

**THE INFLUENCE OF FAMILY AND RELIGIOUS CHARACTERISTICS ON
TRAJECTORIES OF DELINQUENT BEHAVIOR FROM ADOLESCENCE TO YOUNG
ADULTHOOD**

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Running Head: Family, Religion, and Trajectories of Delinquent Behavior

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BIOGRAPHY

Richard J. Petts is an Assistant Professor of Sociology at Ball State University. His main research interests focus on the intersection of family and religion, and recent studies in these areas have been published in *Journal for the Scientific Study of Religion* and *Journal of Family Issues*.

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ABSTRACT

Using data from the NLSY79, this study takes a life-course approach to examine whether family and religious characteristics influence individual-level trajectories of delinquent behavior from early adolescence through young adulthood. Results suggest that residing with two parents deters youth from becoming delinquent, and supportive parenting practices reduce the likelihood of becoming involved in delinquent behavior early in adolescence. There is also evidence that family and religion interact to predict trajectories of delinquency. Religion seems to enhance the effect of parental affection in deterring delinquent behavior as well as mitigate the increased risk of high levels of delinquent behavior among youth in single-parent families. Moreover, the findings indicate that trajectories of delinquency are not immutable; family transitions are associated with increases in delinquency, but religious participation throughout adolescence and marriage are associated with declines in delinquent behavior. Overall, results suggest that family and religious characteristics continually influence the extent to which youth commit delinquent acts.

The link between age and delinquency in large populations is well-documented; participation in delinquent behavior peaks during late adolescence and declines through adulthood (Hirschi and Gottfredson 1983; Moffitt 1993). More recent studies have examined individual-level variations in this pattern, exploring the distinct trajectories of delinquent behavior that individuals follow and what these trajectories actually look like. Although much is known about these general trends, less is known about factors that predict and alter trajectories of delinquency, and how these effects may differ by the unique trajectory that an individual follows. Such research is important to pursue because developmental and life-course perspectives on crime suggest that contextual factors early in life as well as events and choices throughout the life course influence patterns of delinquency (Sampson and Laub 1993; Farrington 2005).

One prominent life-course theory on crime is Sampson and Laub's (1993; 2005) age-graded theory, which suggests that greater attachment to social institutions is linked to lower delinquency. This theory, along with a general social control perspective (Durkheim ([1897] 1951; Hirschi 1969), suggests that family and religion may be especially important influences on patterns of delinquency as these institutions are primary sources of social control, support, and integration. Although numerous studies have examined how family characteristics affect trajectories of delinquency, less is known about the influence of religion on trajectories of delinquent behavior or how family and religion may interact to shape patterns of delinquency.

The purpose of this study is to better understand patterns of delinquent behavior by estimating trajectories of delinquency (defined as vandalism, theft, and assault) and examining how family and religion influence these pathways. Three basic questions guide this study. First, what patterns of delinquent behavior do youth exhibit from early adolescence through young adulthood? Second, how do family and religious characteristics early in adolescence influence

the trajectories of delinquency that individuals follow? Third, how do family and religious changes in adolescence and young adulthood alter trajectories of delinquent behavior? It may be that family and religion are independently related to trajectories of delinquency; greater support from parents and greater attachment to religious institutions may deter youth from becoming delinquent. Alternatively, family and religion may work together to influence delinquency; religion may enhance parent-child relationships or compensate for a lack of social support and control in some families, reducing participation in delinquent behavior. Furthermore, family and religious changes may alter trajectories of delinquent behavior by increasing or decreasing social control and integration for individuals (Elder 1998; Sampson and Laub 2005).

To explore these questions, I use data from the National Longitudinal Survey of Youth (NLSY79) and employ a group-based method of trajectory analysis (Nagin 1999; 2005).

Previous studies of delinquency trajectories have often been constrained by small, isolated samples (e.g., Nagin and Land 1993), and primarily focus on whether childhood factors predict patterns of delinquency (e.g., Chung et al. 2002). This study improves on these limitations by utilizing a relatively large sample from a national longitudinal dataset and focusing on how factors throughout adolescence may shape trajectories of delinquency.

CONCEPTUAL FRAMEWORK

Patterns of Delinquent Behavior over the Life Course

Numerous studies focus on patterns of delinquency throughout the life course, examining when individuals first become delinquent, how frequently youth engage in delinquent activity, and the age at which desistance begins. Although aggregate studies suggest that youth become delinquent in adolescence and desist by adulthood, this pattern does not hold true for everyone. Instead, individual patterns of delinquency vary greatly; some people never become delinquent,

others become delinquent at some point (differing in their rate of delinquency and age at which they become delinquent) and desist later in life, and still others remain delinquent throughout their lives (Raudenbush 2001; Piquero 2008). Thus, it is reasonable to expect that there are various groups of individuals in the population that follow different trajectories of delinquency.

Although there is much debate as to whether delinquent individuals belong to distinct groups or fall somewhere on a continuous distribution of delinquent behavior, taking a group-based approach to studying delinquency is useful in providing a simplified description of the larger (and possibly continuous) distribution of the patterns of delinquent behavior that exist in the population (Osgood 2005). Indeed, numerous scholars have used a group-based approach to uncover unique patterns of delinquent behavior (Piquero 2008). For example, Moffitt (1993) suggests that there are three groups of individuals: a group of adolescence-limited delinquent individuals that become delinquent in adolescence and desist by young adulthood, a smaller group of life-course persistent individuals that exhibit antisocial behavior throughout their lives, and a small group of individuals who never become delinquent. Other research has found similar trajectories, but many scholars suggest that there are more than three distinct trajectories of delinquent behavior (Chung et al. 2002; Piquero 2008).

Overall, research on trajectories of delinquent behavior show that levels of delinquency change as people transition through life stages and experience various life events. Therefore, in order to better understand longitudinal patterns of delinquency, it is important to take a life-course approach that allows for an assessment of how factors throughout one's life may shape behavior. One example of such an approach is Sampson and Laub's age-graded theory of crime (1993; 2005), which suggests that although childhood factors may set people on particular pathways of delinquency, life events and choices can lead to increases or decreases in delinquent

behavior later in life. Specifically, Sampson and Laub (1993) argue that strong social bonds early in life reduce the likelihood of becoming delinquent due to greater informal social control, and that increases or decreases in social attachments explain variations in delinquent behavior throughout the life course. Building on this theory, this study takes a life-course approach to focus on how attachments to family and religion may work individually and in accordance with one another to influence trajectories of delinquency from adolescence into adulthood.

Family Characteristics and Delinquent Behavior

The vast majority of criminological theories suggest that family socialization is an important factor in determining whether or not youth become delinquent (Unnever, Cullen, and Agnew 2006). Families are a primary source of social integration and social control, providing youth with a feeling of belonging as well as establishing both formal and informal boundaries that limit the possibility that youth engage in delinquent activities (Durkheim [1897] 1951; Hirschi 1969). Various aspects of youth's family context such as family structure, family processes, and parental resources may contribute to social integration and social control and influence the trajectory of delinquent behavior that youth experience.

One factor that may predict patterns of delinquent behavior is family structure. Parents play an essential role in children's lives by teaching norms and values, regulating behavior, and providing emotional and financial support (Warr 1993; McLanahan and Sandefur 1994; Demuth and Brown 2004). Two parents may be better equipped to provide this support to their children, resulting in higher well-being (McLanahan and Sandefur 1994). In contrast, single parents may have less time to invest in their children, and the stress of raising a child by oneself may limit the support that a single parent provides. Consequently, children in single-parent families are more likely to be unsupervised, which may lead to higher delinquency (Warr 1993; Demuth and

Brown 2004). Similarly, the stress of a family disruption for youth with stepparents may result in higher delinquency (McLanahan and Sandefur 1994; Kirby 2006). Thus, residing in a stable, two-parent family may prevent youth from ever becoming delinquent.

