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Parental Monitoring, Exposure to Family Violence, and Delinquency: A Latent Class Analysis on Arizona Youth

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Abstract

For youth between the 8th and the 12th grades, parents and adult caretakers play a critical role in shaping their behaviors. The parent-youth relationship has several important dimensions, and each plays a unique role in preventing youth delinquency. The current study seeks to explore the heterogeneity among youth in Arizona regarding parental neglect, parental monitoring, and exposure to family violence. We further investigated how these family characteristics correlated with self-reported delinquency. We analyzed survey data collected from a sample of youth from Arizona (*n* =38,945) and used latent class analysis (LCA) to capture these family properties. We identified a five-group model suggesting that these dimensions did not necessarily overlap. We also found that group membership was correlated with self-reported arrests as well as multiple delinquent behaviors. Youth with low exposure to family violence and from families with effective monitoring had the lowest probability of engaging in delinquent behaviors. Insufficient parental monitoring and exposure to family violence had slightly different correlates for different types of delinquency.

Keywords: youth, delinquency, exposure to family violence, parental monitoring, parental neglect, latent class analysis

Introduction

Although juvenile arrests have been steadily declining in the past 25 years and remain at the lowest level since 1980, it remains a problem on a mass scale. In 2018, law enforcement agencies made nearly 730,000 arrests of youth younger than 18, an average rate of nearly 2,000 per day (Puzzanchera, 2020). In addition to arrests, an even larger proportion of youth engaged in aggressive or delinquent behaviors. In 2017, nearly a quarter of youth reported involvement in a physical fight (Kann et al., 2018). An estimated 5% of youth reported that they stole others' belongings (Salas-Wright et al., 2016). Although criminological studies found that the vast majority of youth delinquents would not commit crimes in adulthood (Moffitt, 1993; Piquero et al., 2003), the patterns and risk factors of juvenile delinquency are still worth studying.

For youth in adolescence, the role of family and caregivers remains crucial, as they provide resources for youth's living and education and emotional support. Nevertheless, the past few decades have seen some major changes in family structure in the United States. As of 2018, 26.5% of children have a parent who lives outside their home (Grall, 2020). Additionally, from 1960 to 2020, the proportion of children living with two married parents has been declining (Hemez & Washington, 2021). Moreover, more than one in seven children in the United States has experienced neglect in their life (Vanderminden et al., 2019). Even for households with both parents present, factors such as domestic violence could affect youth and children adversely (Smith et al., 2018). Moreover, families differ in how they establish and enforce norms and monitor the children's whereabouts, which further affects youth's behaviors (Robinson et al., 1995).

In the present study, we examined the variation in both family structure and norms in a sample of youth in Arizona. We used latent class analysis (LCA) to model the variation in the families—specifically, parental monitoring, parental neglect, and exposure to family violence—among our sample, then used regression analysis to explore the relationship between the patterns and a variety of delinquency indicators. We identified five groups of different family patterns among the sample, each having a different position on the dimensions we analyzed. We further found that the groups indicating ineffective monitoring and high exposure levels to family violence were related to a higher risk of self-reported arrests and delinquent behaviors.

Literature Review

In most cases, the family is primarily responsible for raising young children. While most youth and adolescents spend their daytime at school, the role of family and parents is still far from negligible. The literature has highlighted the significance of families in shaping the youth's behaviors, including delinquency and criminal involvement (Farrington, 2011; McCord, 1979, 1991; Stern & Smith, 1995). Unlike many variables associated with crime and delinquency, family life is not a simple yes/no question or a unidimensional scale. Rather, it encompasses multiple dimensions that are not necessarily perfectly correlated with each other. Below we summarize the findings on how delinquency relates to three aspects of family life: parental presence, family conflict, and family norms.

Parental Involvement and Monitoring

The first level of parental involvement is their presence. Numerous studies (e.g., Anderson, 2002; Demuth & Brown, 2004; Lucero et al., 2015) have found

that children raised by single parents are more likely to engage in delinquency (for reviews, see Hoeve et al., 2009; Pinquart, 2017; Sarkadi et al., 2008). For children and adolescents, the absence of one or both parents often accompanies strained socioeconomic resources and emotional support, both of which are associated with reduced risks of delinquency and crimes (Farrington, 2011). Moreover, neglected children—those being left alone at home when an adult should have been around—also had higher levels of delinquency (Logan-Greene & Semanchin Jones, 2015; McCord, 1991; Ryan et al., 2013; Watts & Iratzoqui, 2019).

Yet the mere presence of parents in the household is far from sufficient. Parents' knowledge of children's daily life and proper involvement is also crucial for the children's development, especially when children reach school age and spend a considerable amount of time outside of home (Kerr et al., 2010). A recent systematic review by Flanagan et al. (2019) found that while parental supervision was overall significantly associated with youth delinquency, the strength of the relationship would be particularly strong when parental supervision was measured as the parents' level of knowledge of the children's whereabouts (see also Bendezú et al., 2018; Hoeve et al., 2009; Keijsers, 2016; Lahey et al., 2008; Racz & McMahon, 2011). In addition, studies have further found that discrepant accounts of parental monitoring between parents and children were associated with an elevated risk of the children's delinquency (Augenstein et al., 2016; De Los Reyes et al., 2010; Ksinan & Vazsonyi, 2016). The latter finding suggests that the perceived level of monitoring from youth and adolescents themselves has a crucial role in their development.

Family Norms and Rules

Through monitoring and discipline, families establish and enforce their norms. Decades of research supports the authoritative parenting style, which features parents being “responsive and demanding, confrontive and autonomy supportive, affectionate and power assertive” (Baumrind, 2013, p. 13). This style requires parents to establish clear rules and norms while being supportive at the same time. It differentiates from both permissive and authoritarian styles, featuring “few rules or demands” and “coercive and functionally superfluous control” respectively (Baumrind, 2013, p. 13).

