Article

Youth Violence and Juvenile Justice
2023, Vol. 21(2) 149–171

DOI: 10.1177/15412040221132192
journals.sagepub.com/home/yvj
SAGE

Family Structure and Delinquency in the English-Speaking Caribbean: The Moderating Role of Parental Attachment, Supervision, and Commitment to Negative Peers

Kayla Freemon[1], Veronica M. Herrera[2], Hyunjung Cheon[3], and Charles M. Katz[1]

Abstract

Growing up in a household without two parents present is an established risk factor for youth delinquency. However, much of the research on family structure and delinquency derives from U.S. samples, limiting applicability to the developing world. The present study explores the role of traditional and non-traditional family structures on self-reported delinquency in eight English-speaking Caribbean nations. We further examine the moderating role of family processes (parental attachment and parental supervision) and commitment to negative peers on this relationship. We find that youth from intact nuclear families, with a mother and father present, engage in less delinquency than youth from intact blended, single-parent, or no-parent households. Further, family structure moderated the relationship between delinquency, parental attachment, and commitment to negative peers. Theoretical and research implications are discussed.

Keywords

family structure, delinquency, parental attachment, parental supervision, commitment to negative peers, Caribbean

[1]Center for Violence Prevention and Community Safety, School of Criminology and Criminal Justice, Arizona State University, Phoenix, AZ, USA
[2]Division of Politics Administration and Justice, California State University, Fullerton
[3]Department of Criminal Justice, The University of Texas at El Paso, El Paso, TX, USA

Corresponding Author:
Kayla Freemon, Center for Violence Prevention and Community Safety, School of Criminology and Criminal Justice, Arizona State University, 411 N. Central Ave, Suite 680, Phoenix, AZ 85004, USA.
Email: kfreemon@asu.edu

Introduction

Growing up in a household without two parents is an established risk factor for youth delinquency (Apel & Kaukinen, 2008; Wells & Rankin, 1991; Rebellon, 2002). However, much of the research on family structure and delinquency derives from U.S. samples, limiting applicability to the developing world. While benefits exist for youth residing with an intact family (i.e., with a mother and father present), such as the ability to provide greater supervision, the traditional family might not serve as a strong protective factor against delinquency in some countries, such as those in the English-speaking Caribbean, given cultural differences in the role and function of diverse family structures. While the English-speaking Caribbean has been the subject of a relatively wide body of research on family structure, there is little research available on the relationship between family and delinquent behavior, so it remains a question whether family structure and family processes are related to delinquency in a way that is similar to high-income countries.

As in other developing nations, youth in the Caribbean comprise a large subset of the population (Foss et al., 2013). Examining the relationship between family structure and delinquency garners unique insights into the youth crime problem in the region. The present study explores the role of traditional and non-traditional family structures on self-reported offending in eight English-speaking Caribbean nations: Antigua and Barbuda, Dominica, Grenada, Guyana, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, and Trinidad and Tobago. We further examine the moderating role of family processes (parental attachment and parental supervision) and commitment to negative peers on the relationship between family structure and delinquency. The theoretical implications of this work are relevant for future policy and programming in the region as family-based programs developed have been exported to the Global South without an examination first of whether these processes support transferability (Katz et al., 2021).

Family Structure in the Caribbean

The prevalence of different family structures is difficult to determine in the Caribbean due to variations in items included in data collection instruments. Census estimates in Guyana (from 2009) and Trinidad and Tobago (from 2011) show that approximately 55% and 54% of households, respectively, are nuclear households[1] (United Nations, 2019). Additional estimates suggest the percentage of female-headed households in Antigua and Barbuda, Dominica, and Grenada ranged from around 40%–50% (Mondesire, 2015).

The Caribbean has a uniquely "matrifocal context," especially among African-Caribbean families, with women playing a prominent role in the family and society overall (Safa, 2005). Some have attributed the regions' matrifocality to colonization of the Caribbean through slavery and indentured servitude; enslaved individuals were not allowed to marry; however, mothers and children were often kept together (Safa, 2005). Herkovits & Herkovits (1934) suggested a cultural persistence argument linking matrifocality to cultural norms on family roles in Western Africa. In post-colonial societies, the influence of missionaries clashed to reinforce marriage and nuclear families as a sign of the middle class (Safa, 2005).

Even with men present in the home, women are typically responsible for child-rearing and socialization. However, research notes that some men play a key role in children's decision-making (Roopnarine, 1996). The extended family also plays a vital role in the region, with the presence of grandparents, other relatives, and other non-related influencers (e.g., godparents, friends) (Plaza, 2000).

While the number of single-parent households has grown exponentially and been deemed a social concern in developed nations such as the United States and the United Kingdom, a high

number of these households, particularly female-headed households, have been present for much longer in the Caribbean (Wilson, 1989; Stuart, 1996). One study noted that approximately 75% of Caribbean mothers under 25 had their first child before entering a residential union (Stuart, 1996). Differences in relationship status by ethnicity have been identified, with the East Indian population more likely to be married before parenthood than African descent (McKenzie, 1993). Visiting relationships and common-law unions – living together without being legally married – are more common in the region than legal marriages (Safa, 2005; Bose-Duker et al., 2021). Parental migration, particularly of men in society, to other areas of the country or other nations for employment opportunities is common and influences family structure and processes in most nations in the Caribbean (Ho, 1993; St Bernard, 2003).

Family Structure and Problem Behaviors

A substantial literature base emerged in the 1980s with the rise in non-traditional family structures in the United States and other developed nations. A consensus emerged in the field that certain types of family structures were associated with adolescent delinquent and problem behaviors (for exceptions, see Van Voorhis et al., 1988; Laub & Sampson, 1988). The prevailing notion was that two parents could better care for, supervise, and socialize children than one parent. Meta-analyses concluded that delinquency prevalence was 10–15 times higher in broken compared to intact homes. However, heterogeneity in types of offenses and types of family structures exists (see Wells & Rankin, 1991), and juveniles in divorced compared to non-divorced homes have higher levels of delinquency (see Price & Kunz, 2003).

Beyond broad comparisons, family structure has been explored as a correlate of violent offending and property crime. In general, prior research indicates the non-traditional family structure is more predictive of minor offenses (e.g., status offenses) than property and violent behavior (Wells & Rankin, 1991). While youth in two-parent households often have the lowest levels of delinquency, other studies note that the presence of a stepparent is particularly criminogenic (Apel & Kaukinen, 2008). For example, using a U.S. national-level sample, Rebellon (2002) found that the presence of a stepparent was significantly related to violent offending and that changes in family structure were linked to property offending. More recently, Jacobsen and Zaatut (2020) found that youth in households with a stepparent were more likely to commit status offenses but living with a stepparent was unrelated to violent and property crimes. Increases in offending, however, may not hold long-term (Boccio & Beaver, 2019).

Research on single-parent households has also reported mixed results. For instance, Jacobsen and Zaatut (2020) concluded that youth in single-parent households were significantly less likely to engage in status offenses and violent and property offending than those living with both biological parents or with a biological parent and stepparent. This supports Rebellon's (2002) findings that being in a single-parent household was not a significant predictor of delinquency. In contrast, research has identified single-parent households as a risk factor for youth gang involvement (Hill et al., 1999). Single-parent homes may also serve as a protective factor in some cases. Jaffee et al. (2003) found that, in general, the less time fathers lived with their children, the more conduct problems the children had; however, when fathers who engaged in high levels of anti-social behavior spent more time living with their children, the children had more conduct problems.

Studies on non-Western youth have also reported conflicting results. A recent study of youth in Malaysia found that the majority of youth surveyed from two juvenile detention facilities were from intact families (68.4%), and there was no significant difference in delinquency variety (a scale of 17 offenses) by family structure (Tan et al., 2017). Instead, poor family relations were

predictive of higher levels of delinquency. In contrast, Rathinabalan and Naaraayaan (2017) reported that youth in single-parent households in India engaged in significantly higher delinquency levels than youth in non-single-parent households.

Parental Attachment, Supervision, and Commitment to Negative Peers

Various explanations grounded in theory and logic exist to explain the relationship between family structure and delinquency, much of it centered around the availability and presence of parental figures and parenting styles. Family structure and parenting processes are explicit in models of control (Hirschi, 1969; Gottfredson & Hirschi, 1990) and social learning (Akers, 1973); and while many studies identify direct effects between family structure and delinquency, a plethora of research exposes factors that moderate and mediate this relationship (Van Voorhis et al., 1988).