Family processes may also influence patterns of delinquency. Social control theory suggests that attachment to parents will result in a lower propensity to engage in delinquent behavior; youth who interact more with their parents, argue with their parents less, and receive more affection and supervision from their parents may develop stronger family bonds and consequently be less delinquent (Hirschi 1969; Sampson and Laub 1993; Simons et al. 2007). Yet, authoritarian parenting may be counterproductive. Strict parenting practices may promote low self-control by limiting youth's opportunities to make independent decisions (Gottfredson and Hirschi 1990; Unnever et al. 2006). In contrast, authoritative parenting allows youth some freedom to make their own decisions, increasing self-control and reducing the likelihood that youth become delinquent (Simons et al. 2005; Steinberg 2001). Overall, supportive, engaged parenting may help to deter youth from becoming involved in delinquent behavior early in life. However, these family processes may have a weaker effect on delinquent behavior later in adolescence as older youth spend more time with peers and less time with their families (Simons et al. 1994; Steinberg 2001).

Parental resources may also influence delinquent behavior. Socioeconomic disadvantages in single-parent households account for much of the variation in child outcomes in these families (Thomson, Hanson, and McLanahan 1994). Moreover, parents' age may be a valuable resource for families because older parents are more likely to be employed, be in a stable family structure, and engage in positive parenting practices (Pogarsky, Thornberry, and Lizotte 2006).

Religion and Delinquent Behavior

Religion is also an important source of social control that may predict trajectories of delinquent behavior. Religious institutions impose social control on youth by providing them with a normative set of standards and guidelines, and also foster social attachments to other members of the religious community (Smith 2003). These interactions and controls may help adolescents live meaningful lives while avoiding lifestyles that may be destructive to themselves or others (Johnson et al. 2001; Smith 2003). Thus, involvement in a religious community may increase the likelihood that youth avoid participation in delinquent activities.

Family, Religion, and Delinquent Behavior

Because the institutions of family and religion are so closely related (Thornton 1985), it is possible that these factors may work together to shape trajectories of delinquent behavior. One explanation is that families may act as moral communities, increasing social control and network closure for youth by reinforcing religious norms and values within the home (Bader and Desmond 2003; Pearce and Haynie 2004). Specifically, the moral community hypothesis suggests that religious involvement is more likely to deter delinquent activity when it occurs within a broader religious community in which norms and values are reinforced by others (Stark 1996). Although a family may not be a community per se, religious parents may increase the likelihood that youth are immersed in a religious community by providing religious teachings to youth and engaging in parenting practices that reinforce religious values, reducing the likelihood that youth become delinquent (Myers 1996; Bader and Desmond 2003; Smith 2003).

The deterrent effect of supportive parenting practices on delinquency may also be amplified when they occur within a religious family. Religious parents often place more significance on family relationships and find greater meaning in these relationships (Wilcox

1998; Mahoney 2003). In addition, religious families have the benefit of a supportive community to assist parents and help to monitor and supervise youth (Smith 2003). Therefore, residing in a religious family may enhance the influence of supportive parenting practices on delinquency by increasing the social control and support youth receive from family members as well as expose youth to a broader religious community that reinforces the values being taught within the home.

Religion may also compensate for a lack of social integration and control in some families. Religious institutions provide resources such as support networks and teachings to help individuals cope with and find meaning in stressful events (Smith 2003). These resources may be especially beneficial to youth who reside in potentially stressful family structures such as single-parent families or stepfamilies (McLanahan and Sandefur 1994; Kirby 2006). To deal with the difficulties in their family life, youth may turn to religion to receive the social control that may be lacking in their families. Thus, religious participation may be a stronger deterrent of delinquency for youth raised in a nontraditional family structure because these youth may be more likely to benefit from the social support and control that religious institutions provide.

Religion may not always lead to lower delinquency, however. The moral community hypothesis suggests that the deterrent effect of religion is most effective when individuals are enmeshed within a religious community that shares similar beliefs (Stark 1996). When religious beliefs are not shared, religiosity may not have the same effect on delinquency. Thus, although religion can be a cohesive force for families that share religious beliefs, religious differences between parents and children may weaken parent-child relationships, increase family conflict, and contribute to higher delinquency among youth (Pearce and Haynie 2004).

Family and Religious Changes

Although early family and religious characteristics may set youth on particular trajectory paths, these trajectories are not immutable; life events and personal choices continually shape the pathways that individuals follow throughout their lives (Elder 1998). These changes may come in the form of a life event that occurs once (e.g., marriage) or as a change that has a dynamic effect over time (e.g., fluctuations in religious participation), both of which may result in higher or lower delinquency later in life (Elder 1998; Sampson and Laub 2005). Thus, following a life-course framework, it is essential to examine how family and religious changes may shape trajectories of delinquent behavior from adolescence into adulthood.

Parents play an important role in providing social attachments and control to youth. However, any change in family structure such as parental divorce or transition into a stepfamily may be disruptive, increasing stress among parents and weakening family bonds. Thus, family disruptions may reduce social control and perhaps increase youth's involvement in delinquent behavior (McLanahan and Sandefur 1994; Rebellon 2002).

Although parents are an important influence on youth early in adolescence, sources of social control may change as youth transition into young adulthood. Thus, in order to examine how family characteristics influence patterns of delinquent behavior throughout the life course, it is important to consider how both early family characteristics (e.g., parenting behaviors and changes in youth's family structure) and adult family transitions (e.g., marriage, cohabitation, and having a child) may impact patterns of delinquency (Sampson and Laub 1993).

A number of studies have examined the effect of marriage on delinquency, showing that marriage reduces delinquent activity due to the formation of strong social bonds between spouses (Laub and Sampson 2003; Sampson, Laub and Wimer 2006; King, Massoglia and Macmillan

2007). Similarly, another family change in adulthood – having a child – may also result in stronger social bonds. The social control resulting from attachments to one’s children may ultimately result in a lower propensity to engage in delinquent activity, although there has been little empirical support for this argument in the literature (Blokland and Nieuwebeerta 2005).

In contrast to marriage and parenthood, other family changes may have different effects on delinquency. For example, youth who leave their parents’ home and live on their own may not receive the same social support and control they experienced while living with their parents. Instead, these individuals may become more involved with delinquent peers. Similarly, the temporary and often informal nature of cohabiting relationships is less likely to result in lower delinquency (Duncan, Wilkerson, and England 2006).

Although Sampson, Laub and Wimer (2006) find that adult relationships affect patterns of delinquency net of selection factors, it is always important to consider the possibility that the causal relationship may be reversed. That is, delinquent individuals may be less likely to marry than cohabit or live alone, whereas non-delinquent individuals may be more likely to marry (Gottfredson and Hirschi 1990). Therefore, simply finding an association between adult relationships and delinquency may not distinguish between cause and effect. The group-based approach used in this study may help to provide additional evidence to support Sampson, Laub, and Wimer’s findings by examining whether the effects of adult relationships on delinquency differ among youth following unique trajectories of delinquency.