Empirical studies found that authoritative parenting was associated with beneficial outcomes on children’s wellbeing in general (Spera, 2005) and lower risk levels of juvenile delinquency (Hoeve et al., 2009; Pinquart, 2017). Meanwhile, both insufficient and excessive supervision and enforcement of rules—roughly corresponding to permissive and authoritarian parenting styles (Baumrind, 1968, 2013)—were associated with a higher risk of delinquency (Brauer, 2017; Flanagan et al., 2019; Rekker et al., 2017). This curvilinear pattern stands in contrast to the role of parental monitoring and knowledge, where a higher level is generally associated with a lower probability of juvenile delinquency (Bendezú et al., 2018; Ksinan & Vazsonyi, 2016; Racz & McMahon, 2011).

Exposure to Family Violence and Conflict

Family conflict is an inherent component of family life, as nearly all children see their parents argue at one time or another. However, frequently witnessing arguments or violence among family members is detrimental to children and youth, even when the children and youth are not the direct targets of violence (for reviews, see Carpenter & Stacks, 2009; Edleson, 1999; Jonson-Reid, 1998;

McTavish et al., 2016). When conflict arises within the family, children can experience either triangulation or fear of victimization (Camisasca et al., 2019; Noble-Carr et al., 2020). A teenage girl involved in the criminal justice system for robbery and assault has accounted her childhood exposure to family violence as follows:

> [W]hen I was little, my *papi* used to come home from the restaurant really tired and worried.... He drink so much then, and lots of nights we would be so scared we wouldn't want to move in front of the TV. He would be yellin' at *mi madre* and saying all kinds of scary things... and we would all start crying and [there was a lot of yelling and dishes flying], and we just wanted to die... It's like my dad be trying to kill my mother, so much blood (Schaffner, 2006, p. 69).

Individual studies found that exposure to violence—both in the community (Jaggers et al., 2021) and specifically in the family (Aguilar Ruiz & Pereda, 2022; Hamby et al., 2011; Mowen & Boman, 2018)—are associated with negative outcomes such as psychological distress and aggressive behaviors. Haas et al. (2004) estimated that children coming from families where both parents are in conflict have almost the same probability of delinquency as those from single-parent households. Further, meta analyses across the past decades have consistently suggested a moderate but statistically significant positive correlation between exposure to family violence and problematic externalizing behaviors (Chan & Yeung, 2009; Vu et al., 2016).

Summary and Research Gap

The literature suggests that youth's family life has many dimensions—whether the parents are present and involved, whether there is a conflict between the parents or between the youth and the parent(s), and whether parents have clear norms and proper supervision (Farrington, 2011; Hoeve et al., 2009). Families in real life may do well on all these dimensions, may be well on some dimensions while struggling with others. Instead of measuring one dimension at a time, we present a proof of concept to capture the overall patterns on different dimensions at the same time and measure the overall family condition as types. We detail our analytic approach and findings below.

Method

Data: The 2018 Arizona Youth Survey

The Arizona Youth Survey (AYS) is administered by the Arizona Criminal Justice Commission Statistical Analysis Center. The AYS was designed using the Communities That Care approach (Hawkins et al., 2008) to measure risk and protective factors for youth. The survey is administered every two years to students at Arizona schools in the 8th, 10th, and 12th grades. All public, private, and charter schools in Arizona were eligible to participate, and the sample contained schools from all fifteen Arizona counties. Although participation in the study was voluntary, the demographic distribution of the sample is reflective of the student population in Arizona (Arizona Criminal Justice Commission, 2018). Data from the AYS was collected both online and through paper survey instruments. Questions in the survey measure students' involvement in gangs, substance use, and other at-risk behaviors (Meier et al., 2019). AYS used a multi-wave cross-

sectional design. The current study uses the 2018 wave, the most recent wave uninterrupted by the COVID-19 pandemic. The initial sample includes 52,336 students from 246 schools.

Latent Class Analysis (LCA)

LCA is a mixture modeling tool that identifies unobserved groups from multiple observed variables. It assumes that a latent categorical variable explains the heterogeneity among the observed variables, in other words, individuals in the sample vary on the observables because they belong to different groups. In the context of the present study, the groups represent the different types of family experience of the youth. The observed variables concern the family dynamics, norms, and expectations of the youth.

The current study uses latent class analysis (LCA) to categorize respondents based on their answers to ten indicator questions within the AYS survey. The first two variables in the LCA model recorded the respondent's family structure through two questions about the youth's *primary female caregiver* (mother = 1, other responses = 0) and *primary male caregiver* (father = 1, other responses = 0). The next two variables documented the youth's daily family dynamics with these statements: "People in my family often *insult or yell at each other*," and "We *argue about the same things* in my family *over and over*." Lastly, there were six variables documenting the youth's family norms and rules: "The *rules* in my family *are clear*," "When I am not at home, one of my parents *knows where I am and who I am with*," "If you *drank some alcohol* without your parents' permission, would you be caught by your parents?" "My family *has clear rules*

about alcohol and drug use," "If you *carried a handgun without your parents' permission*, would you be caught by your parents?" and "If you *skipped school*, would you be caught by your parents?" All eight questions on family dynamics and rules/norms were originally coded in four-point Likert scales, and we recoded them dichotomously ("yes" and "YES!" = 1, "no" and "NO!" = 0, also see later in Results section a sensitivity test on this).

Regression Analysis

Dependent Variables and Model Specification

The regression analysis has three main dependent variables: the youth's self-reported history of *being arrested*, *attacking other people with the intention of seriously hurting them*, and *stealing goods more than $5* in *the 12 months prior to the survey* (all coded dichotomously). The list of dependent variables covers a set of crimes and delinquent behaviors from multiple dimensions—formal criminal justice contacts, delinquency against persons and properties. Given the dichotomous nature of the dependent variables, we used logistic regression for the main analysis.