Many theorized pathways between family structure and delinquency are indirect and consider family processes and dynamics. Two important and commonly measured explanations include the level of attachment between a child and their parent and the parent's supervision practices. Parents provide intangible support to children, impacting their propensity to engage in deviant acts when exposed to opportunity. Low levels of attachment between parent and child are associated with higher levels of delinquency (Hoeve et al., 2012), regardless of the gender of the children. Although this relationship is stronger for mothers than fathers, effect sizes decrease as adolescents age (Hoeve et al., 2012). In addition, one of the most consistent findings in the literature is that higher levels of supervision, where parents monitor their children's behavior and know where their children are and what they are doing, predict lower levels of adolescent delinquency (Hoeve et al., 2009). This is particularly relevant in discussions of family structure, given that single parents might not be able to devote as much time to monitor their children's behavior with work and other expectations.

While prosocial parenting can prevent delinquency, peer influence and commitment to delinquent peers are particularly salient during the teenage years, and are consistently some of the strongest determinants of delinquent behavior (McGloin & Thomas, 2019). Peers provide the primary social context for adolescents. During this developmental period, youth spend more time outside the home and outside direct parental supervision with peers. Unstructured socializing with peers (Hoeben & Weerman, 2016) and association with anti-social peers (Ary et al., 1999) increase the likelihood of delinquency. Peer effects are often stronger than the family during adolescence; once peer influence is included in models, its effect often exceeds that of family factors (Aseltine, 1995).

Though we know examining commitment to delinquent peers is important for youth, we know little how this commitment persists across different family structures. There are reasons to suggest variation may exist. Youth from families with two parents in the home, monitoring, and correcting behavior, may instill stronger protection against delinquent peer influences as youth spend more time away from home. Further, when parental figures are absent, youth may be more strongly influenced by peers.

The Current Study

Building from the unique historical context of family structure in the Caribbean, we seek to extend the current literature on family structure and delinquency by exploring this relationship in the English-speaking Caribbean. While prior literature on family structure and delinquency demonstrates conflicting findings, this relationship has rarely been examined in the Caribbean.

Changes in family structure (e.g., more divorce, single-parents, and working mothers) have been noted as a concern and researched in the Western world as a correlate of delinquency; the historic context does not necessarily support these factors as concerns in the study nations where already high rates of single mothers provide for their children.

We specifically explore the role of attachment to parents, parental monitoring, and commitment to deviant peers in moderating the relationship between family structure and delinquency. A moderator is a variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable (Baron & Kenny, 1986). While family process variables and peer variables are commonly tested as mediators in family structure research, the inclusion of moderating effects provides a more nuanced understanding of the relationship between parents, peers, and delinquency within different family structures in this region of the world.

Broadly, international inquiry, such as this, further contributes to our understanding of how culture influences the relationship between the family and delinquency. The lack of empirical examination of this relationship outside Western nations, like the Caribbean, is problematic when family-based prevention programs such as those funded by international development organizations are implemented in the study region based on invalid assumptions (Katz et al., 2021).

The region is diverse yet distinctive, with shared political, social, and cultural heritages, making it a fitting location to examine these issues. The study nations are all former British colonial societies that gained independence post-1960 but remain connected formally and informally through the Commonwealth (Byron & Condon, 1996). Each country is also considered a small island developing state by the United Nations, characterized similarly by geographic isolation, reliance on imported goods, and poverty (United Nations, 2021). This "islandness" often results in distinctive mechanisms of social control that may play a role in influencing family processes (Scott & Staines, 2021).

Beyond the context, the current study is strengthened by our family and delinquency measures. Apel and Kaukinen (2008) note the limitations of using a binary measurement of intact vs. non-intact families. Thus, we offer a nuanced examination of the association between family structure and delinquency, including the intact nuclear family structure (mother + father), intact blended (parent + stepparent), single parent, and no parental figure. Our use of self-reported delinquency measures also strengthens the current study. While official sources of data (e.g., police or court data) are often used to examine the family structure and can provide contributions, youth from non-traditional families may be overrepresented in the data, and indeed prior research in the United States has confirmed this sampling bias (Nye, 1958). It is also plausible that police are more likely to deal informally with youth from traditional parents, where they note the presence of two parents to monitor and correct future negative behavior (Price & Kunz, 2003).

We examine the following three questions:

Research question 1: What percentage of youth have engaged in any offending, violent offending, and property offending by family type?

Research question 2: Is family structure related to self-reported delinquency controlling for demographic characteristics?

Research question 3: Do parental attachment, parental supervision, and commitment to negative peers moderate the relationship between family structure and delinquency?

Data and Methods

Data Source

The present study used data from the Caribbean School Youth Survey (CSYS), administered between 2014 and 2015 to Form 5 secondary school-aged respondents who attended public schools across the eight nations of focus: Antigua and Barbuda, Dominica, Grenada, Guyana, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines, and Trinidad and Tobago. All schools were invited to participate in these nations except in Guyana and Trinidad and Tobago. This included 11 schools in Antigua and Barbuda, 15 in Dominica, 18 in Grenada, 8 in St Kitts and Nevis, 23 in St Lucia, and 26 in St Vincent and the Grenadines. Due to their size, 89 schools in Guyana and 99 schools in Trinidad and Tobago were randomly selected for participation (out of a possible 115 and 135 schools, respectively; the sample was calculated with a margin of error of 5% at a 95% confidence level). A total of 288 of 318 invited schools engaged for a school-level response rate of 91%. The school-level response rate across nations was 100% in Antigua and Barbuda, Grenada, Guyana, St Kitts and Nevis, St Lucia, and St Vincent and the Grenadines. The rate was 93% in Dominica and 74% in Trinidad and Tobago.

All students present in their homerooms on the scheduled day were given the survey instrument. Of the eligible 23,743 students, 16,046 responded to the survey for an individual response rate of 68%. Across nations individual response rates ranged from 63% in Guyana and Trinidad and Tobago to 87% in Dominica; prior studies in the United States using passive consent procedures report similar student response rates (Esbensen et al., 2001). The high school- and student-level response rates suggest our study findings can be generalizable to school-attending youth. We only include responses from youth between 15 and 18 years old in the present study. Respondents did not answer any questions on family structure in 18 cases, which we removed from our analysis. We excluded cases using listwise deletion when any variable was unknown, which was 3% of the total sample.

Measures

For the present study, we employed the Eurogang survey instrument developed by the Eurogang Working Group (EWG). The working group created the instrument to collect data using a common set of data elements to measure the scope and nature of Troublesome Youth Group (TYG) problems and associated causes and correlates from school-aged youth in a variety of nations to conduct cross-national research (e.g., Esbensen et al., 2012). Many of the items and scales contained in the instrument were adopted from a well-established prior body of literature. All of the items and scales used in the present paper were adopted from Esbensen's work evaluating the G.R.E.A.T. program (Esbensen & Osgood, 1999) and have been used in a vast body of subsequent work (Deschenes & Esbensen, 1999; Carson et al., 2017; Matsuda et al., 2013).[2] Other iterations of the items and scales have been used in large-scale surveys like the Denver Youth Survey. Items used for low self-control (a combined scale of risk-seeking and impulsivity) were originally drawn from Grasmick et al. (1993). Our neutralization scale is a shortened set of questions from the Esbensen & Osgood's neutralization scale (1999).

Family Structure. Our measure of family structure was based on who the respondent most often resided with at the time of the survey. The question asked, "Think of the place you live most of the time. Which of the following people live with you?". Categorical responses included mother, father, stepmother, stepfather, aunt, uncle, grandmother, grandfather, and other. We use a nuanced

measure of family structure, including the intact nuclear family structure (mother + father), intact blended (parent + stepparent), single parent, and no parental figure.

Delinquency. We include two types of delinquency measures in the current study. First, we separate offenses into categories: violent offending and property offending. These are binary measures coded one if the respondent engaged in the offense in the previous year. Second, given the high prevalence of offending (78% of the sample had engaged in at least one offense), we use delinquency variety scores for violent and property offending, where higher values indicate higher levels of delinquency. Over the past 40 years, variety scores have been considered a superior method for measuring offending. Hindelang et al. (1981) was one of the first to acknowledge a preference for variety scores, reporting that they are more reliable than frequency scores. Subsequent research has reported that variety scores are beneficial in that they are also associated with the frequency and seriousness of offending (Farrington, 1973), they are less susceptible to outliers, they are less likely to be skewed, and they possess the "highest" concurrent validity and "equal" predictive validity when compared to other scales (Sweeten, 2012). In a review of the literature and examination of the five most frequently used scales measuring offending Sweeten (2012) concluded, "Variety scales are the preferred criminal offending scale because they are relatively easy to construct, possess high reliability and validity, and are not compromised by high frequency non-serious crime types" (p. 533).