Religious changes may also alter trajectories of delinquency. As individuals transition from adolescence into adulthood, they may attend religious services more frequently or switch religious affiliations as they search for a personal identity or greater meaning in life events (Regnerus and Uecker 2006; Petts 2007). Increased religious participation may result in greater

social support and control, possibly leading to a decline in delinquent behavior. Moreover, youth who switch religious affiliations are more likely to be active in their new religious community, which may lead to stronger attachments to others and lower levels of delinquency (Loveland 2003; Johnson 2004). In contrast, decreases in religious activity may coincide with increases in delinquency as youth become detached from religious communities.

Although religious participation may reduce delinquent behavior, delinquency may also influence religious involvement. For example, youth may be more likely to increase their religious involvement when they are leading lifestyles that are compatible with religious teachings (Regnerus and Smith 2005). In contrast, delinquent youth may be more likely to reduce their religious involvement if they are engaged in activities that contrast with religious teachings (Benda and Corwyn 1997; Regnerus and Smith 2005). Thus, while religious activity may reduce delinquency for all youth, this relationship may be more probable for less delinquent youth.

HYPOTHESES

Consistent with previous research that takes a group-based approach to study delinquency, I expect to find at least three distinct trajectories of delinquent behavior from adolescence into young adulthood including a group of adolescence-limited delinquents, a group of life-course persistent delinquents, and a non-delinquent group of youth (Piquero 2008).

I expect that early family and religious characteristics will predict trajectories of delinquency. Youth raised in two-parent families will be less likely to become delinquent than youth residing in other family structures. I also expect that parental engagement, affection, and supervision will increase the likelihood that youth avoid delinquent behavior early in adolescence. However, I expect these family processes to have a weaker influence on youth who

become delinquent later in adolescence. I also expect that greater parental resources (age and SES) and higher levels of religious participation will deter youth from becoming delinquent.

I also anticipate that family and religious characteristics will work together to predict trajectories of delinquent behavior. Following the moral community hypothesis, I expect that residing in a religious family environment will deter youth from becoming delinquent, whereas religious differences between parents and children will increase the likelihood that youth become delinquent. Moreover, I expect that residing in a religious family will amplify the impact of supportive parenting practices on trajectories of delinquency, and religious involvement will compensate for lower social support and control among youth raised in nontraditional families.

Finally, I expect that family and religious changes will alter trajectories of delinquent behavior. First, I expect that youth who experience a family transition will report higher delinquency than youth who reside in an intact family throughout adolescence. Second, I expect that getting married and having a child will be associated with declines in delinquent behavior, whereas cohabitation and living alone in young adulthood will not reduce delinquent behavior. Third, I expect that religious conversion and religious participation throughout adolescence will be associated with lower delinquent behavior for all youth.

DATA AND METHODS

Sample

The data for this study is taken from the Child and Young Adult Sample of the 1979 National Longitudinal Survey of Youth (NLSY79). Original respondents of the NLSY79 were between the ages of 14 and 21 in 1979, and black and Hispanic respondents were oversampled. For the child and young adult sample, information has been collected from each child of the

female survey respondents aged 10 and older biennially since 1988. In addition, a young adult survey has been administered to children ages 15 and older biennially since 1994.

To construct the sample for this study, I first pool data from 1988-2004 according to youth's age, and then restrict the sample to youth who were interviewed at least once in early adolescence (ages 10-14), resulting in a sample size of 6,693. In order to focus on youth who have made the transition into young adulthood, I then further restrict the sample to youth who were also interviewed in two other developmental stages: middle/late adolescence (ages 15-19) and young adulthood (ages 20-25). Using these criteria, this study focuses on 2,472 respondents who were interviewed in each of these life stages.¹ While youth must have at least three waves of data to be included in this study, they may have as many as nine waves of valid data ($M = 6.25$).²

These age restrictions result in a somewhat disadvantaged sample due to a bias toward youth with younger mothers. Because youth had to be born by 1984 (to be at least 20 years old by 2004) to be included in this sample, all youth have mothers who were no older than age 26 at the time of their birth. Compared to youth who are too young to be included in the study, youth in this sample are more likely to be black, more likely to be raised by a single parent or stepparent, less likely to live in a religious family, and have a higher average rate of delinquency in early adolescence.³ Despite these differences, including youth who were interviewed in three separate developmental stages is useful in examining the transition from adolescence into adulthood, as well as for estimating group-based trajectories accurately (Nagin 2005).

Dependent Variable

Delinquent behavior is indicated by three self-reported measures on whether the youth, in the past year, (a) hurt someone badly enough to need bandages or a doctor, (b) took something without paying for it, and (c) damaged school property on purpose. Responses are summed to

create an index ranging from 0 to 3 ($\alpha > .60$).⁴ All valid responses from early adolescence through young adulthood are used to estimate trajectories of delinquent behavior over time.

This measure of delinquent behavior only focuses on three activities, which likely results in a limited estimate of delinquency. In addition, youth are more likely to engage in assault in early adolescence than vandalism and theft, which is likely unique to this sample (see Appendix for details). Other indicators of delinquency such as alcohol and drug use were considered, but are not used for two reasons. First, alcohol use becomes legal in young adulthood, which raises questions as to whether this remains a delinquent act throughout the entire period of the life course examined in this study. Second, there is evidence that religion has a different influence on non-victim crimes than person and property crimes (Baier and Wright 2001). Thus, an index of person and property crimes is used in this study to provide a limited and relatively consistent measure of delinquency.⁵

Time-Invariant Variables⁶

Family Structure. Three dummy variables are used to indicate youth's family structure: (a) two-parent biological family (reference category, $M = .39$, $SD = .49$), (b) stepfamily ($M = .11$, $SD = .31$), and (c) single-parent family ($M = .50$, $SD = .50$).⁷

Family Processes.⁸ Five time-invariant indicators are used to measure family processes. Parental engagement is taken from youth's reports on how often the adolescent participated in seven activities with their parents in the previous month such as going to the movies, dinner, shopping, and outings, as well as working on schoolwork, playing games, and doing other things ($\alpha = .80$). The sum of the responses is used as the indicator ($M = 3.44$, $SD = 1.91$). Second, parental affection is taken from mothers' reports on how often the mother praised and showed affection to the child in the past week ($\alpha = .71$), and the mean of these two measures is used as

the indicator ($M = 8.24, SD = 8.78$). Third, parental supervision is taken from youth's reports on whether parents have set rules about watching TV, dating, knowing where youth are, and doing homework ($\alpha = .88$). The sum of the responses is used as the indicator ($M = 2.70, SD = 1.14$). Fourth, parent-child decision making is taken from two questions on how frequently (1 = *hardly ever* to 3 = *often*) parents talk over important decisions with youth and listen to the youth's side of arguments ($\alpha = .48$), and the mean value of these two questions is used as the indicator ($M = 2.20, SD = .60$). Finally, parent-child conflict is taken from youth's reports on how frequently (1 = *hardly ever* to 3 = *often*) they argue with their parents over rules, watching television, homework, and dating ($\alpha = .60$). The mean value is used as the indicator ($M = 1.60, SD = .58$).

Parental Resources. Two variables are used to measure parental resources: parents' education is indicated by the highest level of education that either of the youth's parents completed ($M = 11.53, SD = 2.18$), and mother's age at birth of the child is coded in years ($M = 19.98, SD = 2.63$).

