
SCHOOL CHARACTERISTICS AND RUNAWAY YOUTH

A panel study conducted on behalf of the National Runaway Switchboard examining the correlations between school level variables and runaway behavior by adolescents using crosstabs and hierarchical linear models.

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EXECUTIVE SUMMARY

The goal of this study is to examine the connection between school characteristics and runaway behavior. While a fair amount of research has analyzed the effects of school characteristics on adolescent behaviors including sexual behavior, drop-out rates, and academic achievement, the connection between school characteristics and adolescent runaway behavior has never been examined. In addition, this paper employs two types of dependent variables, both explicit runaway behavior and the more moderate behavior of spending a night away from home without parental permission. The study uses a nationally representative panel survey to identify the correlations between school characteristics at time one and the two measures of runaway behaviors for the same adolescents at time two. Exploratory crosstab analysis was used to pinpoint correlations between school level variables and runaway behavior. These results guided variable selection for the hierarchical linear model which examined both individual and school level correlates of runaway behavior. The results of this study offer compelling evidence that running away from home as an adolescent is correlated with school level characteristics and that schools vary in terms of the slopes of these relationships.

Key findings from the Chi Square Models:

- Students from schools in the South are the least likely to both run away (3.3 percent) and spend a night away (11.2 percent) from home. Students from schools in the West are the most likely to run away (5.2 percent) and spend a night away from home (16.2 percent).
- Students from schools in urban areas are less likely to spend a night away from home (12.4 percent) than students in either the suburbs or in rural areas (14.6 percent).
- Both runaway episodes and nights away without permission are more common for students in schools with average class sizes over 30.
- Parent involvement matters; in schools with more than 10 percent of parents involved in the school's parent teacher association, the night away rate is 2.1 percent lower than in schools with lower levels of involvement.

Key Findings of the Hierarchical Linear Models:

- School level variables continue to be statistically significant predictors of runaway behavior with the inclusion of individual level controls of race, gender, age, parental economic status, birthplace, and prior abuse history.
 - Schools with lower attendance rates, larger average class sizes, and faster teacher turnover have higher runaway rates.
 - Schools in the Northeast, schools with lower attendance rates, and lower levels of involvement in the parent teacher association have higher rates of spending a night away without parental permission. Students from schools in the South are less likely to stay away overnight without permission.

INTRODUCTION

Schools are an incredibly important influence on children's behavior. While a number of studies have analyzed the connection between school characteristics and adolescent behaviors including sexual behavior (Douglas, 2002), drop-out rates (Pittman & Perri, 1987; Russell, 1995), and academic achievement (Nancy & Lorraine, 2004; Stephen & Carl, 1997), the connection between school characteristics and adolescent runaway behavior has never been examined. Previous research has highlighted the serious, detrimental long term outcomes correlated with runaway behavior as an adolescent including lower wages, lower education level, higher arrest rates, lower health ratings, higher suicide levels, and greater dependence on public assistance (Benoit-Bryan, 2011). The severity of these outcomes warrants additional research in to the policy arenas where intervention and runaway prevention are possible such as schools. Understanding the school level correlates of runaway behavior is a first step to untangling the complex causes of running away from home and being able to leverage policy to effectively reduce adolescent runaway behaviors and the long term harms associated with them.

DATA

The data used in this study are from the National Longitudinal Study of Adolescent Health (Add Health), a nationally representative sample of over 15,000 adolescents who were followed in to adulthood with four longitudinal interview points. The study used a clustered school sampling design of adolescents in grades 7-12 during the 1994-1995 school year. These same participants were re-interviewed for wave two of the study during the 1995-1996 school year. This core in home sample is essentially self-weighting and consists of a nationally representative sample of 12,105 American adolescents in grades 7 through 12 (Mullan Harris, 2005).

The Add Health sample design is a school based sampling framework. Using the Quality Education Database a stratified sample of 80 schools (designated as high schools by including an 11th grade and having more than 30 students) was selected with probability of selection relative to size. Schools were stratified according to urbanicity, school type (public, parochial, private), ethnic mix, size, and region. A feeder school (usually a middle school) was selected for each high school resulting in a school pair in each of 80 different communities. Over 70 percent of schools originally included in the sample agreed to participate in the study. To fill out the sample, additional schools were selected within each stratum until a school (or school pair) was found who agreed to participate. If a school spanned grades 7 through 12, no feeder school was selected, resulting in a final sample of 132 schools.

