Attitudes toward School and School Plans, Given Levels of Family Alcohol, Substance, and Physical Abuse

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Abstract

School-related outcomes are the current focus of investigations at the secondary education level in the context of health and human service efforts in schools, in an attempt to broaden our impact at this important stage of youth development. We investigate whether child abuse and parental drug and alcohol abuse influence teens' attitudes toward school and their school-related future plans. Potential differences due to family structure and ethnic background are explored.
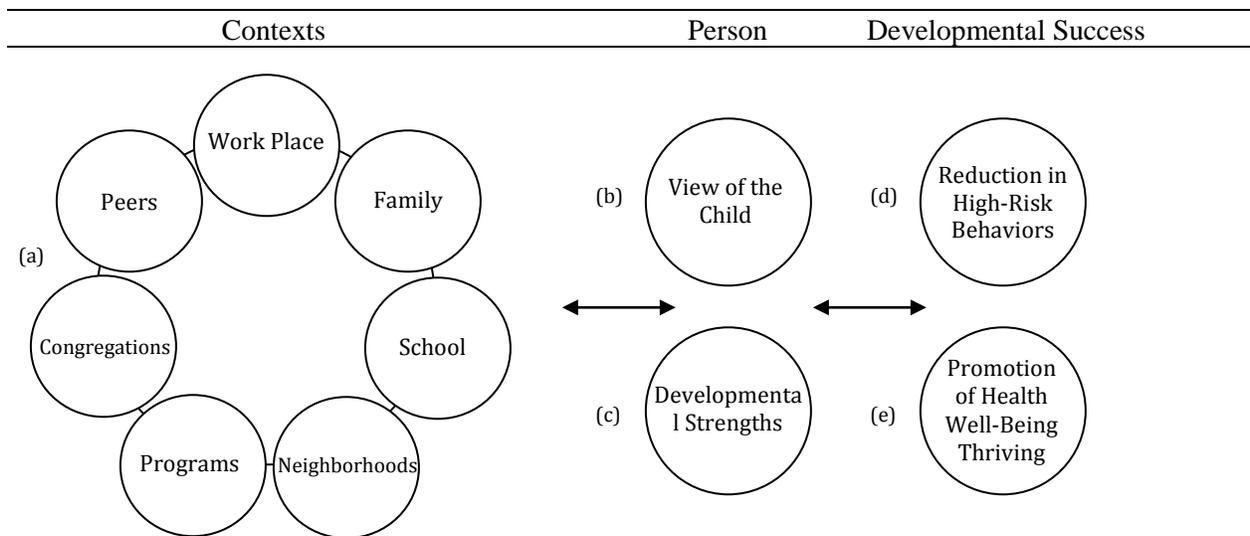
Perspectives

Youth Development

In the theory and research on positive youth development, there are six essential principles on which there is broad consensus (Benson, Scales, Hamilton, & Sesma, 2006). These principles including (a) youth have the inherent capacity for positive development; (b) positive development is enabled through relationships, contexts, and environments that nurture development; (c) positive development is enhanced when youth participate in multiple meaningful relationships, contexts, and environments; (d) all youth benefit from these opportunities, the benefits of which generalize across gender, race, ethnicity, and family income; (e) community is a critical delivery system for positive youth development; and (f) youth themselves are major actors in their own development, serving as a central resource for creating the kinds of relationships, contexts, environments (ecologies), and communities that facilitate optimal development. Positive development resulting in school engagement and positive outlook breaks down when these elements are not working in concert or when serious problems occur.

Positive development is impaired through the potentially negative effects resulting from breakdowns in multiple principles, where family relationships, contexts, and environments are impaired through alcohol or drug use and physical abuse by adults in the family. The context of family structure should also have a role to play in the ability of youth to be resilient to adult substance and physical abuse in the family.

Youth are located within (a) a developmental contexts from an ecological perspective (Figure 1); which interacts with (b) the inherent capacity of youth to grow and thrive; (c) their developmental strengths, skills, competencies, values and dispositions; and two related aspects of developmental success, (d) the reduction of high-risk behaviors and (e) the promotion of healthy well-being or thriving (Benson, et al., 2006). This is the complex environment in which positive youth development can be realized, or impaired.