Our violent offense measure relied on four individual items that asked, "During the past 12 months, how often have you: (a) Hit someone with the idea of hurting them, (b) Carried a hidden weapon (of any kind) for protection, (c) Attacked someone with a weapon (of any kind), and (d) Been involved in fights with other groups." The property offense measure included six items that asked, "During the past 12 months, how often have you: (a) Avoided paying for something such as movies, or the bus (b) Purposely damaged or destroyed property that did not belong to you, (c) Illegally spray painted a wall or building, (d) Stolen or tried to steal something worth LESS than EC$100, (e) Stolen or tried to steal something worth MORE than EC$100, and (f) Gone into or tried to go into a building to steal something."

Parental Attachment. The parental attachment measure is a scale including five questions. Responses with higher values indicated higher levels of attachment. Individual questions included "You can talk to your parents/guardians about anything" and "Your parents/guardians always trust you." Respondents answered Likert responses ranging from none of the time to all the time.

Parental Supervision. Similarly, the parental supervision measure is comprised of five questions with higher values indicative of higher levels of supervision. Questions included "Your parents/guardians know where you are when you are not at home or at school" and "Your parents/guardians know who you are with if you are not at home." Responses ranged from none of the time to all of the time.

Commitment to Negative Peers. Commitment to negative peers is a scale comprised of three questions asking how likely the respondent would still hang out with their friends if they were getting them into trouble (1) at home, (2) at school, and (3) with the police, borrowed from Esbensen and Weerman (2005). Responses ranged from not at all likely to very likely. Higher values correspond with higher levels of commitment to negative peers.

Before analysis, we conducted confirmatory factor analysis (CFA) to confirm whether each theoretical construct holds construct validity shown in Table 1. Since the responses to each item represent ordered categories, we used a Weighted Least Squares Means-Variance Adjusted estimator (WLSMV, Muthén et al., 1997), which provides optimal estimates with categorical and

skewed data (Bovaird & Koziol, 2012). In addition, because we collected data from youth in eight countries, we account for nesting by using estimated cluster-robust standard errors with the CLUSTER command in Mplus 8. The overall model fit indices indicate that all the theoretical constructs fit the data well with an acceptable range of standard model fit indices.[3]

We also estimated scale reliability using the coefficient omega (ω; McDonald, 1970). Compared to the more popular measure of internal consistency, Cronbach's alpha (α), omega (ω) does not assume that each item measures the construct equally well (i.e., essential τ equivalence; Crocker & Algina, 1986) and provides optimal estimates of internal consistency (Zinbarg et al., 2005). The nested data structure is also taken into account since the omega is calculated using lambda (λ) and residual variance from CFA results. There is no universally accepted threshold for adequate levels of omega reliability, but some researchers suggest that omega should exceed 0.50 at a minimum, with 0.75 preferable (Watkins, 2017). All the questions, omega coefficients, and factor loadings for the parental attachment, parental supervision, and commitment to negative peers scales supporting their reliability and validity are included in Table 1.

Demographics. Self-reported gender, ethnicity, and age at the time of the survey were also collected from each respondent. Gender response options included male and female (1 = male; 0 = female). Regarding ethnicity, the responses were re-coded into four groups: African descent, East Indian descent, Indigenous, and mixed/other race (e.g., white, European, Asian, Chinese).

Other Control Variables. In addition, we include three theoretically relevant control measures derived from social control, self-control, and social learning theories. These individual-level theories are frequently used in criminological research and are relatively strong behavioral predictors of crime, with R^2 ranging from 0.28 to 0.38 (Weisburd & Piquero, 2008). Including these measures allows us to identify better the relationship between family structure, delinquency, and our moderating variables.

First, the school commitment scale contains seven items with questions like "You try hard in school". Second, the low self-control scale is comprised of eight items; questions include "I often act on the spur of the moment without stopping to think" and "I like to test myself every now and then by doing something a little risky". Third, we include a measure of neutralization. The three-item scale asks whether it is okay to lie if it keeps your friends from getting into trouble with parents, teachers, or the police. Responses for all three scales ranged from strongly disagree to strongly agree. Higher scores indicated higher levels of school commitment, low self-control, and neutralization. Again, questions, omega coefficients, and factor loadings for each theoretical scale are included in Table 1; the tests indicate reliable and valid scales.

Analytic Strategy

After the descriptive statistics for our sample are described, we present the prevalence of each family structure for each nation's sample included in the current study. We display the number and percent of youth engaging in any delinquency and, separately, violent and property delinquency. We use chi-square tests to compare differences by family structure type. Next, a series of hierarchical regressions are used to examine the relationship between family structure and delinquency, accounting for the nested nature of the data. In addition, moderating effects are tested in the final model by adding interactions between the family type and the moderating variables (i.e., parental attachment, parental supervision, and commitment to negative peers). Figures are presented to display these effects. We used STATA 17 for all analyses.

Table 1. Items and scale relibability and validity.

Measure	Item	Standardized Factor Loadings	RMSEA	CFI	ω
Parental attachment	Your parents/guardians know all of your friends	0.451	0.030	0.990	0.790
	You can talk to your parents/guardians about anything	0.743			
	Your parents/guardians always trust you	0.686			
	You always ask your parents/guardians for advice and guidance	0.760			
	Your parents/guardians praise you when you do well	0.614			
Parental supervision	When you go someplace, you leave a note for your parents/guardians or call them to tell them where you are	0.622	0.010	0.994	0.739
	Your parents/guardians know where you are when you are not at home or at school	0.841			
	You know how to get in touch with your parents/guardians if they are not home	0.336			
	Your parents/guardians know who you are with if you are not at home	0.732			
Commitment to negative peers	If your group of friends was getting you into trouble at home, how likely is it that you would still hang out with them?	0.801	0.000	1.000	0.876
	If your group of friends was getting you into trouble at school, how likely is it that you would still hang out with them?	0.904			
	If your group of friends was getting you into trouble with the police, how likely is it that you would still hang out with them?	0.804			
School commitment	Homework is a waste of time (reverse-coded)	0.450	0.033	0.964	0.751
	You try hard in school	0.549			
	Education is so important that it is worth it to put up with things about school that you don't like	0.378			
	In general, you like school	0.596			
	Grades are very important to you	0.699			
	You usually finish your homework	0.566			
	If you had to choose between studying to get a good grade on a test or going out with your friends, which would you do?	0.582			
Low self-control			0.050	0.922	0.814

(continued)

Table 1. (continued)

Measure	Item	Standardized Factor Loadings	RMSEA	CFI	ω
Impulsivity	I often act on the spur of the moment without stopping to think	0.403			
	I don't devote much thought or effort to preparing for the future	0.361			
	I often do whatever brings me pleasure here and now, even at the cost of some distant goal	0.616			
	I'm more concerned with what happens to me in the short-run than in the long-run	0.541			
	I like to test myself every now and then by doing something a little risky	0.647			
Risk-seeking	Sometimes I will take a risk, just for the fun of it	0.786			
	I sometimes find it exciting to do things for which I might get in trouble	0.724			
	Excitement and adventure are more important to me than security	0.637			
Neutralization	It is okay to lie if it keeps your friends from getting into trouble with parents, teachers or the police	0.693	0.000	1.000	0.648
	It is okay to take little things from a store without paying for them since stores make so much money that it will not hurt them	0.514			
	It is okay to get into a physical fight with someone if they are threating to hurt your friends or family	0.638			

Notes: We use the omega coefficent to assess scale reliability, which does not assume each item measures the construct equaly in contrast to other common tests (e.g., Cronbach's alpha). Omega should exceed 0.50 at a minimum. Confirmatory factor anslyses were run in MPlus 8 to assess construct validity, clustering data by nation. Standard acceptability ranges are used (e.g., RMSEA ≤ 0.10, CFI ≥ .90). Low self-control is comprised of two subscales: impulsivity and risk-seeking.

