past year (12 months), did you receive treatment from a counselor or therapist for drug or alcohol abuse?**
   - No
   - Yes

354. **Smoking crack is not dangerous if you only try it once.**
   - Agree
   - Disagree

355. **Drinking alcohol is not harmful as long as you don't get drunk.**
   - Agree
   - Disagree

**RELATIONSHIPS AND SEXUALITY**

Sex and sexuality can be things that are hard to talk about with other people. We know that you may feel uncomfortable with some of these questions, but we hope you will give us as honest an answer as you can to every question. Remember, you can choose not to answer any questions you feel particularly uncomfortable about.

356. **Would you be able to have an honest and open discussion about sex with your mother or father?**
   - No
   - Yes

357. **Have you ever had an honest and open discussion about sex with your mother or father?**
   - No
   - Yes

358. **Was the sex education you received in school worthwhile?**
   - I have not had sex education in school
   - No
   - Yes

Some people have had sexual intercourse and others have not. Whether or not you have done this, there is an answer for you for each of the following questions.

359. **Have you ever had sexual intercourse?** "Sexual intercourse" means having sex with the male’s penis inside the female’s vagina. This is sometimes called “going all the way.”
   - No
   - Yes

360. **In the past 3 months (90 days), did you have sexual intercourse?**
   - No
   - Yes, just once
   - Yes, more than once

361. **In the past month (30 days), did you have sexual intercourse?**
   - No
   - Yes, just once
   - Yes, more than once

362. **In the past week (7 days), did you have sexual intercourse?**
   - No
   - Yes, just once
   - Yes, more than once
363. How old were you when you first had sexual intercourse?
   ☐ ... I have never had sexual intercourse
   ☐ ... 9 years old or younger
   ☐ ... 10 years old
   ☐ ... 11 years old
   ☐ ... 12 years old
   ☐ ... 13 years old
   ☐ ... 14 years old
   ☐ ... 15 years old
   ☐ ... 16 years old
   ☐ ... 17 years old
   ☐ ... 18 years old

The following questions ask how you feel about having sex and your own sexuality.

364. How much do you worry about whether you are ‘straight’ or ‘gay’?
   ☐ ... Not at all    ☐ ... Some    ☐ ... Very much

365. How much do you worry that you might get AIDS?
   ☐ ... Not at all    ☐ ... Some    ☐ ... Very much

366. If a boy my age has sexual intercourse, he proves that he is a man.
   ☐ ... Agree    ☐ ... Disagree

367. If a girl my age has sexual intercourse, she proves that she is a woman.
   ☐ ... Agree    ☐ ... Disagree

The next section asks about ways you have protected yourself while having sexual intercourse. Whether or not you have had sexual intercourse, there is an answer to each question for you.

368. In the past 3 months (90 days), how much of the time did you or your sexual partner use a condom (rubber) when you had sexual intercourse?
   ☐ ... I did not have sexual intercourse during the past 3 months.
   ☐ ... None of the time
   ☐ ... Less than half the time
   ☐ ... About half the time
   ☐ ... Most of the time
   ☐ ... Always

369. In the past 3 months (90 days), how much of the time did you or your sexual partner use any form of birth control (such as condoms, birth control pills, or spermicides) when you had sexual intercourse?
   ☐ ... I did not have sexual intercourse during the past 3 months
   ☐ ... None of the time
   ☐ ... Less than half the time
   ☐ ... About half the time
   ☐ ... Most of the time
   ☐ ... Always
370. The last time you had sexual intercourse, were you or your sexual partner using birth control pills?
   ☐ . . I have never had sexual intercourse
   ☐ . . No
   ☐ . . Yes
   ☐ . . I don't know

371. The last time you had sexual intercourse, did you or your sexual partner use a condom (rubber)?
   ☐ . . I have never had sexual intercourse
   ☐ . . No
   ☐ . . Yes
   ☐ . . I don't know

372. In the past year (12 months), did you get pregnant or did you get someone else pregnant?
   ☐ . . Yes
   ☐ . . No
   ☐ . . I don't know

373. Do you have any children?
   ☐ . . Yes
   ☐ . . No
   ☐ . . I don't know

374. How would you feel if you got pregnant or if you got someone else pregnant during the next year?
   ☐ . . I would be happy
   ☐ . . I wouldn't care one way or the other
   ☐ . . I would be angry or unhappy

375. How do you think your mother or father would feel if you got pregnant or if you got someone else pregnant during the next year?
   ☐ . . They would be happy
   ☐ . . They wouldn't care one way or the other
   ☐ . . They would be angry or unhappy