Seventy-nine percent of the students selected in the first wave of the survey completed survey responses. Data collection for all four in home waves of the survey were conducted with audio computer assisted technology with sensitive items being self-administered and less sensitive material being interviewer administered. The second wave in home interview was completed in 1996 with the adolescents who were in grades 7 through 11 at wave one of the survey (N=14,738). Students who were in grade 12 at wave one of the survey were not included in the sampling frame for wave two, all respondents were under age 18 at the time of the second wave interview.

METHODOLOGY

This study examines runaway behavior in the 12-month period between the first and second waves of the Add Health survey. Two measures of runaway behavior were examined, both from wave two of the study (grades 8-12). The first measure asked whether or not the child had run away from home at any point in the past twelve months. However, in a qualitative study of shelter youth, many felt that the word “runaway” did not apply to them (Pergamit & Ernst, 2010). For this reason, we added a second dependent variable with a lower threshold, did the respondent spend a night away from home without parental permission in the past 12 months.

In this study we examine nine school level variables including classification, region of the country, school environment, class size, teacher turnover, achievement level of students in the school, parent involvement in the school, counseling resources available at the school, and attendance level at the school. The selection of the school level variables was informed by research into school level effects on drop-out rates and delinquency. The school level variables included two sets of geographic variables, region of the country with the options of Midwest, West, South, and Northeast, and environment with urban, suburban, and rural options. School type (public or private), school counseling resources for mental health, and the percent of parents at the school who were involved in the parent teacher association (PTA) were included in the model. School quality indicators included average class size, percent of the students below grade level, attendance level, and the percent of teachers who had been at the school for five years or longer.

Crosstab analysis with chi square estimates was used to measure differences in runaway rates by school characteristics. Hierarchical linear modeling (HLM) was used to isolate and differentiate between individual level effects and school level effects. A number of demographic variables were controlled for in the HLM models including gender, race, whether or not the individual was born in the United States, abuse history, parental public assistance, and age.

The correlates of runaway behavior are factors at the school level that are strongly associated with running away. Statistically significant findings were those at $p < .10$ indicating that the probability of the results occurring by chance is less than 10 percent.

We also report the Pearson Chi Square values which are used to assess the magnitude of the differences between the groups and can be compared across tables.

The second section of analysis incorporates the school level variables that were significant predictors of adolescent runaway behavior with individual level controls in a random effects hierarchical linear model. Hierarchical linear models were used instead of logistic regressions because they allow for random effects at the school level, enabling schools to have different slopes for the predictor variables. Demographic variables and known correlates of runaway behavior were included in the model as controls. The variables selected for inclusion were found to be significant predictors of runaway behavior in previous research (Benoit-Bryan, 2011). These variables include gender, whether or not the student has a parent on public assistance, race / ethnicity (Hispanic, African-American, American Indian, and Asian or Pacific Islander with Caucasian as the reference group), age, whether or not the student was born in the United States, neglect before age 12, physical abuse before age 12, and sexual abuse before age 12.

FINDINGS

The first set of crosstabs analyzes whether or not geographical characteristics of school locations are correlated with runaway and night away reports by adolescents. We find that there are statistically significant differences between region of the country and both runaway and night away behaviors. Interestingly, the patterns are similar for the two groups, the highest runaway and night away reports are for the West and the Northeast while the lowest are for the South. In terms of school environment, only night away had statistically significant differences with individuals from urban areas less likely to spend a night away from home without permission than in both suburban and rural areas (see Table 1).