Descriptive Statistics

Table 2 displays descriptive statistics for our sample. Approximately 42% of the sample was male, and the full sample had an average age of 16.24, ranging from 15 to 18. Regarding ethnicity, about 46% of the sample was of African descent, 24% of East Indian descent, 5% Indigenous, and 26% identified as mixed or another race. Respondents had an average score of 3.07 (SD = 0.44) for school commitment, 2.42 (SD = 0.52) for low self-control, and 2.09 (SD = 0.72) for neutralization. For the moderators, the average was 2.69 (SD = 0.67) for parental attachment, 3.19 (SD = 0.62) for parental supervision, and 1.72 (SD = 0.90) for commitment to negative peers. For the full sample, almost 78% had engaged in at least one offense in the past 12 months, 69% had engaged in at least one violent offense, and 55% had engaged in at least one property offense. When examining delinquency variety, the sample had an average score of 2.63 offenses (SD = 2.56).

Table 3 shows that about 46% of respondents resided in an intact nuclear family, 9% in an intact, blended family, 36% in a single-parent household, and 10% had no parental figure. Youth in Guyana (49%) and Trinidad and Tobago (54%) reported greater intact nuclear family involvement. Alternatively, a higher percentage of youth in St Lucia (15%) resided in intact, blended

Table 2. Descriptive statistics (n = 14,848).

	n (or mean)	% (or SD)
Demographic characteristics		
Gender		
Male	6204	41.8%
Female	8644	58.2%
Age	16.24	0.75
Race		
African-decent	6784	45.7%
Indian-decent	3485	23.5%
Indigenous	790	5.3%
Mixed/other	3789	25.5%
Other controls		
School commitment	3.07	0.44
Low self-control	2.42	0.52
Neutralization	2.09	0.72
Moderators		
Parental attachment	2.69	0.67
Parental supervision	3.19	0.62
Commitment to negative peers	1.72	0.90
Delinquent behavior (binary)		
Any delinquency	11504	77.5%
Violent crime	10292	69.3%
Property crime	8185	55.1%
Delinquency variety score	2.63	2.56

families. Antigua and Barbuda (47%) and St Kitts and Nevis (51%) youth were more likely to report living in single-parent households.

Results

Delinquency Involvement by Family Type

To address our first research question asking the percentage of youth who have engaged in any offending, violent offending, and property offending by family type, delinquency involvement by family type is reported in Table 4. While delinquency involvement is high overall, fewer youth from intact nuclear families engaged in any offending compared to other family types. Almost three out of four youth from intact nuclear families had been involved in at least one offense. This compared to approximately 80% for youth from intact blended, single-parent, and no parental figure households. For violent offending, 65% of youth from intact nuclear families engaged in at least one violent offense compared to approximately 73% of youth from intact blended, single-parent, and no-parent homes. About half of youth from intact nuclear families engaged in at least one property offense. This compares to 58% of youth in intact, blended families, 60% in single-parent households, and 61% with no parental figure. Overall, the only significant differences in self-reported violent and property offending were between youth from intact nuclear families and each of the other groups (i.e., intact blended, single-parent, and no-parent households).[4]

Table 3. Prevalence of family structure types across the English-speaking Caribbean.

Country	Intact nuclear	Intact blended	Single parent	No parental figure	Total
	n (%)	*n* (%)	*n* (%)	*n* (%)	*n* (%)
Antigua and Barbuda	244 (35.4%)	68 (9.9%)	326 (47.3%)	52 (7.5%)	690 (100%)
Dominica	274 (37.6%)	46 (6.3%)	319 (43.8%)	90 (12.4%)	729 (100%)
Grenada	363 (36.1%)	86 (8.6%)	447 (44.5%)	109 (10.9%)	1005 (100%)
Guyana	1793 (48.9%)	260 (7.1%)	1203 (32.8%)	414 (11.3%)	3670 (100%)
St. Kitts and Nevis	148 (33.1%)	29 (6.5%)	228 (51.0%)	42 (9.4%)	447 (100%)
St. Lucia	680 (36.1%)	286 (15.2%)	713 (37.9%)	205 (10.9%)	1884 (100%)
St. Vincent and the Grenadines	354 (34.8%)	89 (8.8%)	443 (43.8%)	130 (12.8%)	1016 (100%)
Trinidad and Tobago	2907 (53.8%)	423 (7.8%)	1697 (31.4%)	380 (7.0%)	5407 (100%)
Total	6763 (45.6%)	1287 (8.7%)	5376 (36.2%)	1422 (9.6%)	14848 (100%)

Table 4. Delinquency involvement by family type.

Family type	Any offending [a b c]	Violent offending [a b c]	Property offending [a b c]
Intact nuclear	73.1	65.4	49.5
Intact blended	80.3	72.9	58.1
Single parent	80.9	72.4	59.9
No parental figure	82.7	73.1	61.3

[a]Significant difference between youth from intact nuclear and intact blended families.
[b]Significant difference between youth from intact nuclear and single parent families.
[c]Significant difference between youth from intact nuclear families and no parent households.

Family Structure and Delinquency Variety

In response to our second research question, we examine the association between family structure and delinquency, controlling for demographic characteristics and other control variables. We ran a hierarchal negative binomial regression model presented in Table 5.[5] A likelihood ratio test indicated that this model was preferable to a Poisson model ($X^2 = 131.70$, $p < .01$). Compared to youth in intact nuclear families, youth across all other family types (i.e., intact blended, single parent, and no parental figure) self-reported significantly higher delinquency variety scores (IRR = 1.120, $p < .01$; IRR = 1.100, $p < .01$; and IRR = 1.108, $p < .01$, respectively). These significant associations remained in the same direction when examining violent and property offending variety scores (results not shown).

Further, being male (IRR = 1.415, $p < .01$) and older (IRR = .042, $p < .01$) were significantly associated with higher delinquency variety scores. Compared to the youth of African descent, the youth of East Indian descent (IRR = .792, $p < .01$) and mixed/other race youth (IRR = .934, $p < .01$) self-reported lower delinquency variety scores. The variety score for Indigenous youth was not significantly different compared to youth of African descent (IRR = 0.947, p = n.s). For the other control variables, lower school commitment (IRR = 0.698, $p < .01$), lower self-control (IRR = 1.380, $p < .01$), and higher neutralization (IRR = 1.422, $p < .01$) were significantly associated with higher levels of delinquency.

Table 5. Hierarchical regression predicting delinquency variety in the English-speaking Caribbean.

	b (SE)	IRR
Family type		
Intact nuclear	Reference	
Intact blended	0.113 (0.03)**	1.120
Single parent	0.093 (0.02)**	1.100
No parental figure	0.102 (0.03)**	1.108
Male	0.347 (0.01)**	1.415
Age	0.041 (0.01)**	1.042
Race		
African-decent	Reference	
Indian-decent	−0.233 (0.02)**	0.792
Indigenous	−0.055 (0.03)	0.947
Mixed/other	−0.069 (0.02)**	0.934
School commitment	−0.359 (0.02)**	0.698
Low self-control	0.322 (0.02)**	1.380
Neutralization	0.363 (0.01)**	1.422

Notes: *$p<0.05$, **$p<0.01$, IRR=incidence rate ratio, Wald $X^2 = 5472.20$**.

Moderating Effects of Parental Attachment, Parental Supervision, and Commitment to Negative Peers

Finally, we examined the moderating role of parental attachment, parental supervision, and commitment to negative peers by introducing interaction terms into our hierarchical negative binomial regression model to answer our third research question. We introduced these interaction terms into one model, shown in Table 6, and display a figure below with mean predicted delinquency variety scores for the significant interaction effects. We also account for the non-linear relationship between delinquency and parental attachment, parental supervision, and commitment to negative peers by including each measure's squared term as an explanatory variable in our model.

First, parental attachment was significantly associated with delinquency. The association between parental attachment and delinquency differed significantly across family types. The interaction term for delinquency risk was significantly lower for youth from intact nuclear families compared to intact blended families (IRR = 1.092, $p < .05$) and youth with no parental figures (IRR = 1.096, $p < .05$). The difference between intact nuclear families and single-parent households was positive but not significant (IRR = 1.038, p = n.s.). These relationships are shown in Figure 1. After a threshold of around two, as parental attachment increased, delinquency the variety score decreased steeply for youth from intact nuclear families. In comparison, parental attachment had less of an effect on delinquency for youth from intact blended homes and those with no parental figures, showing only a slight, albeit significant, decrease in reported delinquency for youth with higher parental attachment after a threshold of about three.

Second, while overall parental supervision was significantly related to the respondent's delinquency variety score in this model, there were no statistically significant differences by family type. Delinquency variety scores decreased as parental supervision increased regardless of family type.