Religious Characteristics. Three variables indicate religious characteristics early in adolescence. Religious family environment is a dummy variable indicating that (a) the youth attends religious services with his or her parents, and (b) the mother feels that it is very important to provide religious training for her child ($M = .41, SD = .49$). Parent-child religious heterogamy indicates that the mother and the youth report different religious affiliations ($M = .52, SD = .50$).⁹ Finally, self-reported religious participation is a scale with the following values: 1 = *not at all*; 2 = *several times a year or less*; 3 = *about once a month*; 4 = *two to three times a month*; 5 = *about once a week*; 6 = *more than once a week* ($M = 3.55, SD = 1.81$).

Control Variables. Three variables that may confound the relationships between family, religion, and delinquency are included. First, because youth are more likely to become delinquent if they have friends who engage in delinquent acts, a measure of delinquent peers is

included (Sampson and Laub 1993). This is a dummy variable (taken from mother's reports) indicating that youth at least sometimes hang around kids that get into trouble ($M = .20$, $SD = .40$). Gender is also included in the models ($female = 1$, $M = .51$, $SD = .50$) because males are more likely to be delinquent than females, at least partially due to lower social control (Hirschi 1969). Finally, Blacks and Hispanics are more likely to commit serious delinquent acts (McNulty and Bellair 2003). Thus, race is included in all models, and is coded as White (reference group, $M = .36$, $SD = .48$) Black ($M = .41$, $SD = .49$), and Latino ($M = .23$, $SD = .42$).¹⁰

Time-Varying Variables¹¹

Family Characteristics. Five time-varying factors are included to measure whether family changes alter trajectories of delinquent behavior. Change in resident parent(s) indicates whether youth experience the addition or subtraction of a resident parent while residing with their parents.¹² Three additional variables indicate adult family transitions: (a) living on own, (b) married, and (c) cohabiting. Each of these variables is coded 1 for each age that the individual resides in this situation, and the comparison group is youth who reside in their initial family structure. Finally, a variable is included to indicate whether the individual has transitioned into parenthood. This variable is coded 1 for each age that the individual reports having a child.

Religious Characteristics. Two variables are included to measure religious changes over this stage in the life course. Religious participation is a time-varying factor that is coded in the same way as in the time-invariant analyses, and religious conversion is a dummy variable indicating that the youth switched religious affiliations at that age.¹³

Methodology

The primary method of analysis for this study is group-based trajectory modeling (Nagin 1999; Jones, Nagin, and Roeder 2001; Nagin 2005). This method is an application of finite

mixture modeling that uses maximum likelihood procedures to estimate each group's trajectory, the proportion of the sample assigned to each trajectory group, and the probability of membership in each group for all individuals in the data (Nagin 2005). This methodology assumes that there are distinct groups of individuals that share similar trajectories, and is able to uncover patterns that exist in the data without forcing the researcher to make arbitrary group cutoffs (e.g., high and low delinquency), resulting in a more objective estimate of delinquent behavior. Although the trajectory groups are only approximations, they are useful in understanding the developmental paths that individuals may follow throughout their lives.

Because the measure of delinquent behavior in this study is a count variable, the Poisson distribution is used to estimate the trajectories. The basic model estimating each trajectory specifies the link between age and delinquency as a polynomial function:

$$\ln(\lambda_t^j) = \beta_0^j + \beta_1^j AGE_{it} + \beta_2^j AGE_{it}^2 + \beta_3^j AGE_{it}^3$$

In this model, λ is the predicted number of delinquent acts for youth belonging to group j at time t , and β_0 , β_1 , β_2 , and β_3 are parameters that determine the shape of each trajectory. Because a unique set of parameters are used to estimate each trajectory, the shapes of the trajectories can vary by group (Nagin 2005).

Analytic Strategy

The first part of the analysis utilizes a SAS procedure (PROC TRAJ) to estimate trajectories of delinquent behavior (Jones et al. 2001). Because each child of the NLSY79 mothers is included in the data, there is a problem of clustering (34% of youth have the same mother as someone else in the sample). Unfortunately, PROC TRAJ is not able to account for clustering. Therefore, I compared models using the full sample with those using a restricted independent sample that included one randomly chosen child from each family (N = 1,630). The

trajectory estimates from both samples were similar. In addition, I ran supplementary analyses to examine the impact of clustering on the full sample, and it appears that the standard errors are similar in models that control for clustering and models that do not control for clustering.¹⁴ Based on these diagnostics, clustering does not appear to substantially change the findings in this study. Therefore, the full sample of 2,472 is used in all analyses.¹⁵

Multinomial logistic regression models are used in the second stage of the analysis to examine whether family and religious characteristics predict entry into each trajectory group because these models can account for the clustering within the data. Because results are unchanged when family and religious factors are entered separately into models, only a full model and model including interaction effects are presented here.¹⁶

Finally, PROC TRAJ allows for time-varying factors to be included in the trajectory estimates (Jones et al. 2001), and this procedure is used to examine whether family and religious characteristics alter trajectories over time. Because results are unchanged when family and religious factors are entered separately into the models, only a full model is presented here.

RESULTS

A number of steps need to be taken in order to choose the correct group-based trajectory model (Nagin 2005). The first step in the methodology is to specify the number of groups to be included in the model. BIC (Bayesian Information Criterion) statistics are used as the primary formal test to determine the optimal number of groups (and the best-fit model more generally), but researcher judgment and other diagnostic tests are also used in determining model selection. Once the number of groups has been established, the next step is use BIC statistics and model parameters to specify the correct form of each trajectory (linear, quadratic, etc.).

Starting with a one-group model, trajectory models with varying numbers of groups were examined to find the model with the largest BIC statistic. BIC peaked in a three-group model and declined in models with larger numbers of groups. Thus, a three-group trajectory model is used for this study, with one group following a cubic trajectory, one group following a quadratic trajectory, and one group following a linear trajectory.¹⁷ Other diagnostic tests provide further support that this is a good-fitting model. For example, Nagin (2005) suggests that the average posterior probability (the average probability that each individual assigned to a group actually belong to the group based on their pattern of delinquency) for each group should be at least .70. The average posterior probabilities of the groups in this study are .82, .71, and .71.

----- Insert Figure 1 About Here -----

Trajectories of Delinquent Behavior

The trajectories for the three-group model are displayed in Figure 1. The majority of youth (60%) in this sample are classified as low-level delinquents. Delinquent behavior for this group peaks at age 10, and most of the youth in this group never commit a delinquent act. Two trajectories of adolescent-limited delinquency also emerge: early adolescent-limited delinquent behavior (33% of youth) and late adolescent-limited delinquent behavior (7% of youth). The late group is similar to Moffitt's (1993) description of adolescence-limited antisocial behavior; delinquent behavior increases in adolescence, peaks in late adolescence, and declines into adulthood. Youth following a trajectory of early-adolescent limited delinquency have the highest average rate of delinquent behavior at age 10, with participation in delinquency peaking at age 13. The pattern of this trajectory is similar to the late adolescent-limited trajectory, but delinquency for youth in the early group peaks four years earlier than the late group, and overall rates of delinquency are lower than for youth in the late group.¹⁸ In contrast to my hypothesis,

there is not a life-course persistent delinquent group that emerges in this sample. Instead, each trajectory group desists from delinquent behavior by age 25, which supports Sampson and Laub's (2005) findings.