Work Place

Peers   Family

(a)

Congregations   School

Programs   Neighborhoods

(b) View of the Child

(c) Developmental Strengths

(d) Reduction in High-Risk Behaviors

(e) Promotion of Health Well-Being Thriving

Figure 1. Core Positive Youth Development Constructs.
Source: Benson, Scales, Hamilton, & Sesma (2006)

        Benson et al. (2006) also identified three theoretical strands that contribute centrally to the theory of youth development, an area that integrates multiple theoretical orientations, including human development, community organization and development, and social and community change. With respect to these, they cite Damon (2004) from his article "What is Positive Youth Development," who argued that a positive vision of youth potential has implications for research, education, and social policy. They also cite Lerner's (2002) statement that "changes across the life span are seen as propelled by the dynamic relations between the individual and the multiple levels of the ecology of human development (family, peer group, school, community, culture), all changing interdependently across time" (Lerner, as cited by Benson et al., p. 904). McLoyd (1998); Rodriguez and Morrobel (2004); Sesma and Roehlkepartain (2003); Spencer (1995), and others are investigating important cultural contexts relevant to the development of ethnic minority youth.

A Focus on Parental Substance & Physical Abuse
        According to the National Children Abuse and Neglect Data System (2011), about twelve in every one thousand children under the age eighteen are confirmed victims of child abuse, with parents of the children accounting for about eighty percent of the perpetrators. The prevalence of parental drug or alcohol abuse is similar—the Substance Abuse and Mental Health Services Administration estimates that nine percent of U.S. children live with at least one parent who abuses alcohol or drugs (Child Welfare Information Gateway, 2009). Studies demonstrate that children abused by a parent and children of alcohol or drug abusing parents may face serious problems as a result (Melchert, 2000; Burke, Schmied, & Montrose, 2006).
        Studies have found that parental alcohol abuse is associated with depression, anxiety, substance abuse, relationship problems, and antisocial behavior for adult children of alcoholics (Melchert, 2000). Families faced with parental alcohol misuse tend to perceive their environment to be less cohesive, lack rituals, routines, and warmth, and have more aggression and unresolved conflict (Burke, Schmied, & Montrose, 2006). Problems most closely associated with children who are abused by a parent are low self-esteem and posttraumatic stress disorder in those who

are sexually abused (Melchert, 2000). Though issues related to child abuse and children of alcohol or substance abusing parents are common topics of research, the literatures tend to focus on affected children once they become adults. Furthermore, most related studies appear to focus on the social and psychological consequences of children abused by a family member and children of drug or alcohol abusing parents. There has been minimal research regarding the impact that child abuse or parental substance abuse has on children's education.

According to The Center on Addiction and the Family, children from substance abusing families are more likely to have learning disabilities, repeat more grades, attend more schools, miss more classes, and drop of out of school due to pregnancy, expulsion, or institutionalization. In a study by Lansford et al (2002), adolescents who had been maltreated were less likely to plan on attending college than those who did not report maltreatment, even after controlling for other risk factors. The tendency for children of alcohol abusing parents to achieve less education success may be due in part to a lack of parent involvement and support for learning (Burke, Schmied, & Montrose, 2006). More generally, "substance misuse can demand a significant proportion of a parent's time, money and energy, which will unavoidably reduce resources available to the child" (Lewis, 1997).

Methods & Data Source

Minnesota Student Survey (MSS)

The current study entails a secondary analysis of the Minnesota Student Survey database. The survey was designed by an interagency team from the MN Department of Education, Health and Human Services, Public Safety, and Corrections to monitor important trends and support planning efforts of local public school districts and the four collaborating state agencies. The MSS is administered every three years to students in 6th, 9th, and 12th grade. During each administration year, all operating public school districts are invited to participate, including correctional facilities housing youths. In 2010, 130,908 students participated. The diversity of the sample is quite good (for Minnesota) and increases across the three periods. In 2010, over 8% were Black, over 6% were Latino, over 6% were Asian, and 5% were American Indian. Because of the large sample, even the smallest group, 5% American Indian, included 6440 students.

Analysis

Analyses include descriptive statistics on all variables and by group on the primary outcome variables of attitude toward school and school-related plans based on the background variables of ethnicity and family structure and the rates of parental alcohol and drug use and parental violence toward the student. These variables were then compared through a series of *t*-tests (for subgroup differences in rates of family-related problems), Chi-square tests (for the ordinality of school attitude and school plans), and correlations among the outcomes and student background and family variables.

A generalized linear model was used to assess the combined effects of Race/Ethnicity, family structure, and family problems and their association with school attitudes and plans. The generalized linear model with cumulative logit link function (GLM-CL) procedure expands the general linear model so that the dependent variable is linearly related to the factors via a specified link function. The model allows for the dependent variable to have a non-normal distribution. The link function here is the cumulative logit, $f(x)=\ln(x / (1-x))$, applied to the

cumulative probability of each category of the response. This is appropriate only with the multinomial distribution.