Third, while commitment to negative peers was significantly associated with delinquency variety scores, commitment to negative peers only moderated the relationship between family

Table 6. Interactional effects from a hierarchical regression predicting delinquency variety in the English-speaking Caribbean.

	b (SE)	IRR
Parental attachment		
Intact nuclear	Reference	
Intact blended	0.088 (0.04)*	1.092
Single parent	0.037 (0.03)	1.038
No parental figure	0.092 (0.04)*	1.096
Parental supervision		
Intact nuclear	Reference	
Intact blended	0.014 (0.05)	1.014
No parental figure	0.052 (0.03)	1.053
No parental figure	−0.052 (0.04)	0.950
Commitment to negative peers		
Intact nuclear	Reference	
Intact blended	−0.028 (0.03)	0.972
Single parent	−0.019 (0.02)	0.981
No parental figure	−0.055 (0.02)*	0.947
Parental attachment	0.193 (0.07)**	1.213
Parental attachment*parental attachment	−0.051 (0.01)**	0.951
Parental supervision	0.535 (0.09)**	1.707
Parental supervision*parental supervision	−0.136 (0.02)**	0.873
Commitment to negative peers	0.290 (0.03)**	1.336
Commitment to negative peers*commitment to negative peers	−0.033 (0.01)**	0.967
Family type		
Intact nuclear	Reference	
Intact blended	−0.127 (0.15)	0.881
Single parent	−0.139 (0.10)	0.871
No parental figure	0.084 (0.14)	1.087
Male	0.255 (0.02)**	1.290
Age	0.045 (0.01)**	1.046
Race		
African-decent	Reference	
Indian-decent	−0.165 (0.02)**	0.848
Indigenous	−0.084 (0.03)**	0.919
Mixed/other	−0.061 (0.02)**	0.941
School commitment	−0.237 (0.02)**	0.789
Low self-control	0.247 (0.02)**	1.281
Neutralization	0.311 (0.01)**	1.364

Notes: *$p < 05$, **$p < .01$, IRR = incidence rate ratio, Wald $X^2 = 6642.31$**.

structure and delinquency between youth from intact nuclear families and youth with no parental figure. As commitment to negative peers increased, delinquency risk was significantly lower for youth with no parental figures compared to intact nuclear families (IRR=0.947, $p < .05$). This relationship is displayed in Figure 2.

Each of the control variables included in the model remained statistically significant in this final model. Males (IRR = 1.290, $p < .01$) and older youth (IRR = 1.046, $p < .01$) self-reported higher delinquency variety scores. Compared to the youth of African descent, the youth of East Indian

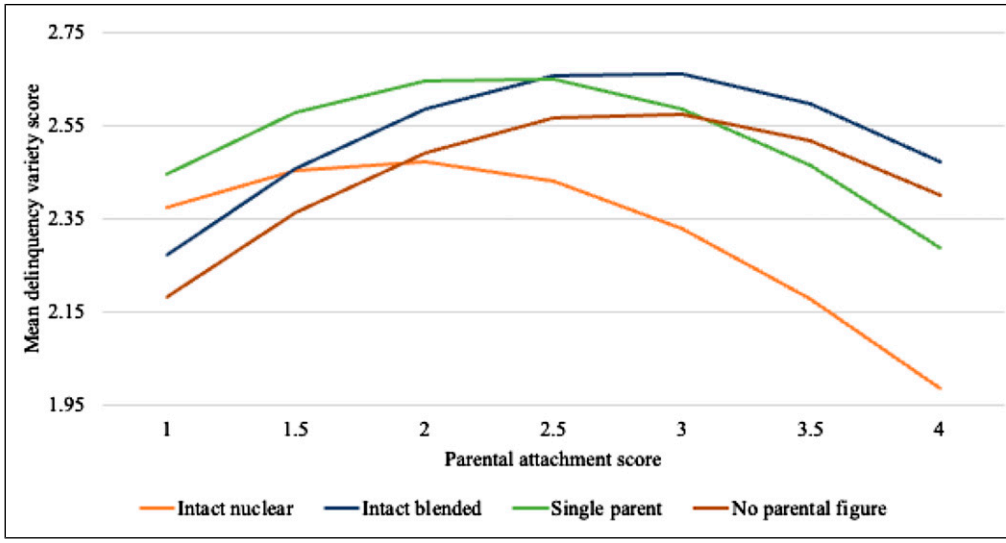

Figure 1. Deliquency variety score across parental attachment level, by family type.

descent (IRR = 0.848, $p < .01$), Indigenous youth (IRR = 0.919, $p < .01$), and mixed/other race youth (IRR = 0.941, $p < .01$) reported significantly lower delinquency variety scores. Lower school commitment (IRR = 0.789, $p < .01$) predicted lower levels of delinquency, while higher low self-control (IRR = 1.281, $p < .01$), and neutralization (IRR = 1.364, $p < .01$) were significantly associated with higher levels of delinquency.

Discussion

The current study examined the association between family structure and delinquency in the English-speaking Caribbean. Self-reported family structure by secondary-school youth across the eight study nations indicates that many (46%) youth reside in intact families. Less, but still a substantial proportion of youth (36%) reside in single-parent households. Relatively fewer live in blended households (9%) or homes with no parental figure (10%). International research on the link between family structure and adolescent behavior contributes critical theoretical insights, and can inform crime prevention efforts, particularly in developing nations such as those represented here – perhaps even more so given limited resources (Thomson & McLanahan, 2012).

Our findings largely confirm prior literature suggesting that youth in intact families are less delinquent (Wells & Rankin, 1991; Price & Kunz, 2003; Apel & Kaukinen, 2008; Rebellon, 2002; Hill et al., 1999; Boccio & Beaver, 2019). We found significant differences in delinquency involvement between youth from intact families than the other types of family structures. Less variation existed between the three other structure types. Youth from intact families engaged in lower levels of overall, violent, and property delinquency than youth from the other types of family structures. These differences remained when controlling for demographic characteristics. Like research outside the region, males and older youth were more delinquent.

Nye (1958), and later Hirschi (1969), argued that it is not the structure of the family which is causally related to delinquency, but rather the relationships and interaction patterns which are key factors. Recent academic inquiry has focused on family processes and dynamics within different family structures as mediating and moderating influences on delinquency (Jacobsen & Zaatut, 2020). A consistent finding is that strong parental attachment and closeness can play a significant

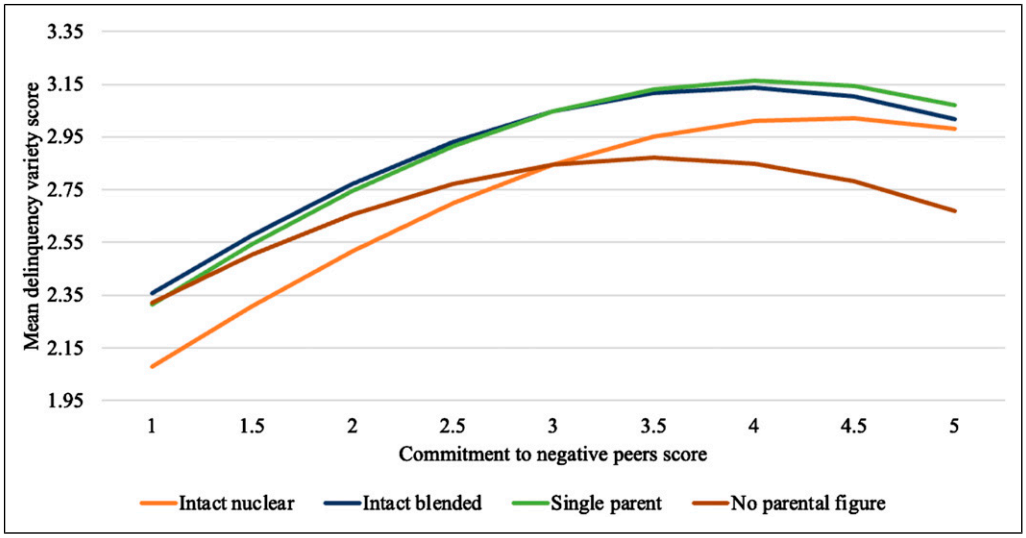

Figure 2. Deliquency variety score across comitment to negetive peers level, by family type.

role in buffering against delinquency, particularly for children in single-parent households (Hoeve et al., 2012). We found that parental attachment significantly moderates the relationship between family structure and youth delinquency. This influence was significant and pronounced for youth living in intact families and, to a lesser extent, for youth living in single-parent families. Youth from intact homes reporting high levels of parental attachment were significantly less delinquent than those reporting lower levels of attachment. Inversely, youth from intact families with low levels of parental attachment had close to the highest predicted mean levels of delinquency compared to youth in blended families and those with no parental figures.