Independent Variables

The main independent variable of the regression analysis is the *group membership*—the group each youth was assigned to. In addition to the groups and group characteristics, LCA also estimates a set of posterior probability for each youth and each group (e.g., a given youth may be 80% likely to belong to Group 1, 15% likely to belong to Group 2, and 5% likely to belong to Group 3 given their

responses to the ten LCA questions). It would then further classify each youth into the group with the highest posterior probability (the youth in the above example would be assigned to Group 1).

We also included a set of control variables in the regression models. We included the youth's demographic characteristics: *gender*, *age*, and *race* (see Table 1 for specific categories). We also included whether the youth *got free or reduced cost lunch at school* as a token of their socioeconomic status. We further included a set of risk and protective factor scales in our models. The AYS had numerous questions about the youth's experience with and perceptions of their family, friends/peers, school, and community (Arizona Criminal Justice Commission, 2018). Following the Communities That Care design, these questions were further organized into multi-item scales, each containing between three and eight questions (for details on the correspondence between scales and specific questions, see Glaser et al., 2005). We included the following risk factor scales (for each, a higher score indicated a higher level of risk): *low neighborhood attachment*, *parental attitudes favorable towards antisocial behavior*, *academic failure*, *low commitment to school*, *rebelliousness*, and *gang involvement*. We also included the following protective factor scales (for each, a higher score indicated a higher level of beneficial and prosocial involvement): *family attachment*, *school opportunities for prosocial involvement*, *belief in the moral order*, and *prosocial involvement*. Lastly, we also included delinquency among the youth's friends. Specifically, the youth were asked to think about their four closest friends and report the number of friends who *sold illegal drugs*, *stole or tried to steal a motor vehicle*, *were members of a gang*, *were in a physical fight*, and *were arrested*.

Missing Data and Analytic Plan

The entire 2018 wave of AYS contained 52,336 youth, and 44,693 (85.4%) answered all ten questions used in LCA. A total of 38,945 youth (74.4%) had non-missing responses to all variables used in the regression analysis. This sample retention rate is similar to other studies published using the AYS in similar waves (Docherty et al., 2020; Wu et al., 2020). We conducted two additional tests to examine the sensitivity of our findings. First, we repeated the LCA with only the 38,945 youth we used in our regression analyses. Second, we used all 44,693 cases in LCA, but repeated the regression analyses without the three scale variables with the highest missing rates (low neighborhood attachment, parental attachment, and parental support of antisocial behaviors, new n = 40,640 or 77.7% of the full N). Both tests found similar main results on the groups as well as the association between group membership and the outcomes. For conciseness, we present the LCA-related findings on the subsample of 44,693 youth used in LCA, and all regression-related findings on the 38,945 youth used in our regression analyses.

Results

Descriptive Statistics

We present the descriptive statistics for the sample in Table 1, and begin with presenting the LCA variables. Within our sample, 89.9% reported that their primary female caregiver was their mother, and 72.1% reported that their primary male caregiver was their father. Most respondents reported having clear rules in their family (87.8%). Similarly, most respondents reported that their parents have

clear rules against drug and alcohol use (85.5%) and handguns (80.3%). Additionally, respondents were asked if their parents would catch them skipping school (83.4%), drinking alcohol without permission (53.0%), and if their parents know where they are and who they are with when they are not home (88.7%). Less than half of the model reported their family arguing about the same things over and over (44.9%) and often yelling or insulting each other (37.6%).

The sample contained a roughly 50-50 gender distribution, with approximately a third coming from each of the three grades. Around half of the sample is White (50.7%) or Hispanic (46.2%). The remaining racial groups: Black, Asian, Native American, and Hawaiian Pacific Islander, accounted for less than 10% of the sample each.[1] Slightly less than half of the sample (47.1%) reported receiving free or reduced-cost lunches at school.

Overall, participants in the sample responded to the scales moderately. Respondents reported having moderate family attachments (2.8 on a 4-point scale) and low parental perceptions favorable to antisocial behaviors (1.3 on a 4-point scale). School experiences varied for students across scales. The average youth sat around the midpoint of both academic failure (2.0 on a 4-point scale) and low school commitment (2.6 on a 5-point scale) scales. Opportunities for prosocial involvement were higher, with the average score being 2.9 on a 4-point scale.

[1] Participants could choose more than one racial and ethnic groups to identify with. Therefore, the total percentages of racial and ethnic groups exceeded 100%. For ease of presentation and interpretation, we included all non-White racial and ethnic groups as dummy variables in our regression models, in which case the actual reference group was White youth with non other racial and ethnic identity. We also conducted a sensitivity test by creating a multi-racial category (therefore making each youth belonging to one and only one category), and found no notable difference in the findings.

The remaining questions in the model measure respondents' peer-individual risks and protective factors. On average, participants were on the lower end on the scales of rebelliousness (1.7 on a 4-point scale) and gang involvement (1.3 on a 9-point scale). The belief in moral order was relatively high (3.0 on a 4-point scale), while the average youth was at the midpoint for prosocial involvement (2.5 on a 5-point scale). Delinquency among friends was relatively rare. Out of the five questions asked about the delinquent behaviors of youth's four best friends, none had an average higher than 0.9, and all but one (fighting) was lower than 0.4.

The LCA Model

Model Selection

We estimated six different LCA models, containing one to six groups respectively. We then used a series of tests and statistics to determine the total number of groups, all presented in Table 2 (for more details on the model selection process, see Hickert et al., 2018; Yan, 2017). The first sets, the information criteria, include the Akaike Information Criteria (AICs), the Bayesian Information Criteria (BICs), and the sample-size-adjusted Bayesian Information Criteria. All sets of information criteria indicate the overall model fit, and a lower value suggests better model fit. The second set, the likelihood statistics, including the log likelihoods and the Lo-Mendell-Rubin log likelihood test statistics (hereinafter the LMR test, Walters, 2016; Wolbers & Ackerman, 2020). Here each LCA model was compared against the model with one fewer class (e.g., the two-class model vs. the one-class model), and the difference in the log likelihoods, adjusted for the sample size and model complexity, would conform to a chi-squared distribution. Each of the six models performed better than the model with one fewer class, as

indicated by the gradually decreasing information criterion values and the statistically significant LMR test statistics. Both sets of model performance indicators suggested that the model fit continued to improve with the number of classes identified.