Predictors of Delinquency Trajectories

Results from multinomial logistic regression models that predict entry into trajectory groups are shown in Table 1. Results are presented in the form of odds ratios, which indicate the relative risk of a one-unit change in the independent variable on the likelihood of following a particular trajectory compared to the reference group (i.e., low-level delinquent). For example, Model 1 suggests that family structure is related to trajectories of delinquent behavior in the expected direction; youth who reside with stepparents are twice as likely to follow a trajectory of late adolescent-limited delinquent behavior than low-level delinquency compared to youth who reside with two biological parents (Exp. $\beta = 2.04, p < .01$). Furthermore, youth who reside with single parents are 34% more likely to follow a trajectory of early adolescent-limited delinquent behavior (Exp. $\beta = 1.34, p < .01$), and 46% more likely to follow a trajectory of late adolescent-limited delinquency (Exp. $\beta = 1.46, p < .10$) than low-level delinquency compared to youth who reside with two parents. These results support the hypothesis that residing with two parents may deter youth from becoming involved in delinquent behavior.

----- Insert Table 1 About Here -----

Model 1 also shows that family processes and parental resources are associated with trajectories of delinquent behavior. As expected, youth who report higher conflict with their parents are more likely to follow a trajectory of early adolescent-limited delinquent behavior than youth who report lower levels of conflict (Exp. $\beta = 1.40, p < .01$). There is also some limited support that involvement in decision-making processes with parents (Exp. $\beta = .91, p <$

.10), and having more educated parents (Exp. $\beta = .95, p < .05$) reduce the likelihood of following a trajectory of early adolescent-limited delinquency compared to low-level delinquency.

However, these factors do not differentiate between trajectories of low-level delinquency and late adolescent-limited behavior, providing support for my hypothesis that family processes may be important deterrents of early entry into delinquency, but may not protect against involvement in delinquent activity later in adolescence.

Somewhat surprisingly, results in Model 1 also suggest that religious characteristics do not directly influence patterns of delinquency among youth. Supplementary analyses suggest that this is due to the link between family structure and religion; two-parent families are more likely to be religious than other family structures, and controlling for family structure explains away the effect of residing in a religious family environment on trajectories of delinquency. To further examine how family and religion may work together to influence trajectories of delinquency, interaction terms are introduced in Model 2.

Results in Model 2 provide support for the hypothesis that family and religion may work together to influence trajectories of delinquent behavior. The first interaction term provides evidence for the hypothesis that religion may amplify the impact of supportive family practices on trajectories of delinquent behavior; the influence of parental affection on trajectories of delinquent behavior is dependent on whether the youth is raised in a religious family environment. Although parental affection is not an independent predictor of delinquency trajectories (Model 1), this parenting practice reduces the likelihood of following a trajectory of late adolescent-limited delinquency among youth who are raised in a religious family (Exp. $\beta = .95, p < .05$). Religious parents may attach greater meaning and significance to these relationships than non-religious families (Mahoney et al. 2003), providing a context of social

control and integration that may have a long-term influence on youth by deterring them from becoming involved in delinquent behavior.

Supplementary analyses also suggest that parental affection reduces the likelihood that youth follow a trajectory of late adolescent-limited delinquency compared to a trajectory of early adolescent-limited delinquency when it occurs in a religious family (results not shown). This result provides further evidence that supportive parenting practices may be more likely to have a long-term influence on delinquency when they occur within a religious context.

The final interaction provides some support for the hypothesis that religion may act as a buffer against the stresses associated with residing in a single-parent family. This interaction term suggests that religious participation is a stronger deterrent of late adolescent-limited delinquent behavior for youth raised in single-parent families than for youth raised by two parents (Exp. $\beta = .80, p < .05$). Youth raised in these families may turn to religious institutions to compensate for the support and social control that may be lacking in their homes. Indeed, further analyses suggest that these youth may have developed social bonds within religious institutions. Among youth raised in single-parent families, religious participation is more likely to deter youth from following a trajectory of late adolescent-limited delinquency when they also have friends that attend the same religious institution (results not shown). Therefore, these youth may be receiving support from friends within religious communities, which may compensate for weaker social bonds within single-parent families and deter youth from becoming delinquent.

Factors that Explain Variation Within Trajectory Groups

The remaining results examine the possibility that family and religious changes may alter the shape of these trajectories by including time-varying factors into the trajectory models. Results in Table 2 suggest that youth in each trajectory group have different life experiences

throughout adolescence and young adulthood. Not surprisingly, youth following a trajectory of low-level delinquency are less likely to cohabit and more likely to attend religious services than youth following a trajectory of early or late adolescent-limited delinquent behavior. Whether these factors alter the trajectories that youth follow is examined in Table 3.

----- Insert Table 2 About Here -----

Table 3 contains results from models that assess whether family and religious changes alter trajectories of delinquent behavior. Overall, results suggest that many of these time-varying factors are not significantly related to delinquent behavior, which is likely due to sample limitations. Because individuals in this study were only followed into young adulthood, many people have not yet transitioned into adult roles. Perhaps more importantly, many of these events (e.g., marriage) do not occur until the end of this stage in the life course when rates of delinquency are fairly low across all three trajectory groups. However, a large percentage of youth in this sample (43%) have transitioned into parenthood. Although this percentage is fairly consistent with the U.S. average age at first birth, 25.2 for women in 2005 (Martin et al. 2005), these numbers likely reflect the relatively disadvantaged sample used for this study; minority youth and youth with low SES are more likely to have a child in late adolescence or young adulthood. Overall though, there is less variation in delinquent behavior both within and between groups in young adulthood, which limits the conclusions that can be drawn.

----- Insert Table 3 About Here -----

Nevertheless, there are some interesting findings to note. Among youth in the early adolescent-limited delinquent group, experiencing a change in resident parent(s) is positively related to delinquency ($b = .20, p < .001$). This provides some evidence that family transitions may create stresses that temporarily reduce social control and increase youth's involvement in

delinquent behavior. This relationship is further illustrated in Figure 2, which shows predicted values for a hypothetical comparison of youth who reside in an intact family throughout adolescence compared to youth who gain or lose a resident parent at age 14.

----- Insert Figure 2 About Here -----

In addition, results suggest that marriage is associated with lower delinquency among youth following a trajectory of low-level ($b = -1.16, p < .01$) and early adolescent-limited ($b = -.72, p < .01$) delinquency. As expected, marriage may increase social attachments, resulting in lower delinquent behavior. However, marriage does not seem to reduce delinquency for youth in the late adolescent-limited group. Because late adolescent-limited youth are the most delinquent in young adulthood, they may not receive the same benefits from marriage as youth who are less delinquent. Alternatively, the deterrent effect of marriage on delinquency may be more gradual for these youth, and may not appear until later in adulthood (Laub, Nagin, and Sampson 1998).

Results in Table 3 also suggest that religious changes may have some influence on trajectories of delinquency over time. Religious participation throughout adolescence and young adulthood may provide youth with greater social support and control, resulting in lower delinquent behavior for youth following trajectories of low-level ($b = -.04, p < .10$) and late adolescent-limited ($b = -.15, p < .01$) delinquency. This support and control may be especially beneficial for youth following a trajectory of late adolescent-limited delinquency; delinquent youth may turn to religion in an attempt to desist from delinquency. Also, in contrast to my hypothesis, there is evidence that switching religious affiliations is associated with increased delinquency among youth in the low-level delinquent group ($b = .25, p < .05$). This result suggests that there may be stresses involved with religious conversion. It may take time for youth

to learn a new set of beliefs and become fully accepted into a religious community, which may result in higher delinquency during this transition.

DISCUSSION

The goal of this study was to increase our understanding of trajectories of delinquent behavior by examining how family and religious characteristics predict and shape patterns of delinquency. Overall, the findings provide some support for my hypotheses, showing that family and religion may be important sources of social control that predict and continually shape trajectories of delinquent behavior over the life course.