Much prior research suggests that youth from intact families benefit from having two biological parents in the home (e.g., greater monitoring, involvement, and supervision) and that strong attachment to two parents provides greater protection from delinquency than strong attachment to one parent (Rankin & Kern, 1994). However, the advantages of living with two biological parents may not be shared equally by all youth. Musick and Meier (2010) found that children from high conflict married-parent families had significantly worse outcomes in adolescence and young adulthood than children in low conflict married-parent families. Low or poor attachment to parents may indicate other problems in intact families, such as parental rejection or family violence, which may be associated with youth delinquency. Additional work demonstrates that living conditions, movement of people in and out of the home, and adverse experiences in the home also influence subsequent delinquency (Bonner et al., 2019). Further investigation into other aspects of home and family functioning is needed to understand better the role of family processes on delinquency in different Caribbean family structures.

We also found that parental supervision is important regardless of family type. When youth perceived higher levels of monitoring, when their parents knew where they were and who they were with, they self-reported less delinquency. This finding is consistent with a long and rich body of research testing this relationship (Hoeve et al., 2009). Notably, parental supervision did not moderate the relationship between family structure type and delinquency, given that single parents are theorized to have less time and ability to supervise their children. Our findings demonstrate that both single parents and intact parents can provide enough supervision to serve as a protective barrier against delinquency. Prior research in the Caribbean by Wang et al. (2013) similarly

reported a link between delinquency and parental knowledge, youth disclosure, and parental control. They concluded that youth disclosure to parents was predictive of reduced delinquency while problematic parent-youth communication increased delinquency. This work suggests children are less delinquent when parents serve as an authoritative figure to provide guidance and encourage appropriate behavior, but also listen to, and problem solve with their children.

Direct control over delinquent behavior has been described as a complex, multidimensional set of processes that operate in different ways (Wells & Rankin, 1988). This is particularly important to consider when centering research on families living in regions of the world that are not often the focus of study. While our results highlight the importance of monitoring (our operationalization of supervision), other components of supervision – direct control through punishment and rewards and normative regulation – should be explored further (Wells & Rankin, 1988; Nye, 1958). Future research should continue to explore the role of parental supervision in the Caribbean and incorporate the reciprocal relationship between a child's behavior and parenting style and the role of parental expectations and discipline (Patterson, 1982; Wells & Rankin, 1988). Specific attention to the intersection of gender, race, and Caribbean culture in family dynamics would provide a nuanced understanding of the role of family on adolescent behavior. This is particularly important as family counseling programs focused on reducing youth delinquency are being adapted and implemented in the Caribbean (see Stahlberg et al., 2022).

Finally, our commitment to negative peers finding aligned with prior literature and expectations showing that higher levels of negative commitment to negative peers increased delinquency (McGloin & Thomas, 2019). This is unsurprising given our respondents' ages (i.e., between 15 and 18 years old); a period when youth spend increasing time and are influenced greater by peer groups (Katz & Fox, 2010). Further, we found that the influence of peers differed by family structure type, comparing youth from intact families and no-parent households. The relationship between peers and delinquency was positive regardless of the youth's family structure; however, slightly less influential for youth without parents in the home, a finding that deserves further inquiry.

One explanation for a direct effect between family structure and delinquency relates to the resources a parent can provide, which we could not address in the current study. Higher rates of female-headed households are often concentrated in areas of disadvantage where schools typically perform poorly and social organizations are lacking (Sampson, 2012). Beyond this, with gender gaps in wages where women earn less than men and one less parent providing income for a household, single-parent households often provide fewer financial resources to their children. Findings from the Caribbean region generally support this as well (Wilson, 1989). For instance, it is estimated that in the region, women earn approximately 40% of men's incomes (UNDP, 2005). However, an examination of data from the Jamaican Survey of Living Conditions (from 1990 to 2010) found that children received larger resource shares in female-headed households compared to households headed by males, which might mediate disparities in the relationship between family structure and delinquency (Bose-Duker et al., 2021). Future work needs to incorporate these structural factors.

Limitations exist in the present study. We are only able to use a cross-sectional approach providing an initial look at this topic. Future work is needed using longitudinal data to examine causal processes. Further, our data were collected at schools on only 1 day. As truancy and delinquency are linked, our findings may be biased. Another major limitation of this collection approach is that our data may suffer from common method variance. Common method variance occurs when observed variance is due to the measurement method rather than the constructs themselves; this concern is particularly relevant for self-report surveys collected at one-time point. We note, with this limitation, that our final modeling design, using interaction terms, may mitigate some concern, as noted by Chang et al. (2010), "including a non-linear interaction term in the

model is likely to reduce CMV because such a complex relationship is, in all likelihood, not part of the respondents' theory-in-use" (p. 180).

Omitted variable bias occurs when other explanatory variables which correlate with the outcome and included variables are not included in a regression model. Given the importance of family processes explaining delinquency beyond the data we had available, our model is likely biased. For instance, prior research finds that parental past and present involvement in anti-social behavior affects their children's participation in delinquency (Roettger & Swisher, 2011). Data for the present study was not collected on parents beyond what was presented here, so we could not include such measures in our models. Related, only general measures of parental attachment and supervision were asked, so we could not compare effects for mothers and fathers separately or for other family members. Specifically, future researchers need to better explore structural factors and the emotional settings families provide youth in the region. For example, research understanding the unique moderating and mediating relationships that family adaptability and cohesion have on delinquency are needed to more fully understand family variability and its impact on youth behavior. Better measuring of the variability of families, not just by family structure, will allow scholars to differentiate unique relationships and enhance future research and delinquency prevention efforts.

Youth from no parental figure households responded to parental measures, which begs the question of whom the respondents view as their guardians. Additionally, we excluded the influence of extended family members in the present study because it was not significant in our models. Future work should incorporate and explore this influence. Given the lack of literature on this topic in the region, we focus on family structure overall. Prior literature indicates that family structure and delinquency differ by gender or race, and these factors should be disaggregated in future work.

Our findings extend prior literature on the importance of family structure and processes in influencing delinquency in the English-speaking Caribbean. There has been exponential growth in the number of single-parent households around the world and a shift towards women being married and having children later in life, smaller family sizes, and increased divorce rates in the Caribbean (despite the region still having one of the highest teen pregnancy rates in the world) (St Bernard, 2003). These changes highlight the importance of continued research on this topic and strong policy recommendations for crime prevention efforts.

Acknowledgments

The Eurogang working group developed the survey instrument used in the study, for which we are thankful. We would also like to acknowledge support from several individuals, including Rhea Reid, who served as project manager on the ground and led data collection efforts in each nation on behalf of the RSS, Mr. Grantley Watson, head of the RSS, who spearheaded efforts on behalf of that organization, and Keisha Linton, who assumed the role of the project manager in September 2015 to lead the administration of data collection in Guyana and Trinidad and Tobago. In addition, we would like to thank Modupe Sodeyi, Kim Ramsey, and Blanche Goring, who collected data in the original seven participating RSS nations; and to Marlon Anatol and Randy Seepersad, who led data collection efforts in Guyana and Trinidad and Tobago, respectively. Most of all, we would like to thank Lidia Nuno for serving as the ASU project manager. She collaborated with the above persons to ensure the project was well organized, collected high-quality data, and co-authored the final report to RSS. The contents of this document are the sole responsibility of the authors.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

This research was funded by the United States Agency for International Development (USAID) under Award No. AID-538-F-14-00001 through the Regional Security System (RSS). The research was also funded in part by the ASU Foundation through a generous gift by the Watts Family.

Ethical Approval

This research was approved by the Institutional Review Board at Arizona State University (IRB Protocol # 1301008686).

ORCID iD

Kayla Freemon https://orcid.org/0000-0001-5960-494X

Notes

1. A nuclear household is defined in the referenced survey as a married or an in-partnership couple.
2. The parental attachment scale used in the current study contains five rather than the original six questions; one question response did not load adequately onto the scale so was excluded.
3. The χ^2 test statistics are reported but not used to determine acceptable fit, because the test statistic is almost always significant when the sample size is large (Brown, 2006). Therefore, we examine overall model fit using additional standard indices (i.e., root-mean-square error of approximation (RMSEA), and comparative fit index (CFI)) to determine if the model adequately fit the data; we use standard acceptability ranges (RMSEA $\leq$ 0.10, CFI $\geq$ .90; Hu & Bentler, 1999; Bentler, 1990).
4. We also ran differences tests with a Bonferroni correction to account for multiple tests, which matched the reported significance levels.
5. Correlation and multicollinearity checks did not indicate concern (VIF = 1.2).