Yet before deciding that the six-group model fit the data the best, we also examined the average posterior probabilities (avePPs), which would indicate the clarity of the groups. There is one avePP for each group in each model (e.g., the four-group model would have four different avePPs), and a high value indicates individuals are assigned to the group without much ambiguity. A rule of thumb is that a clear LCA model would have the *avePP for all groups* at .7 or higher (Nagin, 2005). As shown in Table 2, models containing up to five groups met the second criterion, but the six-group model did not. Moreover, a closer examination of the information criteria and LMR test statistics suggests that while all model fit indicators continued to improve, the magnitude of improvement between the five- and six-group models was considerably smaller than the other models with fewer groups. As a result, we chose the five-group model as the best representation of the data.

Group Characteristics

We now present the overall characteristics of the five groups in Figure 1. The first group, constituting 2.7% of the sample, has visibly low values in all conditional probabilities. These youth had the lowest parental presence, with 79.6% reporting their mother as the primary female caregiver and 60.4% reporting their father as the primary caregiver, both considerably lower than the samplewide averages (Table 1). Although very few youth reported having family

members yelling at each other (5.2%) or arguing over matters (2.5%), youth in this group also had very low positive response rates to the questions on family rules and norms (only 19.2% indicated the family had clear rules, and lower than 8% positive for all other questions). Put together, it appears that there was a very low level of attention and care among the families of the youth. For analytic purposes, we name the group Neglective Families.

The second group, 13.3% of the sample, was similar to youth identified as members of Neglective Families in the overall low presence of parents at home, as 82.6% and 60.1% of the youth reported having their mother and father as the primary caregiver respectively. More youth reported having clear rules in their family (56.7%), and around half of the youth reported their parents having rules on drugs, guns, and skipping school. All these conditional probabilities are considerably higher than the counterparts of Neglective Families, yet still well below sample averages. Notably, this group had the highest percentage of youth reporting family members yelling at each other (84.6%) and the second highest percentage of youth reporting family arguing over matters (84.4%). Given the overall pattern, we name the group Tumultuous Families.

The third group represented 19.2% of the sample. In this group, the overall presence of the youth's parents was high, with over 90% of youth reporting their mother as the primary female caretaker and over 70% of youth reporting their father as the primary male caretaker. The percentages of youth who reported having family members yelling at each other (16.0%) and arguing (30.7%) were low. Although 92.4% of the youth reported having clear family rules, the rules did not appear to apply to every activity. Specifically, only 13.7% of youth reported

having rules on alcohol use, around 60% of youth reported having rules on guns and skipping school, while around 80% of youth reported having rules on drug use. We name this group Permissive Families.

The fourth group represented 25.1% of the overall sample. Overall, youth in this sample reported having clear and strict rules in the family—both in general (91.9%) and on matters such as guns, drugs, and skipping school (all over 93%). Parental presence was also high among the youth, with 90.6% and 70.2% reporting having mother and father as their primary caregiver respectively. However, these youth also had high probabilities of reporting having family members yelling at each other (78.89) and arguing (85.3%). Given these group characteristics, we name this group Demanding Families.

Lastly, the remaining group constituted 39.7% of the sample. This group had the highest parental presence and the highest positive response percentages in all rule and norm variables (82.0% reported having clear rules on alcohol and higher than 97% responded positively in all other questions). Moreover, the group also reported low presence of in-family yelling and arguing. While both percentages were higher than the counterparts in Neglective Families, considering the sheer differences in the presence of parents, we would consider youth in this group coming from the most harmonious families among all five groups. Given the clear norms and low level of conflict the youth reported, we label this group Authoritative Families.

To test the clarity of the grouping results, we conducted two sets of tests to compare the ten indicator variables across the five groups. The first is a set of chi-squared tests on the relationship between each dichotomous indicator variable

and the group each youth was assigned to. All ten sets of chi-squared tests are significant at the .001 level. The second is a set of logistic regression models where each indicator variable act as the dependent variable at a time, and the group membership act as the independent variable, with Authoritative Families as the reference category (i.e., the models test the probability differences in having a positive response to each of the ten indicator questions between youths assigned to Authoritative Families and those assigned to other groups). Only one of the comparisons—the probability of having mother as the primary caregiver between Tumultuous and Authoritative Families—is non-significant at the .05 level. Both sets of results suggest that the overall distribution of the indicator variables is sufficiently different among the groups.

Regression Results

Arrests

We present the regression model findings in Table 3, starting with the model explaining self-reported arrests. Among the five groups identified, there was no statistically significant disparity between youth from Demanding and Authoritative families. Youth from Neglective (1.1 percentage points), Tumultuous (0.5 percentage point), and Permissive families (0.7 percentage point) were all significantly more likely to report arrests than those coming from Authorative families. Although the sizes of disparities appear small at first glance, it is noteworthy that only 3.7% of the regression sample reported having been arrested. In relative terms, the risk of arrest for youth from those three family groups were between 13.0% and 31.6% higher than the sample average.

Among the control variables, we found that girls were 0.5 percentage point less likely to report being arrested than boys, while each additional year of age was associated with a 0.2 percentage point lower risk of arrest. Hawaiian/Pacific Islander youths were 0.7 percentage point more likely to report being arrested than monoracial White youth, while youth who received free or reduced-cost lunches at school were 0.2 percentage point more likely to be arrested than those who did not. For the scales, low neighborhood attachment, parental attitude favoring antisocial behaviors, academic failure, low school commitment, rebelliousness, gang involvement, and prosocial involvement were all associated with a higher risk of self-reported arrests, with each additional point associated with a disparity between 0.1 and 0.5 percentage point. The only scale associated with a significantly lower risk was parental attachment, with each additional point associated with a 0.2 percentage point lower chance. The risk of self-reported arrests increased with the number of friends involved in fighting (0.1 percentage point) and arrested (1.1 percentage points), but decreased with the number of friends in gangs (0.5 percentage point).