As expected, a sizeable percentage of youth in this sample (40%) follow adolescent-limited trajectories of delinquent behavior. These pathways coincide with most studies on delinquency, suggesting that delinquency increases in adolescence and declines as individuals transition into adulthood. In addition, although I expected to find a group of non-delinquent youth, I did not anticipate that low-level delinquent behavior would comprise the largest group in this sample (60%). This is especially surprising given the relatively disadvantaged sample used for this study. However, other studies have found similarly large groups of low-level offenders (Piquero 2008), suggesting that infrequent participation in delinquent activity may be normative. Also surprising is the lack of a life-course persistent group. Although this finding corresponds to research suggesting that all individuals eventually desist from delinquent behavior (Sampson and Laub 2005), it is possible that individuals may be engaging in different types of delinquency in young adulthood that are not captured with the measure of delinquent behavior used in this study. Future research should examine trajectories of other measures of delinquency to analyze whether the lack of a life-course persistent group and a large group of low-level delinquents exist for other types of delinquent activity.

In addition to examining patterns of delinquency among youth, the main contribution of this study is the evidence that family and religious characteristics influence the trajectories that youth may follow. As expected, family structure and family processes are important predictors of trajectories of delinquent behavior. Adolescence is a period of time in which individuals begin to search for a personal identity and try to assert their independence. Parents play a key role in influencing their child's development, especially in providing social support and social control. Two parents may be better able to provide the support and control necessary to deter youth from becoming delinquent than other family structures. Moreover, parents who argue with their children less frequently may be better able to exert social control over their children, preventing them from becoming involved in delinquent behavior early in adolescence.

Results from this study also illustrate that family and religion may work together to influence trajectories of delinquent behavior in two key ways. First, religion may enhance family processes that reduce delinquency. The combination of religion and supportive parenting practices may help to increase youth's feelings of social support during a stage in the life course that is often difficult. Moreover, placing these interactions within a religious context may act as a strong mechanism of social control, deterring youth from becoming delinquent later in adolescence. Second, the social integration and control that religious institutions provide may compensate for a lack of support that some youth may experience in their home environment. Therefore, it is important to consider the context of family and religious processes for youth. The framework that parents use to interact with their children (e.g., religious vs. non-religious), and the family context within which youth attend religious services (e.g., single-parent vs. two-parent family) may have unique effects on delinquent behavior.

In support of life-course theory, results from this study also suggest that the trajectories that people follow are not immutable; family and religious changes alter trajectories of delinquent behavior, and the effect that these changes have on delinquency are dependent on the trajectory that one follows. During adolescence, experiencing a parental divorce or remarriage may be a disruptive force in a youth's life that weakens social bonds, reducing social control and increasing delinquent behavior. Also, the increased social support and control youth receive from a spouse may lead youth to desist from delinquency after marriage, but only if youth are following a trajectory of less frequent delinquency. Finally, youth may turn to religious institutions for social control and integration throughout adolescence and young adulthood, and this increased support and control may lead to lower delinquency.

Despite the various strengths of this study, there are also some limitations that need to be acknowledged. One limitation is the measure of delinquent behavior used; focusing on only three types of delinquency and not accounting for changes in the type of acts that youth commit over time may underestimate delinquent behavior. However, this measure is able to assess differences in rates of delinquency, and similar measures have been used in other studies focusing on the influence of family and religion on delinquent behavior (Regnerus 2003; Pearce and Haynie 2004). Moreover, this indicator of delinquency is well-suited for group-based trajectory models because the questions remain fairly consistent throughout the survey. Nevertheless, future research should explore how the relationships between family, religion, and delinquency may be different for more normative delinquent activities such as substance use.

Another limitation is the lack of information from youth prior to the age of 10 and after the age of 25. Moffitt (1993) suggests that predictors of delinquency may appear early in childhood, which may help to explain why each of the trajectories have different starting

points.¹⁹ Moreover, there is little variation in delinquent behavior among this sample in early adulthood, making it difficult to assess the influence of adult transitions on these trajectories. Following this sample further into adulthood may help to better understand these life transitions.

This study is also limited by the sample used in these analyses. Because youth had to have made the transition into young adulthood by 2004, there is a bias toward youth with young mothers in this study. Thus, it is likely that this sample is relatively disadvantaged in regards to mother's maturity as well as financial and social resources available to youth. Indeed, there is some evidence that these youth are more likely to be disadvantaged in early adolescence compared to other youth in the NLSY79 Child and Young Adult cohort. As a result, youth in this study are more likely to hurt someone badly than steal or vandalize property in early adolescence, and have a fairly high rate of childbirth in late adolescence and young adulthood.

Despite these limitations, there are a number of strengths in this study that contribute to the literature on delinquency as well as research on family and religion. The use of national longitudinal data improves on past studies of delinquency that focus only on small samples or outcomes at one point in time. Similarly, these data allow for a rich analysis of how various factors may predict and shape trajectories of delinquent behavior from early adolescence to young adulthood. Specifically, this study supports life-course theory in showing that life events and individual choices play an important role in shaping people's lives, increasing our understanding of how family and religion may work together to shape individual trajectories over the life course.

Given the large body of research examining delinquency among adolescents, this study makes a significant contribution by taking a life-course approach to explore how family and religion may be two primary sources of social control that influence youth's involvement in

delinquent behavior. In doing so, this study highlights three trajectories of delinquent behavior from early adolescence through young adulthood, and illustrates how family and religious characteristics predict and continually shape trajectories of delinquent behavior over time. Overall, this study suggests that the family and religious environment that youth reside in early in life can have long-term consequences for their participation in delinquent activity, and family and religious changes can alter pathways of delinquency over time. Furthermore, this study suggests that it is essential to consider the family context within which religious attitudes and behaviors exist; religion may amplify the impact of parenting practices on delinquency by adding greater meaning to these relationships, and religious participation may also compensate for a lack of resources in some families by providing social support and control to youth.

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NOTES

1. Approximately half of the 6,693 youth interviewed in early adolescence were not age-eligible for this study. The remaining difference is due to sample attrition. Although retention rates in the NLSY79 young adult sample are high (83.1%), certain groups of youth were not interviewed in the 1998 and 2000 surveys due to budgetary problems, reducing this sample even further (Center for Human Resource Research 2006).
2. Less than 1% of youth were interviewed only once in each developmental stage. The majority of youth were interviewed at least twice in early adolescence (94%), middle/late adolescence (82%), and young adulthood (62%).
3. These results were obtained from t-tests analyzing mean differences in early adolescence.
4. Some of these questions are slightly different in the young adult survey. In the 1994, 1996, and 1998 surveys, young adults were asked a more general vandalism question (whether they damaged any property as opposed to just school property). Starting in 2000, young adults over the age of 18 were also asked different questions; the theft question asks whether youth have taken something worth over \$50 from a store, the assault question asks whether youth hit or seriously threatened someone, and no vandalism question was asked. The alpha coefficients in these later years are lower than .60 because very few youth committed more than one delinquent act at these ages.
5. Separate trajectory models for person (assault) and property (vandalism and theft) offenses were analyzed to test for consistency in the delinquency scale. Although there were some slight differences (e.g., the early adolescent-limited trajectory peaked slightly earlier in the assault model), the results were strikingly similar for all three indicators; a three-group model was the best-fitting model for each measure, and family and religion had similar influences on person and property crimes. Thus, a scale is used to provide a more complete picture of delinquent behavior. A detailed breakdown of the number of delinquent acts committed can be found in the Appendix.
6. Each of these variables is taken from the first valid interview in early adolescence.
7. All youth in the NLSY79 reside with their mother at least part-time. Supplementary analyses suggest that youth who also reside with their mother's cohabiting partner or other relative are similar to youth in single-parent families.
8. Results from a factor analysis suggest that each family variable loads separately for this analysis.
9. Religious denominations were classified into 7 categories: Evangelical Protestant, Mainline Protestant, Catholic, Mormon, Other Christian, Other Religious Affiliation, and No Religious Affiliation. Religious heterogamy is determined by differences between these categories. Including different types of heterogamous relationships and religious affiliation in supplementary models did not change the results presented here.