The GLM-CL models were built similarly for both Feelings about going to school (Feelings) and school plans (Plans), using the dichotomously coded Race/Ethnicity variables, the presence of the biological mother or biological father, and the experience of family adult alcohol use, drug use, or physical abuse. All possible two-way interactions were assessed between the Race/Ethnicity indicators and presence of biological parents with the abuse indicators (39 interaction terms). The interaction terms that were not significant were removed in one step to simplify the model. The results of each final model for the two outcomes are reported in the appendix.

Finally, the Plans model was modified by including Feelings as a covariate, addressing the significance of variables explaining variation in school plans controlling for Feelings about going to school. This model was based on the final modified Plans model by including Feelings as another factor in the model. The Plans model includes the 77,940 students in Grades 9 and 12 with valid responses, since only high school students were asked about their post-high school plans. The Feelings model includes 130,908 students, including students in grades 6, 9, and 12.

The primary research questions were based on the (null) hypothesis that attitudes toward school and school plans should be positively related and unaffected by family-related problems (ideally, youth should be able to separate family problems and attitudes about school, but we know from practice that kids are not able to do so). These associations are then examined given family structure (who the student lives with biological parents) and ethnic background to understand relevant characteristics affecting the associations between school attitudes/plans and rates of family-related problems (adult alcohol, drug, and physical abuse).

Results

Adult Problems in the Family

Students reported family alcohol problems (14.2%), drug problems (9.5%), and physical abuse by an adult in the household (10.2%). There is a significant relation between family alcohol problems and drug problems (r=.48, p<.001). Physical abuse in the home is significantly related to family alcohol problems (r=.21, p<.001) and drug problems (r=.20, p<.001). These associations are described more completely here.

As expected, there was a moderate association between drug-use associated problems and alcohol-use associated problems, (χ^2=27885, p<.001, Cramér's ϕ=.48). Of those families with adult drug-use problems, 65% also had alcohol-use problems; however, of those with alcohol-use problems, 43% also had drug-use problems.

There was an association between alcohol-use associated problems and physical abuse, although a weaker association (χ^2=5168, p<.001, Cramér's ϕ=.21). Of those with alcohol-use problems, 25% also experienced physical abuse; of those experiencing physical abuse, 35% also reported alcohol-use problems.

Similarly, there was an association between drug-use associated problems and physical abuse (χ^2=4702, p<.001, Cramér's ϕ=.20). Of those with drug-use problems, 28% also experienced physical abuse; of those experiencing physical abuse, 26% also reported drug-use problems.

Ethnic Background Differences

        The presence of alcohol and drug use problems by adults in families and the experience of physical violence by adults toward youth differ across families of different race and ethnic backgrounds (see Table 1). American Indian students experience family alcohol, drug, and physical abuse at nearly twice the rate of non-American Indian students ($p<.001$). Black, Mexican American, and other Latino students experience all three home-related problems at rate about 50% higher ($p<.001$) than their counterparts. Asian students experience about 20% less family alcohol problems and about 50% more physical violence in the home ($p<.001$). White students experience about 30% less parental drug use and over 40% less physical violence in the home ($p<.001$).

Table 1
Family Problem Rates by Race/Ethnicity

Race/Ethnicity		Alcohol problems	Drug problems	Physical violence
American Indian	Rate	.26	.20	.18
	n	6035	6004	6008
Black	Rate	.17	.15	.18
	n	9339	9304	9275
Latino: Mexican Origin	Rate	.19	.14	.15
	n	5768	5751	5744
Latino: Other Origin	Rate	.20	.15	.18
	n	2075	2077	2062
Asian	Rate	.11	.09	.15
	n	7800	7758	7773
White	Rate	.14	.09	.09
	n	98294	98117	98160

Family Situation Differences

        Similarly, we find differences in rates of adult alcohol and drug use problems and physical violence, based on family structure (see Table 2). Students who live with both biological parents (62.4% of MSS population) experience less than half the rates of alcohol and drug related problems and half the rate of physical violence ($p<.001$). Students who live with their biological mother or father, but not both, (21.5% and 4.0% respectively) experience much higher rates of alcohol (255% more) and drug (266% more) related problems and nearly 200% more physical violence ($p<.001$). Students who live with neither biological parent experience similar rates to those living with one of their biological parents.