Attacking

Our second dependent variable was the youth's self-reported attacking behavior with the intent of seriously injuring others. Compared with youth who came from Authoritative Families, youth from all four other family groups had a higher chance of reporting attacking behaviors. Youth coming from the two groups with high prevalence of yelling and arguing inside families—Tumultuous (2.1 percentage points) and Demanding families (2.1 percentage points) had the largest differences from Authoritative Families. Youth from Neglective Families

were 1 percentage point more likely to report attacking others, while those from Permissive Families were 1.4 percentage points more likely to report attacking. Again, considering the overall low prevalence of self-reported attacking behaviors (8.2% of the regression sample), these disparities were substantially meaningful despite the small sizes on the appearance.

The patterns for the control variables had both similarities and differences compared with those found in the model on arrests. Youth in higher grades were less likely to report attacking than those in the 8th grade. Black (1.4 percentage points) and Asian youth (0.8 percentage point) were less likely to report attacking others than monoracial White youth, while those on free or reduced-cost lunch were 0.6 percentage point less likely to report attacking. Among the scales, low neighborhood attachment, parental attitude favoring antisocial behaviors, academic failure, rebelliousness, gang involvement, and prosocial involvement were all associated with a higher risk of reporting attacking behaviors, with each additional point in those scales associated with an additional chance by between 0.2 and 1.6 percentage points. Each additional point in beliefs in moral order, to the contrary, was associated with a 2.4-percentage-point lower risk of attacking. As the number of friends who reported stealing, selling drugs, fighting, and arrested increased, so was the chance of reporting attacking behaviors (ranging between 0.2 and 1.3 percentage points).

Stealing

The third and last dependent variable was self-reported stealing. As we present in Table 3, compared with youth coming from Authoritative Families, youth coming from all four other types of families had a higher chance to self-

report stealing goods. The sizes of the differences ranged between 4.1 and 7.8 percentage points, with youth from Tumultuous families appearing to have the highest chance of reporting stealing.

Among the control variables, older youth appeared to have a lower chance of reporting stealing, while there was no statistically significant gender disparity. Hispanic youth were 0.8 percentage point less likely to report stealing than monoracial White youth, while Native American youth were 1.7 percentage points more likely to report stealing than Whites. Unlike the other two outcomes, receiving free or reduced-cost lunch did not lead to a statistically significant disparity. Parental attitudes favoring antisocial behaviors, academic failure, low commitment to school, school opportunities for prosocial involvement, rebelliousness, gang involvement, and prosocial involvement were all associated with a higher chance to report stealings, with each additional point associating with a marginal disparity size ranging between 0.8 and 3.8 percentage points. Each additional point in the scale beliefs in moral order was associated with a 8.8 percentage point lower chance of reporting stealing. The numbers of the youth's friends who were involved in stealing, selling drugs, fighting, and arrests were all associated with a higher chance of reporting stealing (ranging between 1.2 and 2.0 percentage points), while the number of friends in gangs was associated with a 1.4-percentage-point lower chance of reporting stealing.

Sensitivity Tests

To ensure our findings were not sensitive to the model specification, we estimated a set of alternative LCA and regression models. Specifically, out of the 10 variables in the LCA, eight (i.e., the family conflict and parental monitoring

variabes) were 4-point Likert scales. We dichotomized them in the main analysis, and now we treat them as continuous score variables (i.e., NO! = 1 and YES! = 4).[2] We then re-estimated the LCA models with two dichotomous primary caregiver variables and eight continuous variables. In Tables 4 and 5, we present the findings of the LCA and regression models respectively. Here for the eight scale variables, the values indicate the average score (where a value close to 1 indicates strong disagreement and a value close to 4 indicates strong agreement) rather than the percentage of youth giving an affirmative response. The groups LCA identified were substantively similar to those identified in the main analysis. For the regression analyses, most of the patterns on the correlation between family types and delinquency remained the same, with two exceptions. The correlation between Neglective Families and self-reported attacking is no longer statistically significant, and the correlation between Demanding Families and self-reported stealing becomes negative and no longer statistically significant. Yet even with the discrepancies, the overall takeaway is similar to the main results.

Discussion

The volume of research on family and youth development is enormous. Although there is some overall sense of what “good parenting” consists of (Baumrind, 2013; Farrington, 2011; Hoeve et al., 2009; Loeber et al., 1991), it is difficult to put all dimensions onto a single scale (Robinson et al., 1995). In the

[2] We are aware of the long debates on the acceptability of treating Likert scales as continuous scores. In addition to the analysis presented here, we also attempted to estimate LCA models treating the eight scale indicators as either nominal or ordinal variables. Both sets of models ran into convergence problems when the number of classes became large, presumably due to the level of complexity. A recent simulation-based study suggested that even with a Likert scale containing a small number of points (like a 4-point one used in the present study), treating the responses continuously would not gravely distort the empirical findings (Wu & Leung, 2017). Therefore, we present the sensitivity test to support the robustness of our findings.

current study, we explored several dimensions of family dynamics at the same time: parental presence and monitoring, family norms and rules, and exposure to family violence and conflict. The findings of the LCA suggest family life is indeed complicated—by itself and its correlation with crimes and delinquency.

Most studies on family divide parenting into three styles: authoritative, authoritarian, and permissive (Baumer, 2013). Yet our LCA identified five different types of families based on the three dimensions mentioned above. The presence of parents does not necessarily mean they are actively or effectively monitoring the youth, nor does it necessarily mean that the family is conflict-free. Even among youth with low levels of exposure to family conflict and violence, the rules and norms may or may not be clear and effective. Put together, family life is much more complicated than a simple label of “good” or “bad.” While some family types (such as Authoritative Families) are arguably more desirable than others, we do not believe there appears to be a straightforward way to rank all five family types in a single dimension.