10. Males and females as well as various racial groups are included in the same analysis to gain a general understanding of how family and religion may influence trajectories of delinquent behavior. Tests for interactions suggest that family and religion have similar effects across gender and race. Separate trajectory models for race and gender suggest that the shapes of each trajectory are similar for males and females, and although trajectory models by race show slightly different results (not shown), the main findings from this study are consistent across races.
11. Each of these variables is measured at each interview. All responses at each age are included in the full model.
12. This variable is taken from the time-invariant family structure variables. Any change in family structure is coded as 1 in the year in which the transition occurred. Supplementary analyses explored whether the addition or subtraction of a parent had unique effects on youth, but the impact of both gaining and losing a parent were similar. This supports the hypothesis that any type of family transition may disrupt the social support and control that youth receive (at least temporarily), resulting in increased delinquency.
13. Including variables for different types of religious conversions did not change the results.
14. There is less than a 5% difference in the standard errors between multinomial logistic models that control for clustering and those that do not. In fact, most of the standard errors are identical in each model.
15. Trajectory models are able to account for missing data through maximum likelihood techniques. For the multinomial logistic models, only a few of the predictors have missing values, all of which are less than 1% of total cases. Regression-based imputation techniques are used to allow for use of the full sample, and supplementary analyses dropping missing cases produced similar results as presented here.
16. All interaction terms were introduced into each model separately, and only interactions that were statistically significant when introduced individually ($p < .05$) are included in the full models presented.
17. The BIC statistics for models with all quadratic trajectories are: one-group = -10827, two-group = -10556, three-group = -10523 (-10518 for the final model used here with one cubic trajectory, one linear trajectory, and one quadratic trajectory), and a four-group model = -10523.
18. Figure 1 suggests that delinquency increases for the early adolescent-limited group at age 24, but this increase is very minor. Youth in this group committed 32 delinquent acts at age 23, 30 at age 24, and 36 acts at age 25.
19. Childhood problem behavior was included in supplementary models, but did not change the results.

Figure 1: Trajectories of Delinquent Behavior

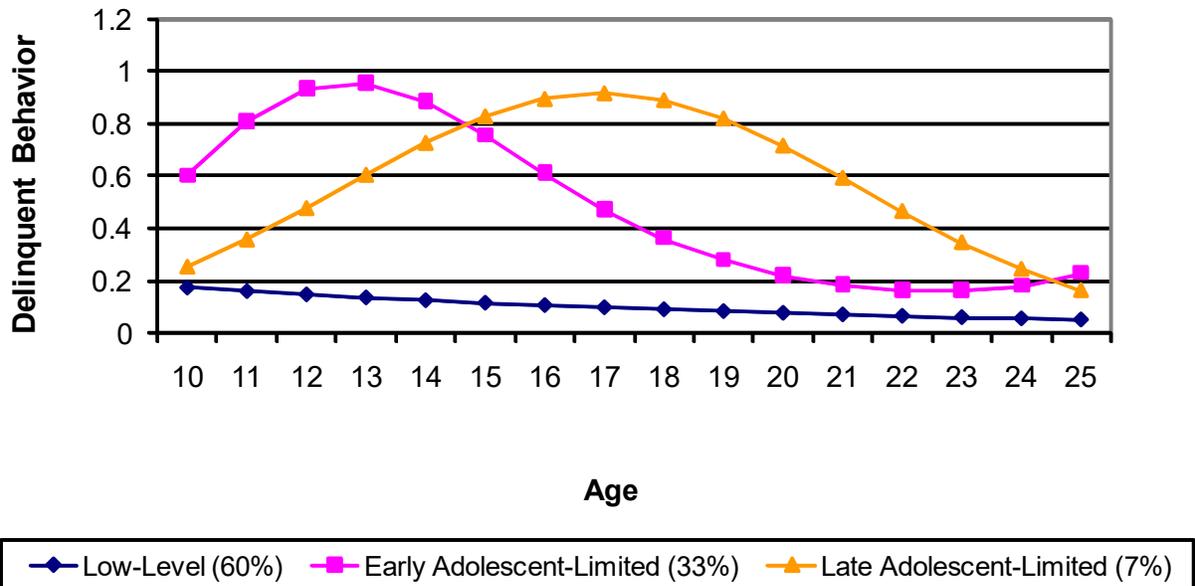


Table 1: Odds Ratios from Multinomial Logistic Regression Models Predicting Entry into Trajectory Groups of Delinquent Behavior

	1		2	
	Early Adolescent-Limited	Late Adolescent-Limited	Early Adolescent-Limited	Late Adolescent-Limited
Family Characteristics				
<i>Family Structure^a</i>				
Stepfamily	1.14 (0.18)	2.04 ** (0.55)	1.70 (0.58)	3.31 † (2.13)
Single-Parent Family	1.34 ** (0.14)	1.46 † (0.32)	1.84 ** (0.41)	3.14 * (1.46)
<i>Family Processes</i>				
Parental Engagement	1.03 (0.03)	1.00 (0.05)	1.03 (0.03)	0.99 (0.05)
Parental Affection	1.00 (0.01)	0.99 (0.01)	1.00 (0.01)	1.01 (0.01)
Parental Supervision	0.93 (0.04)	0.98 (0.08)	0.93 (0.04)	0.99 (0.08)
Parent-Child Decision Making	0.91 † (0.05)	0.96 (0.10)	0.91 † (0.05)	0.97 (0.10)
Parent-Child Conflict	1.40 *** (0.11)	1.29 (0.20)	1.40 *** (0.11)	1.29 (0.20)
<i>Parental Resources</i>				
Parents' Education	0.95 * (0.02)	1.05 (0.05)	0.95 * (0.02)	1.05 (0.04)
Mother's Age at Birth	1.00 (0.02)	0.95 (0.03)	1.00 (0.02)	0.95 (0.03)
Religion Characteristics				
Religious Family Environment	0.88 (0.09)	0.76 (0.15)	0.86 (0.11)	1.06 (0.27)
Parent-Child Religious Heterogamy	1.14 (0.11)	1.38 † (0.23)	1.14 (0.11)	1.37 † (0.23)
Religious Participation	0.96 (0.03)	1.05 (0.05)	1.02 (0.04)	1.20 * (0.10)
Control Variables				
Female	0.47 *** (0.04)	0.40 *** (0.07)	0.47 *** (0.04)	0.39 *** (0.07)
Black	1.39 ** (0.16)	0.94 (0.20)	1.40 ** (0.16)	0.96 (0.21)
Latino	1.24 (0.17)	0.55 * (0.15)	1.23 (0.17)	0.54 * (0.15)
Delinquent Peers	1.83 *** (0.21)	1.78 *** (0.37)	1.83 *** (0.21)	1.78 ** (0.37)
Interactions				
Religious Family Environment x Parental Affection			1.00 (0.01)	0.95 * (0.02)
Religious Participation x Stepfamily			0.89 (0.08)	0.88 (0.13)
Religious Participation x Single-Parent Family			0.91 (0.05)	0.80 * (0.09)

N=2472

Note: All results account for the clustered nature of the sample, and Low-Level Delinquent is used as the reference group. Results are reported in relative risk ratios (odds ratios). These can be interpreted as the relative risk of a one-unit change in a variable on following a trajectory of early-adolescent or late-adolescent delinquent behavior compared to low-level delinquency (standard errors are in parentheses).