6

Table 2
Family Problem Rates by Family Structures

Family Structure (Percent with each structure)		Alcohol problems	Drug problems	Physical violence
Both biological parents (62.4%)	Rate	.09	.06	.07
	n	77686	77532	77550
Biological mother (21.5%)	Rate	.23	.16	.14
	n	26035	25968	25946
Biological father (4.0%)	Rate	.25	.18	.16
	n	4832	4815	4804
Neither (12.1%)	Rate	.22	.16	.16
	n	14652	14619	14657

Note. Family structure is actually more complicated in the database, as students can live in a large number of possible structures, including step-parents, adoptive parents, other family, and non-relatives. These four structures focus on the presence of biological parents.

School Attitudes

There is a dramatic increase in rates of home-related problems for students who dislike school compared to those who like school (Table 3).

Table 3
Family Problem Rates by Feelings Toward School

How do you feel about going to school? (Percent with each response)		Alcohol problems	Drug problems	Physical violence
I like school very much. (15.6%)	Rate	.11	.08	.09
	N	19259	19218	19213
I like school quite a bit. (35.4%)	Rate	.12	.07	.08
	N	44228	44104	44140
I like school a little. (30.5%)	Rate	.15	.10	.10
	N	37722	37636	37667
I don't like school very much. (11.5%)	Rate	.19	.13	.13
	N	14296	14278	14291
I hate school. (6.8%)	Rate	.25	.19	.20
	N	8249	8230	8202

Based on Chi-square tests of association, changes in rates of all three home-related problems were statistically significant ($p<.001$). From liking school very much to hating school, alcohol problem rates increased by 127% ($\chi^2=1425$, $p<.001$, Cramér's $\phi=.11$), drug problem rates increased by 100% ($\chi^2=1227$, $p<.001$, Cramér's $\phi=.10$), and rates of physical violence rates increased by 122% ($\chi^2=1205$, $p<.001$, Cramér's $\phi=.10$).

School Plans

There is a significant increase in rates of home-related problems among students who have limited school plans (Table 4).

Table 4
Problem Rates by School Plans

Which of these <u>best</u> describes your school plans? (Percent with each response)		Alcohol problems	Drug problems	Physical violence
I would like to quit school as soon as I can. (1.3%)	Rate	.36	.32	.31
	n	981	978	978
I plan to finish high school but don't think I'll go to college. (4.9%)	Rate	.22	.17	.16
	n	3696	3689	3691
I'd like to go to some kind of trade school or vocational school after high school. (4.3%)	Rate	.22	.15	.11
	n	3359	3355	3350
I'd like to go to college after high school. (56.9%)	Rate	.16	.10	.09
	n	44996	44934	44936
I'd like to go to college and then go on after college to graduate or professional school. (32.6%)	Rate	.14	.08	.08
	n	26116	26085	26026

Based on Chi-square tests of association, changes in rates of all three home-related problems were statistically significant ($p<.001$). From planning to go to graduate/professional school to wanting to quit school as soon as possible, alcohol problem rates increased by 157% ($\chi^2=588$, $p<.001$, Cramér's $\phi=.09$), drug problem rates increased by 300% ($\chi^2=900$, $p<.001$, Cramér's $\phi=.11$), and rates of physical violence rates increased by 288% ($\chi^2=817$, $p<.001$, Cramér's $\phi=.10$).

There is a significant, moderate association between Feelings about school and school plans ($\chi^2=11910$, $p<.001$, Cramér's $\phi=.38$; Pearson $r=.30$, and Spearman $r=.27$). Nearly 95% of students who like school very much plan to go to college or beyond; whereas 65% of the students who hate school plan to go to college or beyond (Table 5).

Table 5
School Plans by Feelings about Going to School

How do you feel about going to school?	School plans				
	I would like to quit school as soon as I can.	I plan to finish high school but don't think I'll go to college.	I'd like to go to some kind of trade school or vocational school after high school.	I'd like to go to college after high school.	I'd like to go to college and then go on after college to graduate or professional school.
I like school very much.	.01	.03	.02	.43	**.51**
I like school quite a bit.	.00	.02	.02	**.55**	.40
I like school a little.	.00	.05	.05	**.64**	.26
I don't like school very much.	.01	.09	.07	**.62**	.20
I hate school.	**.12**	**.15**	.09	.48	.17
Total	.01	.05	.04	.57	.33

Note. Proportions are within each level of Feelings about going to school.