Table 1 – Crosstab Analysis of Geographical School Level Indicators and Runaway Indicators

		<i>Runaway</i>			<i>Night Away</i>		
Region of the Country		<i>No</i>	<i>Yes</i>	<i>Chi Square</i>	<i>No</i>	<i>Yes</i>	<i>Chi Square</i>
	<i>Midwest</i>	95.6%	4.4%	31.540***	85.2%	14.8%	82.579***
	<i>West</i>	94.8%	5.2%		83.8%	16.2%	
	<i>South</i>	96.7%	3.3%		88.8%	11.2%	
	<i>Northeast</i>	94.8%	5.2%		84.1%	15.9%	
		<i>Runaway</i>			<i>Night Away</i>		
School		<i>No</i>	<i>Yes</i>	<i>Chi Square</i>	<i>No</i>	<i>Yes</i>	<i>Chi Square</i>

Environment	Urban	95.5%	4.5%	2.155	87.6%	12.4%	16.406***
	Suburban	95.7%	4.3%		85.4%	14.6%	
	Rural	96.1%	3.9%		85.4%	14.6%	

Significance Level * p<.10, ** p<.05, *** p<.01

The next set of analysis is crosstab models for all of the internal school characteristics in the study. We found fairly consistent results for two of the school level characteristics for runaway and night away behaviors. Public schools have higher rates than private schools of both runaway behaviors, .9 percent higher, and night away behaviors, 2.1 percent higher. In addition, schools with class sizes over 30 have higher runaway rates and higher night away rates than schools with smaller class sizes. Schools with attendance below 90 percent have higher levels of both runaway behavior, 3.5 percent higher, and night away without permission, 1.4 percent higher.

We found that having a large proportion of students who are below grade level (more than 25 percent of students) and having low levels of parental involvement (less than 10 percent) are both correlated with higher night away behaviors. For runaway behavior, there was a statistically significant negative correlation between length of time a teacher had worked at a school and runaway behaviors of the students in the school. Schools where more than half of their teachers have been at the same school for five years or more have runaway rates that are .4 percent lower than schools with teachers without this level of tenure. There was no statistically significant correlation between availability of mental health counseling in schools and either runaway or night away behaviors (see Table 2).

Table 2 – Crosstab Analysis of School Level Characteristics and Runaway Indicators

		Runaway			Night Away		
		No	Yes	Chi Square	No	Yes	Chi Square
Type	Public	95.7%	4.3%	2.663*	85.9%	14.1%	4.612**
	Private	96.6%	3.4%		88.0%	12.0%	
Class Size Over 30	No	96.0%	4.0%	10.247**	86.7%	13.3%	14.772***
	Yes	95.9%	5.0%		84.5%	15.5%	
>50% Teachers 5 Years+ at School	No	95.4%	4.6%	2.074*	85.6%	14.4%	1.616
	Yes	95.8%	4.2%		86.3%	13.7%	
>25% Students Below Grade	No	95.8%	4.2%	.380	85.3%	14.7%	25.026***
	Yes	95.6%	4.4%		88.0%	12.0%	
Attendance Below 90%	No	94.5%	92.0%	9.572**	94.6%	93.2%	9.315**
	Yes	5.5%	8.0%		5.4%	6.8%	
Mental Health Counseling	No	95.5%	4.5%	2.155	86.2%	13.8%	.191
	Yes	95.9%	4.1%		86.0%	14.0%	
<10% Parent	No	95.5%	4.5%		84.7%	15.3%	

<i>Involvement?</i>	No	95.8%	4.2%	.821	86.8%	13.2%	16.434***
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Significance Level * p<.10, ** p<.05, *** p<.01

The next section of results combines individual and school level variables in hierarchical linear models. All of the variables are included in the initial model with subsequent iterations eliminating insignificant variables to arrive at the most concise model. First, we'll examine the hierarchical linear model for runaway behavior. None of the geographic school level variables were statistically significant in the HLM analysis when individual level controls were included in the model. However, for the internal school level characteristics, all of the variables found significant in the crosstab models continued to be significant predictors except for school type. This indicates that schools with low attendance, large class size, and short lengths of teacher tenure all have students with higher runaway behaviors.