^aTwo Biological Parents is the reference group.

†p < .10 *p < .05 **p < .01 *** p < .001

Table 2. Mean Values of Time-Varying Factors by Trajectory Group of Delinquent Behavior

	Low-Level	Early Adolescence- Limited	Late Adolescence- Limited
Family Characteristics			
Family Transition (% ever experienced)	0.47	0.51	0.53
Married (% ever married)	0.20 ^b	0.16 ^a	0.18
Cohabiting (% ever cohabiting)	0.26 ^{bc}	0.32 ^a	0.35 ^a
Living on Own (% ever living on own)	0.23 ^b	0.27 ^a	0.22
Children (% had at least one child)	0.38 ^{bc}	0.48 ^a	0.52 ^a
Religion Characteristics			
Religious Participation (average across waves)	3.27 ^{bc}	2.99 ^a	2.99 ^a
Experienced a Religious Conversion (% ever)	0.60 ^b	0.69 ^a	0.66

N = 2472

Note: Two-tailed t-tests were used to determine differences between group means.

^a = significantly different from Low-Level Delinquent ($p < .05$)

^b = significantly different from Early-Adolescent Limited ($p < .05$)

^c = significantly different from Late-Adolescent Limited ($p < .05$)

Table 3: Results from Group-Based Trajectory Models of Delinquent Behavior that Include Time-Varying Factors

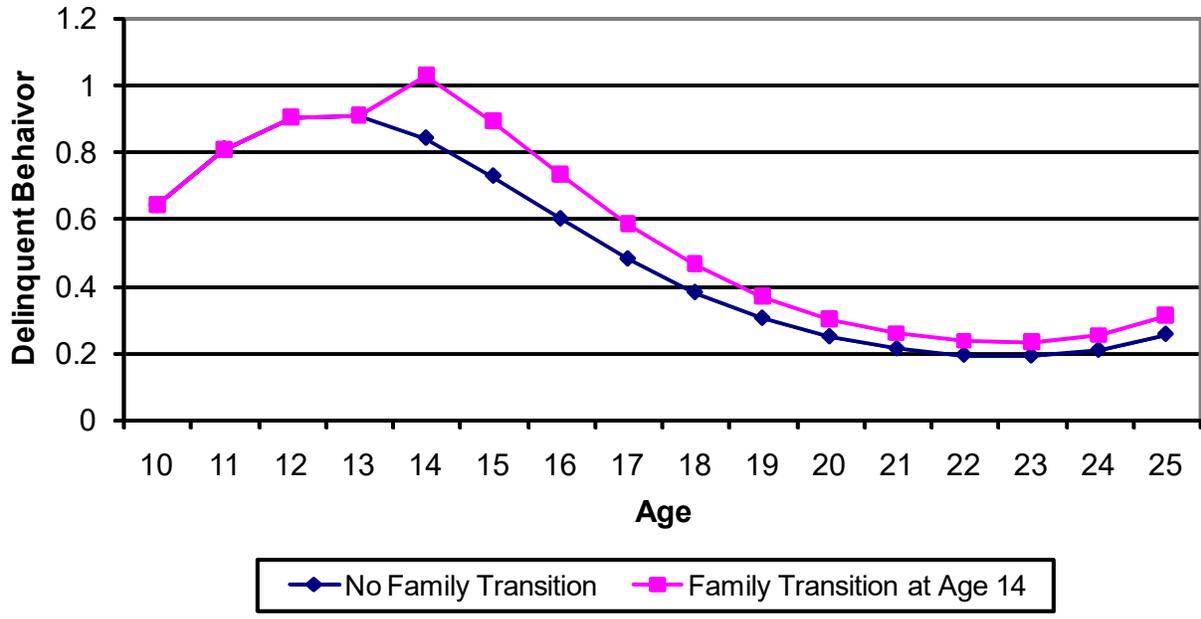
	Low-Level	Early Adolescent-Limited	Late Adolescent-Limited
Model Parameters			
Intercept	-0.84 *** (0.25)	-12.92 *** (1.58)	-6.99 *** (1.31)
Slope	-0.73 *** (0.15)	25.13 *** (3.06)	8.34 *** (1.50)
Quadratic		-15.42 *** (1.90)	-2.33 *** (0.42)
Cubic		2.89 *** (0.38)	
Family Characteristics			
Change in Resident Parent(s)	0.17 (0.13)	0.20 *** (0.06)	-0.32 (0.20)
Living on Own	0.11 (0.22)	-0.08 (0.16)	-0.32 (0.25)
Married	-1.16 ** (0.41)	-0.72 ** (0.27)	0.08 (0.27)
Cohabiting	-0.35 (0.27)	0.11 (0.15)	-0.55 (0.35)
Had a Child	0.19 (0.18)	-0.13 (0.11)	-0.21 (0.20)
Religion Characteristics			
Religious Participation	-0.04 † (0.03)	0.00 (0.01)	-0.15 ** (0.06)
Religious Conversion	0.25 * (0.11)	0.04 (0.05)	-0.07 (0.14)

N=2472

Note: All models control for all time-invariant factors included in Table 2 (except for religious participation, which is included as a time-varying factor). The coefficients in this table measure within-trajectory group variation (standard errors are in parentheses).

†p < .10 *p < .05 **p < .01 *** p < .001

Figure 2: Impact of a Family Transition on Youth Following a Trajectory of Early Adolescent-Limited Delinquency



Appendix: Number of Delinquent Acts Committed by Youth During Each Observed Age

	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Assault	219	229	253	240	180	115	140	110	149	111	159	132	127	76	77	49
% of total delinq. acts	53.94%	55.31%	50.30%	41.74%	38.30%	26.38%	32.41%	32.93%	46.56%	56.06%	72.60%	89.19%	89.44%	90.48%	96.25%	92.45%
Vandalism	74	63	111	140	132	157	136	99	66	40	21	3	0	0	0	0
% of total delinq. acts	18.23%	15.22%	22.07%	24.35%	28.09%	36.01%	31.48%	29.64%	20.63%	20.20%	9.59%	2.03%	0.00%	0.00%	0.00%	0.00%
Theft	113	122	139	195	158	164	156	125	105	47	39	13	15	8	3	4
% of total delinq. acts	27.83%	29.47%	27.63%	33.91%	33.62%	37.61%	36.11%	37.43%	32.81%	23.74%	17.81%	8.78%	10.56%	9.52%	3.75%	7.55%
Total Number of Delinquent Acts	406	414	503	575	470	436	432	334	320	198	219	148	142	84	80	53
Sample Size	1148	1092	1266	1157	960	970	1114	994	1203	957	1253	964	837	603	591	346

N = 2,472

Note: Youth were interviewed biennially, so each youth was interviewed either at odd ages (11, 13, 15, etc.) or even ages (10, 12, 14, etc.). Thus, the maximum sample size at any given age is approximately 1,246 (slightly more than half of youth were interviewed at even ages, which explains the higher sample size at age 12).