The regression analysis further confirms the point above. On the one hand, for all three outcomes, youth who were not from Authoritative Families had a significantly higher risk than those who were, which echoes the findings of the field (Farrington, 2011; Hoeve et al., 2009; Piquero et al., 2003). On the other hand, for each of the three outcomes we examined, the ranking of the marginal effect sizes differed among the family types. Specifically, youth from Demanding Families had the highest risk of arrests, while youth from Tumultuous Families had the highest rank for attacking and stealing. Notably, both kinds of families had a high level of internal conflict.

Put together, the empirical findings suggest that both delinquency and family dynamics have multiple layers. The most beneficial scenario for youth is when their parents are both present at home, have clear rules, know their whereabouts and school attendance, and are overall free from constant conflict. In the meantime, families can be similar to households under the best-case scenario on one dimension but dissimilar to the other. Importantly, the mere presence of parents is insufficient for youth's wellbeing. Models suggest that when parents were at home but keep arguing and yelling, youth would have a *higher* risk of delinquency than when the parents were not present (Aguilar Ruiz & Pereda, 2022; Carpenter & Stacks, 2009). Meanwhile, if the family does not have clear knowledge of the youth's attendance or rules on substance use and guns, youth would also have higher chances of delinquent behaviors than those from neglective families (Hoeve et al., 2011; Pinquart, 2017; Smetana, 2017).

For policy changes and intervention efforts, the findings suggest that the quality of youth's and children's family life is more than who the primary caregivers are. In addition to intervention efforts targeting child neglect (Howe, 2005), youth who were exposed to family conflict and violence also need specific attention. The most effective intervention for the latter group is efforts targeting family and domestic violence, which is known to be challenging (McTavish et al., 2016; Wathen & MacMillan, 2013). Yet, at the minimum, schools and professionals who work with children and youth need to be aware of their exposure and take that into consideration. Intervention efforts also need to enhance the effectiveness of parental monitoring and rule setting (Yoo, 2017).

This study is not without limitations. The AYS had a cross-sectional design and was, by definition, non-randomized. Therefore, all relationships we observed in the models were correlational rather than causal. The design also made it impossible to track youth over the waves and further model the family dynamics over time using a latent transition analysis. The AYS used a school youth sample, which means some of the most at-risk youth—those who had dropped out of or were suspended from school—were absent from the sampling frame. These youth were more likely to be from a more disadvantaged family and to participate in delinquency, and our findings may have differed should we have included them in the analyses. More generally, the findings with this sample might not be generalizable to youth outside of Arizona and the United States. Although the risk and protective factors we included in the regression models were well-documented in previous studies, to make the study's scope manageable, we did not include some other potential risks (e.g., substance use) and protective factors (e.g., support at school). Related to that, for each construct we studied, there were many other possible measures. The ten variables we used in LCA are not the only questions one could ask about parental monitoring and exposure to family violence, and our findings may be specific to the instrument. Lastly, although the use of self-reported arrests and delinquency is common in the field, future studies could have had additional information sources to cross-validate the measurement.

Despite the limitations, the findings of our study inform both policy and future research. Families that are stable and harmonious yet have clear rules and supervision are the most beneficial to youth, and programs and community efforts should view that as the aspirational goal. Yet in cases where not all goals are

attainable, the top priority needs to fall on preventing and resolving family conflicts, as youth from conflict-ridden families are particularly prone to delinquency. Our study also provides a piece of evidence for examining family structure and dynamics from multiple dimensions, and we encourage future studies to take additional dimensions such as socioeconomic status, home learning, and household discipline into consideration.