At the individual level, we find that being female, being born in the United States, having been neglected, physically, or sexually abused as a child, and having members of your family on public assistance are significantly correlated with higher levels of runaway behavior. While the race of American Indian / Native American is not correlated with runaway behavior at a statistically significant level when this variable is limited to individuals in urban areas, a statistically significant positive effect on the slope emerges (see Table 3). The slopes for five of the individual level variables varied significantly by school, Indian, prior neglect, prior physical abuse, prior sexual abuse, and parent on public assistance.

Table 3 – Hierarchical Linear Model of Individual and School Level Correlates of Runaway Behavior

	Coefficient	P-Value
<i>SCHOOL LEVEL</i>		
Low Attendance	.030	.000
Class Size	.030	.001
Low Teacher Turnover	-.001	.093
<i>INDIVIDUAL LEVEL</i>		
Female	.066	.000
Born US	.035	.000

Neglect	.083	.000
Physical Abuse	.090	.000
Sexual Abuse	.059	.031
Family on Public Assistance	.058	.000
Indian	.024	.143
<i>Rural</i>	.053	.092

The next hierarchical linear model examines the correlations between individual and school level variables and the dependent variable of night away from home without parental permission. In this model, two of the geographic school level predictors remain statistically significant. Even when controlling for all of the individual level variables, students from schools in the south are less likely to stay away from home overnight without parental permission while students from the northeast are more likely to stay away from home overnight without parental permission. Of the five interior school level predictors only low attendance and high parent involvement in the school remain statistically significant. Students are more likely to spend a night away from home without parental permission when they attend schools with attendance levels that are lower than 90 percent. In addition, the level of parent involvement in a school is important, in schools with more than 10 percent of parents involved in their pta, the students are less likely to spend a night away from home without parental permission. At the individual level, we find that having a parent on public assistance, being male, being born in the United States, and previous neglect or physical abuse are associated with higher probabilities of spending a night away from home (see Table 4). We also found that school slopes varied significantly for the individual variables of neglect and gender.

Table 4 – Hierarchical Linear Model of Individual and School Level Correlates of Spending a Night Away from Home without Parental Permission

	Coefficient	P-Value
<i>SCHOOL LEVEL</i>		
Low Attendance	.067	.093
High Parent Involvement in School	-.001	.006

South	-.033	.069
Northeast	.052	.009
<i>INDIVIDUAL LEVEL</i>		
Family on Public Assistance	.033	.097
Female	-.100	.000
Born in US	.063	.003
Neglect	.176	.000
Physical Abuse	.108	.000

DISCUSSION

This analysis provides strong support for the conclusion that school characteristics are important predictors of both adolescent runaway behavior and spending the night away from home without parental permission. These findings highlight differences between the more severe action of running away from home and the less severe action of spending a night away from home without permission. While both of these types of behaviors are significantly correlated with both individual and school level variables, they do vary in important ways.

For the runaway HLM model, school attendance rate, level of teacher turnover and class size were the significant school level predictors. While these last two measures address different issues, they do both contribute to the level of attention students may receive from teachers. Smaller classes have more individualized teacher attention per student, and teachers who have been with a school for longer than five years may be more comfortable with the students and more committed to the success of students in the school. The significance of these variables indicates that the teachers themselves are important with respect to adolescent runaway behavior.

For the night away from home model, school attendance rate, level of parent involvement in the PTA and geographical region were the significant school level predictors. The significance of both South and Northeast regions as predictors of night away from home behaviors indicates that geographic culture and norms are important predictors of the “acceptability” of spending a night away from home without parental permission. It is interesting to compare this finding to the lack of any significant geographic school level predictors of runaway behavior, this may be because the seriousness or stigma of runaway behavior does not vary geographically, while that of the less serious rebellious behavior of night away from home without permission does vary geographically. The significance of the parent involvement variable indicates that having parents that are very involved in their children’s schools may reduce the likelihood of some rebellious behaviors such as spending a night away from home

without permission. Higher parental involvement in schools may reduce rebellious behavior because parents have more time or are more committed to being involved in their kids' lives. It may also be that schools where most of the parents are involved increase parental network ties, which helps them keep better track of their adolescents.

This research offers evidence to policymakers that school level variables are important factors in the mix of variables that determine runaway behaviors. Further research on school level variables and their relationship to runaway behaviors is certainly warranted.

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