376. Are you currently trying to get pregnant or to get someone else pregnant?
   ☐ . . No
   ☐ . . Yes

377. Have you ever had sexual intercourse with someone when they really didn't want to?
   ☐ . . No
   ☐ . . Yes

378. In the past 3 months (90 days), did you have sexual intercourse with someone when they really didn't want to?
   ☐ . . No
   ☐ . . Yes
379. Has anyone about your age ever made you have sexual intercourse when you really didn't want to?
   ☐ . . No
   ☐ . . Yes

380. In the past 3 months (90 days), did anyone about your age make you have sexual intercourse when you really didn't want to?
   ☐ . . No
   ☐ . . Yes

381. In the past 3 months (90 days), did you have sexual intercourse while you were drunk on alcohol or high on drugs?
   ☐ . . No
   ☐ . . Yes

382. In the past year (12 months), how many different sexual partners have you had?
   ☐ . . 0
   ☐ . . 1
   ☐ . . 2
   ☐ . . 3
   ☐ . . 4
   ☐ . . 5 or more

383. Have you ever been told by a doctor or nurse that you had a sexually transmitted disease (sexual infection, STD) like syphilis, gonorrhea, chlamydia, or genital warts? (Sometimes that is called "getting burned.")
   ☐ . . No
   ☐ . . Yes

384. In the past year, were you told by a doctor or nurse that you had a sexually transmitted disease (sexual infection, STD) like syphilis, gonorrhea, chlamydia, or genital warts?
   ☐ . . No
   ☐ . . Yes
FEELINGS ABOUT YOUR NEIGHBORHOOD

Please agree or disagree with each of the following statements about your neighborhood.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Agree</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>385. I feel I am an important part of my neighborhood.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>386. If I moved away from my neighborhood, I would be sorry to leave.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>387. Very few of my neighbors know me.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>388. I have friends in my neighborhood who know they can depend on me.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>389. I do not like living in my neighborhood.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>390. There are people in my neighborhood, other than my family, who really care about me.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>391. I have friends in my neighborhood I can depend on.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>392. If you don’t look out for yourself in my neighborhood, no one else will.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>393. No one in my neighborhood takes any interest in what their neighbors are doing.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>394. It is hard to make good friends in my neighborhood.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>395. If I am upset about a personal problem, there are people in my neighborhood I can turn to.</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

INJURY AND ILLNESS

We are also interested in any accidents or illnesses you have had.

396. During the past year (12 months), were you in a car, truck, or motorcycle accident?
   - ☐ No
   - ☐ Yes, just once
   - ☐ Yes, more than once

397. During the past year (12 months), were you hurt badly enough in a car, truck, or motorcycle accident that you had to see a doctor?
   - ☐ No
   - ☐ Yes, just once
   - ☐ Yes, more than once

398. During the past year (12 months), did you get burned badly enough that you had to see a doctor?
   - ☐ No
   - ☐ Yes, just once
   - ☐ Yes, more than once
399. **During the past year (12 months),** did you fall and hurt yourself badly enough that you had to see a doctor?
- ○ No
- ○ Yes, just once
- ○ Yes, more than once

400. **During the past year (12 months),** did you accidentally cut yourself or did someone else accidentally cut you and you were hurt badly enough that you had to get stitches?
- ○ No
- ○ Yes, just once
- ○ Yes, more than once

401. **During the past year (12 months),** did you get shot with a gun and have to see a doctor?
- ○ No
- ○ Yes, just once
- ○ Yes, more than once

402. **During the past year (12 months),** were you hurt in a fight badly enough that you had to see a doctor?
- ○ No
- ○ Yes, just once
- ○ Yes, more than once

403. **During the past year (12 months),** did you break any bones?
- ○ No
- ○ Yes, just once
- ○ Yes, more than once

404. **During the past year (12 months),** did you spend any nights in a hospital (where you were the patient)?
- ○ No
- ○ Yes, just once
- ○ Yes, more than once

405. **During the past year (12 months),** did you have to go to the hospital emergency room because you were injured?
- ○ No
- ○ Yes, just once
- ○ Yes, more than once

406. Do you wear a seatbelt when you ride in a car or truck?
- ○ All the time
- ○ Most of the time
- ○ Some of the time
- ○ Never
Finally, we want to ask you two questions about your family and how well off you are.

407. Imagine that this ladder describes how wealth is distributed in your neighborhood.
   - At the top of the ladder are families who are the best off—they have the most money and the nicest things.
   - At the bottom of the ladder are families in your neighborhood who are the worst off—they don’t have much money at all, and their things are old and worn out.

Now think about your family. Please tell us where you think your family would be on this ladder. Fill in the circle that describes where your family would be.

408. Now imagine that this ladder describes how wealth is distributed in the United States.
   - At the top of the ladder are families who are the best off—they have the most money and the nicest things.
   - At the bottom of the ladder are families in the United States who are the worst off—they don’t have much money at all, and their things are old and worn out.

Now think about your family. Please tell us where you think your family would be on this ladder. Fill in the circle that describes where your family would be.

THANK YOU