References

Akers, R. L. (1973). *Deviant behavior: A social learning approach*. Wadsworth.

Apel, R., & Kaukinen, C. (2008). On the relationship between family structure and anti-social behavior: Parental cohabitation and blended households. *Criminology*, *46*(1), 35–70, https://doi.org/10.1111/j.1745-9125.2008.00107.x

Ary, D. V., Duncan, T. E., Biglan, A., Metzler, C. W., Noell, J. W., & Smolkowski, K. (1999). Development of adolescent problem behavior. *Journal of Abnormal Child Psychology*, *27*(2), 141–150, https://doi.org/10.1023/a:1021963531607

Aseltine, R. H. (1995). A reconsideration of parental and peer influences on adolescent deviance. *Journal of Health and Social Behavior*, *36*(2), 103–121, https://doi.org/10.2307/2137219

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173–1182, https://doi.org/10.1037/0022-3514.51.6.1173

Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, *107*(2), 238–246.

Boccio, C. M., & Beaver, K. M. (2019). The influence of family structure on delinquent behavior. *Youth Violence and Juvenile Justice*, *17*(1), 88–106, https://doi.org/10.1177/1541204017727836

Bonner, T., DeLisi, M., Jones-Johnson, G., Caudill, J. W., & Trulson, C. (2019). Chaotic homes, adverse childhood experiences, and serious delinquency: Differential effects by race and ethnicity. *Justice Quarterly*, *37*(4), 697–714, https://doi.org/10.1080/07418825.2019.1688852

Bose-Duker, T., Henry, M., & Strobl, E. (2021). Children's resource shares: Male versus female-headed households. *Journal of Family and Economic Issues*, *42*(4), 573–585, https://doi.org/10.1007/s10834-020-09743-3

Bovaird, J. A., & Koziol, N. A. (2012). Measurement models for ordered-categorical indicators. In R. H. Hoyle (Ed.), *Handbook of structural equation modeling* (pp. 495–511). The Guilford Press.

Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York, NY: Guilford Publication.

Byron, M., & Condon, S. (1996). *A comparative study of Caribbean return migration from Britain and France: Towards a context-dependent explanation*. Transactions of the Institute of British Geographers, pp. 91–104.

Carson, D. C., Wiley, S. A., & Esbensen, F. A. (2017). Differentiating between delinquent groups and gangs: Moving beyond offending consequences. *Journal of Crime and Justice*, *40*(3), 297–315, https://doi.org/10.1080/0735648x.2017.1338148

Chang, S., Witteloostuijn, A. V., & Eden, L. (2010). From the editors: Common method variance in international research. *Journal of International Business Studies*, *41*(2), 178–184, https://doi.org/10.1057/jibs.2009.88

Crocker, L., & Algina, J. (1986). *Introduction to classical and modern test theory*. Harcourt Brace Branovich.

Deschenes, E. P., & Esbensen, F. A. (1999). Violence and gangs: Gender differences in perceptions and behavior. *Journal of Quantitative Criminology*, *15*(1), 63–96.

Esbensen, F., & Weerman, F. M. (2005). Youth gangs and troublesome youth groups in the United States and The Netherlands: A cross-national comparison. *European Journal of Criminology*, *2*(1), 5–37, https://doi.org/10.1177/1477370805048626

Esbensen, F. A., & Osgood, D. W. (1999). Gang Resistance Education and Training (GREAT): Results from the national evaluation. *Journal of Research in Crime and Delinquency*, *36*(2), 194–225.

Esbensen, F. A., Peterson, D., Taylor, T. J., & Osgood, D. W. (2012). Results from a multi-site evaluation of the GREAT program. *Justice Quarterly*, *29*(1), 125–151, https://doi.org/10.1080/07418825.2011.585995

Esbensen, F. A., Winfree, L. M., He, N., & Taylor, T. J. (2001). Youth gangs and definitional issues: When is a gang a gang, and why does it matter? *Crime & Delinquency*, *47*(1), 105–130, https://doi.org/10.1177/0011128701047001005

Farrington, D. P. (1973). Self-reports of deviant behavior: Predictive and stable. *J. Crim. L. & Criminology*, *63*, 99.

Foss, A., Laurent, B., de Garcia, D., Charles, H., Puucilowski, M., Hazel, N., Sahai, R., & McKenzie, S. (2013). *Eastern and Southern Caribbean youth assessment (ESCYA). USAID*. https://www.undp.org/trinidad-and-tobago/publications/eastern-and-southern-caribbean-youth-assessment-escya

Gottfredson, M. R., & Hirschi, T. (1990). *A general theory of crime*. Stanford University Press.

Grasmick, H. G., Tittle, C. R., Bursik, R. J. Jr, & Arneklev, B. J. (1993). Testing the core empirical implications of Gottfredson and Hirschi's general theory of crime. *Journal of Research in Crime Delinquency*, *30*(1), 5–29, https://doi.org/10.1177/0022427893030001002

Herskovits, M. J., & Herskovits, F. S. (1934). Rebel destiny: among the bush Negroes of Dutch Guiana.

Hill, K. G., Howell, J. C., Hawkins, J. D., & Battin-Pearson, S. R. (1999). Childhood risk factors for adolescent gang membership: Results from the seattle social development project. *Journal of Research in Crime and Delinquency*, *36*(3), 300–322, https://doi.org/10.1177/0022427899036003003

Hindelang, M., Hirschi, T., & Weis, J. (1981). *Measuring delinquency*. Sage.

Hirschi, T. (1969). *Causes of delinquency*. University of California Press.

Ho, C. G. T. (1993). The internationalization of kinship and the feminization of Caribbean migration: The case of Afro-Trinidadian immigrants in Los Angeles. *Human Organization*, *52*(1), 32–40, https://doi.org/10.17730/humo.52.1.h424j806m023r464

Hoeben, E. M., & Weerman, F. M. (2016). Why is involvement in unstructured socializing related to adolescent delinquency? *Criminology*, *54*(2), 242–281, https://doi.org/10.1111/1745-9125.12105

Hoeve, M., Dubas, J. S., Eichelsheim, V. I., van der Laaan, P. H., Smeenk, W., & Gerris, J. R. M. (2009). The relationship between parenting and delinquency: A meta-analysis. *Journal of Abnormal Child Psychology*, *37*(6), 749–775, https://doi.org/10.1007/s10802-009-9310-8

Hoeve, M., Stams, G. J. J. M, van der Put, C. E., Dubas, J. S., van der Laan, P. H., & Gerris, J. R. M. (2012). A meta-analysis of attachment to parent and delinquency. *Journal of Abnormal Child Psychology*, *40*(5), 771–785, https://doi.org/10.1007/s10802-011-9608-1

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1–55.

Jacobsen, S. K., & Zaatut, A. (2020). Quantity or quality?: Assessing the role of household structure and parent-child relationship in juvenile delinquency. *Deviant Behavior*, *43*(1), 30–43, https://doi.org/10.1080/01639625.2020.1774241

Jaffee, S. R., Moffitt, T. E., Caspi, A., & Taylor, A. (2003). Life with (or without) father: The benefits of living with two biological parents depend on the father's antisocial behavior. *Child Development*, *74*(1), 109–126, https://doi.org/10.1111/1467-8624.t01-1-00524

Katz, C. M., Cheon, H., Hedberg, E. C., & Decker, S. H. (2021). Impact of family-based secondary prevention programming on risk, resilience, and delinquency: A 6-month follow up within a randomized control trial in Honduras. *Justice Quarterly*, 1–26.