Modeling Feelings about Going to School and School Plans

A generalized linear model was used to assess the combined effects of Race/Ethnicity, family structure, and family problems and their association with school attitudes and plans. The results of each final model for the two outcomes (Feelings and Plans) are reported in the appendix.

Finally, the Plans model was modified by including Feelings as a covariate, addressing the significance of variables explaining variation in school plans controlling for Feelings about going to school.

Briefly, regarding the similarities among the two models (Feelings and Plans), there were 13 significant predictors ($p<.01$) in common between the two models. The interpretations here all include the proviso: all else equal (holding all other variables constant). First, there were a few significant racial background effects, including differences in Feelings and Plans for students from Asian, Latino, and Black families, compared to White families. For students in these three groups, their feelings about going to school are more positive. For students from Asian and Black families, their school plans are more positive, but for students from Latino families, their plans are less positive. Students living with only one or neither of their biological parents have more negative feelings about going to school and lower school plans. And as expected, students experiencing adult alcohol, drug, or physical abuse in the family experience more negative feelings and lower plans.

There were four significant interactions ($p<.01$ for both models) suggesting some differences regarding the presence of alcohol and physical abuse in the family: The negative effect of alcohol problems on Feelings and Plans was slightly less negative among American

Indian students (suggesting some resilience among AI students, perhaps because of the greater incidence of alcohol abuse in these communities, see Table 1). Also, the negative effect of physical abuse was less so for American Indian students and Asian students.

Modeling School Plans Conditioned on Feelings about Going to School

We focus our interpretation here on the final model explaining variation in school plans, conditioned on feelings about going to school and racial background, family structure, and the presence of family adult alcohol, drug, and physical abuse (Table 6). In the full Plans model, there were 21 significant variables and interactions. In the Plans model conditioned on Feelings, there were 14 significant variables and interactions, in addition to the 14 interactions introduced by the Feelings variable. Perhaps most interesting, is the constant negative effects on school plans for students that do not live with both biological parents; these remained even after conditioning on feelings about going to school.

We also find a shift in the effects of adult alcohol, drug, and physical abuse in the family. After conditioning on feelings about going to school, only adult drug-use problems has a negative effect on school plans. Alcohol problems and physical abuse no longer are significant. However, there is a complicated set of interactions with alcohol problems. For students living with either biological mother or biological father, the presence of alcohol problems has a slightly positive effect on school plans (again, controlling for all other variables); whereas the presence of alcohol problems has a negative effect on school plans for students in Asian or Black families. In addition, the negative effects of alcohol problems and physical abuse are increased for students experiencing both in the family.

For Asian and Black students, increases in positive feelings about going to school have a greater association with higher school plans. For students with negative feelings (level 4 or 5) who also live with their biological father (and not biological mother) have even lower school plans.

Table 6
GLM Effects Explaining Variation in School Plans

Variables	B	SE	Log-odds	p
Feelings about school:				
Feelings 5: I hate school.	-2.10	0.05	0.12	.000
Feelings 4: I don't like school very much.	-1.62	0.04	0.20	.000
Feelings 3: I like school a little.	-1.17	0.03	0.31	.000
Feelings 2: I like school quite a bit.	-0.58	0.03	0.56	.000
Latino Descent	-0.60	0.10	0.55	.000
American Indian	-0.83	0.23	0.44	.000
Lives with neither biological parent	-0.72	0.07	0.49	.000
Lives with biological father	-0.43	0.11	0.65	.000
Lives with biological mother	-0.60	0.06	0.55	.000
Adult alcohol use problems	0.04	0.08	1.04	.603
Adult drug use problems	-0.40	0.09	0.67	.000
Adult physical abuse of student	-0.16	0.08	0.85	.058
Interactions:				
[Feelings=5] * [Race unknown]	-0.62	0.19	0.54	.001
[Feelings=4] * [Asian]	0.68	0.14	1.96	.000
[Feelings=4] * [Black]	0.56	0.14	1.75	.000
[Feelings=3] * [Asian]	0.40	0.10	1.49	.000
[Feelings=3] * [Black]	0.40	0.10	1.49	.000
[Feelings=2] * [Black]	0.28	0.10	1.32	.005
[Feelings=5] * [Neither biological parent]	-0.33	0.11	0.72	.003
[Feelings=5] * [Biological Father]	-0.44	0.16	0.65	.006
[Feelings=4] * [Neither biological parent]	0.30	0.10	1.35	.002
[Feelings=4] * [Biological Father]	-0.37	0.14	0.69	.007
[Feelings=3] * [Neither biological parent]	0.32	0.08	1.37	.000
[Feelings=2] * [Neither biological parent]	0.29	0.08	1.34	.000
[Feelings=2] * [Biological Mother]	0.17	0.06	1.19	.006
[Feelings=3] * [Drug problem]	0.30	0.10	1.35	.002
[Race unknown] * [Neither biological parent]	-0.77	0.14	0.46	.000
[Race unknown] * [Biological Mother]	-0.53	0.12	0.59	.000
[Black] * [Neither biological parent]	-0.53	0.11	0.59	.000
[Asian] * [Alcohol problem]	-0.36	0.11	0.70	.001
[Black] * [Alcohol problem]	-0.33	0.10	0.72	.001
[Biological Father] * [Alcohol problem]	0.26	0.09	1.29	.003
[Biological Mother] * [Alcohol problem]	0.19	0.05	1.20	.000
[Alcohol problem] * [Physical abuse]	-0.21	0.06	0.81	.000