Figure 1. The Five-group LCA Model

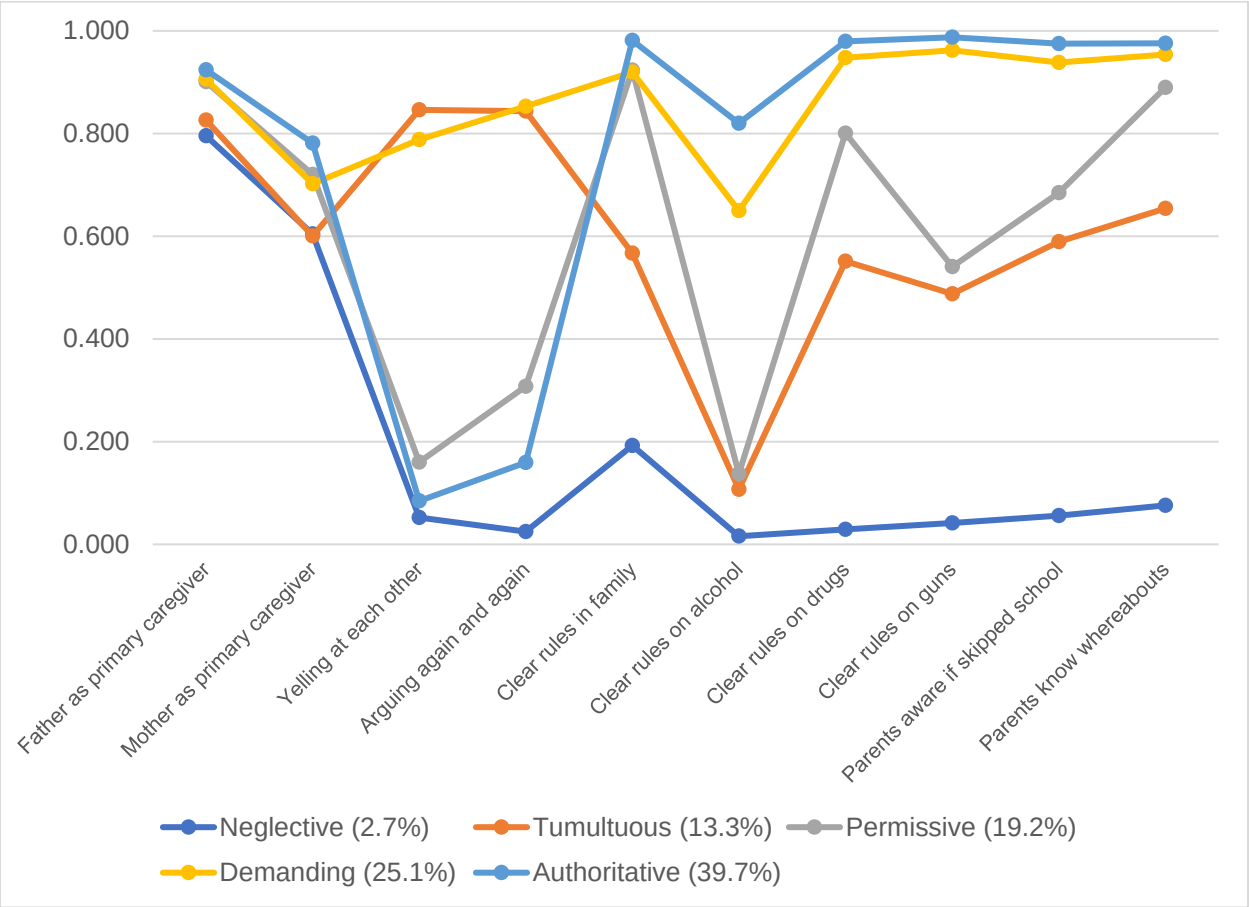

Table 1. Descriptive Stats

	n	*M*	*SD*	Min	Max
LCA Variables					
Father as primary caregiver	44,693	0.899	0.302	0	1
Mother as primary caregiver	44,693	0.721	0.449	0	1
Yelling at each other	44,693	0.376	0.484	0	1
Arguing again and again	44,693	0.449	0.497	0	1
Clear rules in family	44,693	0.878	0.327	0	1
Clear rules on alcohol	44,693	0.530	0.499	0	1
Clear rules on drugs	44,693	0.855	0.352	0	1
Clear rules on guns	44,693	0.803	0.397	0	1
Parents aware if skipped school	44,693	0.834	0.372	0	1
Parents know whereabouts	44,693	0.887	0.317	0	1
Female	44,378	0.507	0.500	0	1

Age	44,590	15.528	1.679	11	19
Grade					
8th	44,113	0.342	0.474	0	1
10th	44,113	0.365	0.481	0	1
12th	44,113	0.293	0.455	0	1
Race and Ethnicity					
White	44,388	0.507	0.500	0	1
Hispanic	44,308	0.462	0.499	0	1
Black	44,210	0.089	0.285	0	1
Asian	44,215	0.052	0.222	0	1
Native American	44,212	0.070	0.255	0	1
Hawaiian and Pacific Islander	44,206	0.021	0.144	0	1
Free/Reduced-Cost Lunch	44,195	0.471	0.499	0	1
Scales					
Low neighborhood attachment	42,815	2.260	0.798	1	4
Parental attachment	43,892	2.796	0.777	1	4
Parents favoring antisocial behaviors	44,603	1.337	0.537	1	4
Academic failure	43,645	2.045	0.704	1	4
Low commitment to school	44,451	2.642	0.668	1	5

Opportunities for prosocial involvement	44,557	2.878	0.479	1	4
Rebelliousness	44,543	1.756	0.740	1	4
Gang involvement	44,177	1.251	1.071	1	9
Belief in moral order	44,196	2.983	0.618	1	4
Prosocial involvement	44,454	2.510	1.191	1	5
Delinquency Among Four Best Friends					
Stealing	44,258	0.116	0.558	0	4
Selling drugs	44,194	0.339	0.901	0	4
Gang membership	44,229	0.183	0.708	0	4
Fighting	44,260	0.823	1.249	0	4
Arrested	44,260	0.229	0.713	0	4

Table 2. LCA Model Selection

	AvePPs						AIC	BIC	Sample-size Adjusted BIC	Entropy	Log likelihood	Lo-Mendell-Rubin LR test
	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6						
1	1.000						451011.73	451098.81	451074.57		-225495.87	
2	0.870	0.945					420273.47	420456.33	420303.54	.728	-210115.74	$\chi2(11) = 29831.58$, $p < .001$
3	0.840	0.866	0.883				411815.69	412094.33	411821.25	.699	-205875.84	$\chi2(11) = 8223.78$, $p < .001$
4	0.878	0.850	0.846	0.880			408029.42	408403.85	408016.14	.746	-203971.71	$\chi2(11) = 3693.29$, $p < .001$
5	0.944	0.782	0.792	0.741	0.821		404914.94	405385.15	404885.13	.684	-202403.47	$\chi2(11) = 3041.79$, $p < .001$
6	0.946	0.761	0.764	0.817	0.602	0.789	404476.31	405042.31	404424.67	.689	-202173.16	$\chi2(11) = 427.41$, $p < .001$

Table 3. Logistic Regression Models Explaining Self-Reported Crimes and Delinquency

	(1) Arrest	(2) Attacking	(3) Stealing
Family type			
Neglective	0.67***	0.29*	0.42***
	(0.15)	(0.13)	(0.10)
	[0.01]	[0.01]	[0.04]
Tumultuous	0.33**	0.54***	0.71***
	(0.11)	(0.07)	(0.05)
	[0.005]	[0.02]	[0.08]
Permissive	0.47***	0.41***	0.49***
	(0.10)	(0.07)	(0.05)
	[0.01]	[0.01]	[0.05]
Demanding	0.13	0.55***	0.41***
	(0.10)	(0.06)	(0.04)
	[0.002]	[0.02]	[0.04]
Female	-0.38***	-0.08	0.02
	(0.07)	(0.05)	(0.03)
	[-0.01]	[-0.003]	[0.002]
Age	0.13**	0.03	-0.06*
	(0.04)	(0.03)	(0.02)
	[0.002]	[0.001]	[-0.006]
Grade			
10th	-0.14	-0.54***	-0.14*