Katz, C. M., & Fox, A. M. (2010). Risk and protective factors associated with gang-involved youth in Trinidad and Tobago. *Revista Panamericana de Salud Pública*, *27*(3), 187–202, https://doi.org/10.1590/s1020-49892010000300006

Laub, J. H., & Sampson, R. J. (1988). Unraveling families and delinquency: A reanalysis of the gluecks' data. *Criminology 26*(3), 355–380, https://doi.org/10.1111/j.1745-9125.1988.tb00846.x

Matsuda, K. N., Melde, C., Taylor, T. J., Freng, A., & Esbensen, F. A. (2013). Gang membership and adherence to the "code of the street". *Justice Quarterly*, *30*(3), 440–468, https://doi.org/10.1080/07418825.2012.684432

McDonald, R. P. (1970). The theoretical foundations of principal factor analysis, canonical factor analysis, and alpha factor analysis. *British Journal of Mathematical and Statistical Psychology*, *23*(1), 1–21, https://doi.org/10.1111/j.2044-8317.1970.tb00432.x

McGloin, J. M., & Thomas, K. J. (2019). Peer influence and delinquency. *Annual Review of Criminology*, *2*(1), 241–264, https://doi.org/10.1146/annurev-criminol-011518-024551

McKenzie, H. (1993). The family, class and ethnicity in the future of the Caribbean. In E. Greene (Ed.), *Race, class and gender in the caribbean*. University of the West Indies.

Mondesire, A. (2015). *Caribbean synthesis review and appraisal report on the implementation of the Beijing Declaration and Platform for Action*. UUN ECLAC Subregional Headquarters for the Caribbean. https://oig.cepal.org/sites/default/files/s1500700_en.pdf

Musick, K., & Meier, A. (2010). Are both parents always better than one? Parental conflict and young adult well-being. *Social Science Research*, *39*(5), 814–830, https://doi.org/10.1016/j.ssresearch.2010.03.002

Muthén, B., du Toit, S. H. C., & Spisic, D. (1997). *Robust inference using weighted least squared and quadratic estimating equations in latent variable modeling with categorical and continuous outcomes*. http://www.gseis.ucla.edu/faculty/muthen/articles/Article_075.pdf

Nye, F. I. (1958). *Family relationships and delinquent behavior*. John Wiley & Sons, New York.

Patterson, G. (1982). *Coercive family process*. Castalia Publishing Company.

Plaza, D. (2000). Transnational grannies: The changing family responsibilities of elderly African Caribbean-born women resident in Britain. *Social Indicators Research*, *51*(1), 75–105, https://doi.org/10.1023/a:1007022110306

Price, C., & Kunz, J. (2003). Rethinking the paradigm of juvenile delinquency as related to divorce. *Journal of Divorce and Remarriage*, *39*(1/2), 109–133, https://doi.org/10.1300/j087v39n01_07

Rankin, J. H., & Kern, R. (1994). Parental attachments and delinquency. *Criminology*, *32*(4), 495–515, https://doi.org/10.1111/j.1745-9125.1994.tb01163.x

Rathinabalan, I., & Naaraayaan, S. A. (2017). The effect of family factors on juvenile delinquency. *International Journal of Contemporary Pediatrics*, *4*(6), 2079–2082, https://doi.org/10.18203/2349-3291.ijcp20174735

Rebellon, C. (2002). Reconsidering the broken homes/delinquency relationship and exploring its mediating mechanism(s). *Criminology*, *40*(1), 103–136, https://doi.org/10.1111/j.1745-9125.2002.tb00951.x

Roettger, M. E., & Swisher, R. R. (2011). Associations of fathers' history of incarceration with sons' delinquency and arrest among Black, White, and Hispanic males in the United States. *Criminology*, *49*(4), 1109–1147, https://doi.org/10.1111/j.1745-9125.2011.00253.x

Roopnarine, J. L. (1996, Winter). *Caribbean fathers: Much maligned*. Society for the Study of Men and Masculinity Bulletin, 13–15.

Safa, H. (2005). The matrifocal family and patriarchal ideology in Cuba and the Caribbean. *Journal of Latin American Anthropology*, *10*(2), 314–338, https://doi.org/10.1525/jlca.2005.10.2.314

Sampson, R. (2012). *Great American city: Chicago and the enduring neighborhood effect*. Chicago University Press.

Scott, J., & Staines, Z. (2021). Charting the place of islands in criminology: On isolation, integration and insularity. *Theoretical Criminology*, *25*(4), 578–600, https://doi.org/10.1177/1362480620910250

Stahlberg, S. G., Díaz-Cayeros, A., & Pizatella-Haswell, R. (2022). Supporting youth and families to prevent risky youth behavior and delinquency: An impact evaluation of a family counseling program in the Caribbean. *Children and Youth Services Review*, *142*, 106645, https://doi.org/10.1016/j.childyouth.2022.106645

St Bernard, G. (2003). *Major trends affecting families in Central America and the Caribbean*. United Nations. https://www.un.org/esa/socdev/family/Publications/mtstbernard.pdf

Stuart, S. (1996). Female-headed families: A comparative perspective of the caribbean and the developed world. *Gender and Development*, *4*(2), 28–34, https://doi.org/10.1080/741922017

Sweeten, G. (2012). Scaling criminal offending. *Journal of Quantitative Criminology*, *28*(3), 533–557.

Tan, B. P, Osman, Z. J., & Naidu, N. B. M. (2017). Structure or relationship? Rethinking family influences on delinquency in Malaysia. *Asia-Pacific Social Science Review*, *17*(2), 171–184.

Thomson, E., & McLanahan, S. S. (2012). Reflections on "Family structure and child well-being: Economic resources vs. parental socialization". *Social Forces*, *91*(1), 45–53, https://doi.org/10.1093/sf/sos119

United Nations. (2019). *Household size and composition*. Population Division. https://www.un.org/development/desa/pd/data/household-size-and-composition

United Nations. (2021). *About small island developing states*. https://www.un.org/ohrlls/content/about-small-island-developing-states

United Nations Development Programme (UNDP). (2005). *Human development report 2005: International cooperation at a cross roads: Aid, trade and security in an unequal world*. Oxford University Press for UNDP.

Van Voorhis, P., Cullen, F. T., Mathers, R. A., & Garner, C. C. (1988). The impact of family structure and quality on delinquency: A comparative assessment of structural and functional factors. *Criminology*, *26*(2), 235–261, https://doi.org/10.1111/j.1745-9125.1988.tb00840.x

Wang, B., Stanton, B., Li, X., Cottrell, L., Deveaux, L., & Kaljee, L. (2013). The influence of parental monitoring and parental-adolescent communication on Bahamian adolescent risk involvement. *Social Science & Medicine*, *97*, 161–169, https://doi.org/10.1016/j.socscimed.2013.08.013

Watkins, M. W. (2017). The reliability of multidimensional neuropsychological measures: From alpha to omega. *The Clinical Neuropsychologist*, *31*(6-7), 1113–1126, https://doi.org/10.1080/13854046.2017.1317364

Weisburd, D., & Piquero, A. R. (2008). How well do criminologists explain crime? Statistical modeling in published studies. *Crime and justice*, *37*(1), 453–502.

Wells, L. E., & Rankin, J. H. (1988). Direct parental controls and delinquency. *Criminology*, *26*(2), 263–285, https://doi.org/10.1111/j.1745-9125.1988.tb00841.x

Wells, L. E., & Rankin, J. H. (1991). Families and delinquency: A meta-analysis on the impact of broken homes. *Social Problems*, *38*(1), 71–93, https://doi.org/10.2307/800639

Wilson, L. C. (1989). *Family structure and dynamics in the Caribbean: An examination of residential and relational matrifocality in Guyana*. [Doctoral Dissertation, University of Michigan]. ProQuest Dissertations Publishing.

Zinbarg, R., Revelle, W., Yovel, I., & Li, W. (2005). Cronbach's α, Revelle's β, and McDonald's ω_h: Relations with each other and two alternative conceptualizations of reliability. *Pyschometrika*, *70*(1), 123–133, https://doi.org/10.1007/s11336-003-0974-7

Author biographies

Kayla R. Freemon is a Criminology and Criminal Justice doctoral student at Arizona State University and a Research Assistant in the Center for Violence Prevention and Community Safety. Her research interests include policy and program evaluation, jail experiences, and crime and justice in the Caribbean.

Veronica M. Herrera is an Associate Professor of Criminal Justice and the Co-Director of the Social Equity Research and Policy Lab at California State University, Fullerton. Her research interests focus on the impact of exposure to family and community violence on youth risk behavior, violence against women, and the victimization of vulnerable populations, including immigrants and labor trafficking survivors.

Hyunjung Cheon is an Assistant Professor in the Department of Criminal Justice at University of Texas at El Paso. Her research focuses on race, ethnicity, crime, and justice, policing, comparative criminology and criminal justice, and quantitative methods.

Charles M. Katz is the Watts Endowed Family Chair of the School of Criminology and Criminal Justice and Director of the Center for Violence Prevention and Community Safety at Arizona State University. His research focuses on policing, gangs, and comparative criminology.