	(0.11)	(0.08)	(0.06)
	[-0.002]	[-0.02]	[-0.02]
12th	-0.30	-0.84***	-0.37***
	(0.18)	(0.14)	(0.10)
	[-0.004]	[-0.03]	[-0.04]
Race and Ethnicity (monoracial White as reference)			
Hispanic	0.13	0.07	-0.08*
	(0.07)	(0.05)	(0.03)
	[0.002]	[0.003]	[-0.01]
Black	0.16	0.38***	-0.01
	(0.10)	(0.07)	(0.05)
	[0.002]	[0.01]	[-0.001]
Asian	-0.18	0.22*	-0.08
	(0.16)	(0.10)	(0.07)
	[-0.002]	[0.01]	[-0.008]
Native American	0.18	0.06	0.16**
	(0.11)	(0.08)	(0.06)
	[0.003]	[0.002]	[0.02]
Hawaiian and Pacific Islander	0.49**	0.08	0.01
	(0.17)	(0.13)	(0.11)
	[0.007]	[0.002]	[0.0007]
Free/Reduced-Cost Lunch	0.17*	0.15**	0.05
	(0.07)	(0.05)	(0.03)
	[0.002]	[0.008]	[0.005]

Scales			
Low neighborhood attachment	0.10*	0.11***	0.04
	(0.04)	(0.03)	(0.02)
	[0.001]	[0.004]	[0.004]
Parental attachment	-0.13**	-0.01	-0.03
	(0.05)	(0.03)	(0.02)
	[-0.002]	[-0.001]	[-0.003]
Parents favoring antisocial behaviors	0.31***	0.37***	0.37***
	(0.05)	(0.03)	(0.03)
	[0.004]	[0.01]	[0.04]
Academic failure	0.38***	0.24***	0.24***
	(0.05)	(0.03)	(0.02)
	[0.01]	[0.01]	[0.03]
Low commitment to school	0.19**	0.01	0.17***
	(0.06)	(0.04)	(0.03)
	[0.003]	[0.0003]	[0.02]
Opportunities for prosocial involvement	-0.06	0.02	0.14***
	(0.07)	(0.05)	(0.04)
	[-0.001]	[0.001]	[0.01]
Rebelliousness	0.27***	0.43***	0.35***
	(0.05)	(0.03)	(0.02)
	[0.004]	[0.02]	[0.04]
Gang involvement	0.37***	0.22***	0.17***
	(0.02)	(0.02)	(0.02)
	[0.01]	[0.01]	[0.02]

Belief in moral order	-0.08	-0.63***	-0.85***
	(0.06)	(0.04)	(0.03)
	[-0.001]	[-0.02]	[0.01]
Prosocial involvement	0.11***	0.06**	0.07***
	(0.03)	(0.02)	(0.01)
	[0.001]	[0.002]	[0.008]
Delinquency Among Four Best Friends			
Stealing	0.001	0.17***	0.14***
	(0.04)	(0.03)	(0.03)
	[0.00002]	[0.01]	[0.01]
Selling drugs	0.06	0.05*	0.20***
	(0.03)	(0.02)	(0.02)
	[0.001]	[0.002]	[0.02]
Gang membership	-0.33***	-0.06	-0.13***
	(0.04)	(0.03)	(0.03)
	[-0.005]	[-0.002]	[-0.01]
Fighting	0.10***	0.34***	0.18***
	(0.03)	(0.02)	(0.01)
	[0.001]	[0.01]	[0.02]
Arrested	0.83***	0.16***	0.12***
	(0.04)	(0.03)	(0.03)
	[0.001]	[0.01]	[0.01]
n	38,945	38,945	38,945

Standard errors in parentheses, marginal effects in brackets

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

Table 4. The Five-group Model, with Scale Items Specified as Continuous

	Neglective		Tumultuous		Permissive		Demanding		Authoritative
	Average	SE	Average	SE	Average	SE	Average	SE	Average
Father as primary caregiver	0.807	0.013	0.812	0.007	0.900	0.003	0.902	0.003	0.925
Mother as primary caregiver	0.618	0.016	0.590	0.009	0.721	0.005	0.693	0.005	0.780
Yelling at each other	1.311	0.026	3.202	0.018	2.092	0.010	3.114	0.012	1.686
Arguing again and again	1.242	0.027	3.214	0.018	2.274	0.010	3.283	0.010	1.844
Clear rules in family	1.712	0.029	2.446	0.014	3.150	0.008	3.379	0.009	3.721
Clear rules on alcohol	1.141	0.026	1.777	0.015	2.137	0.009	2.806	0.012	3.345
Clear rules on drugs	1.189	0.022	2.335	0.016	3.074	0.009	3.609	0.010	3.858
Clear rules on guns	1.174	0.024	2.337	0.021	2.832	0.012	3.667	0.009	3.825
Parents aware if skipped school	1.209	0.024	2.432	0.020	2.948	0.010	3.649	0.009	3.823

Parents know whereabouts	1.436	0.029	2.629	0.014	3.117	0.008	3.529	0.008	3.746
% in sample	0.024		0.096		0.291		0.229		0.360

Note: Primary caregiver questions dichotomously coded. All other questions coded as 4-point Likert scales (1 = NO! and 4 = YES!). The table presents the average values for the scale questions for each class.

Table 5. Logistic Regression Models Explaining Self-Reported Crimes and Delinquency, Using Group Memberships Specified from the Alternative LCA Model

	(1) Arrested	(2) Attacking	(3) Stealing
Family type			
Neglective	0.48***	0.08	0.23***
	(0.14)	(0.11)	(0.08)
	[0.01]	[0.003]	[0.02]
Tumultuous	0.29***	0.20***	0.20***
	(0.11)	(0.07)	(0.05)
	[0.004]	[0.01]	[0.02]
Permissive	0.18	0.15***	0.13***
	(0.10)	(0.07)	(0.04)
	[0.002]	[0.01]	[0.01]
Demanding	0.15	0.27***	-0.09
	(0.12)	(0.07)	(0.05)
	[0.002]	[0.01]	[-0.01]

Note: All models used the same control variables as models presented in Table 3.

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