Technical Note Regarding Interpretation of GLM Results

The coefficients (B) represent the change in cumulative logit (due to the link function) applied to the cumulative probability of each category of the response. These were transformed to log-odds (also in the results tables) of being in the next level on the response variable (either more positive regarding going to school or higher school plans) due to identification with a predictor (race/ethnic group, presence of mother or father, presence of family problems).

The log-odds can be interpreted as in the following example based on the results presented in Table 6:

> Students of Latino descent and living with adults with drug use problems are associated with lower school plans. For students who are of Latino descent, the expected ordered log odds decreases by 0.55 as you move to the next higher level of school plans; that is, these students are 0.55 as likely to have higher school plans than the reference group, White students. For students who experience adult drug-use problems in the family, we expect a 0.67 decrease in the expected log-odds as you move to the next higher level of school plans; that is, these students are 0.67 as likely to have higher school plans than students not experiencing adult drug use problems in the family.

Discussion

The results here are clear on a number of points. Feelings about going to school are clearly associated with school plans. Students from some ethnic communities, particularly Latino, American Indian, and Black students (given interaction terms), uniformly have lower school plans, even after conditioning on feelings about going to school. The students who live with only one biological parent or neither experience significantly lower school plans, which are made even lower for students with negative feelings about going to school (particularly for students not living with their biological mothers). Finally, the presence of adult drug-use problems in the family uniformly lowers students' school plans, all else equal, and for some subgroups, the presence of alcohol problems significantly affects school plans as well. Physical abuse has a significant negative effect when it is accompanied by alcohol-use problems.

As education beyond a high school diploma is becoming increasingly vital to work success, we believe research investigating the effects of child abuse and parental alcohol and drug abuse have on children's school attitudes and plans is critical. Schools should attempt to identify children facing these types of family problems and implement strategies such as asset building in order to help combat the negative impact of family problems on educational outcomes and post-high school education seeking behavior.

The presentation will attempt to draw some implications for educators, community leaders, youth workers, and health and human services program personnel.

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Appendix
Full Model GLM Results for Feelings About Going to School and School Plans

Variables	Feelings about going to school			School plans		
	Log-odds	SE	p	Log-odds	SE	p
Unknown race [race=8]	0.93	0.04	.068	1.09	0.07	.231
Multi-racial [race=7]	0.98	0.03	.483	1.07	0.05	.138
Asian [race=5]	1.81	0.03	.000	1.54	0.04	.000
Latino [race=3]	1.54	0.04	.000	0.64	0.06	.000
Black [race=2]	1.77	0.05	.000	1.71	0.07	.000
American Indian [race=1]	0.93	0.08	.385	0.48	0.13	.000
[White, reference group]						
Lives with neither biological parent [parents=4]	0.79	0.02	.000	0.58	0.03	.000
Lives with bio. father [parents=2]	0.63	0.04	.000	0.47	0.05	.000
Lives with bio. mother [parents=1]	0.69	0.02	.000	0.58	0.02	.000
[Lives with both, reference group]						
Adult alcohol problems	0.70	0.03	.000	0.90	0.04	.003
Adult drug problems	0.69	0.04	.000	0.73	0.05	.000
Adult physical abuse of student	0.61	0.03	.000	0.80	0.04	.000
[race2=8] * [parents=4]	1.02	0.08	.832	0.44	0.14	.000
[race2=8] * [parents=2]	1.10	0.16	.551	1.10	0.26	.712
[race2=8] * [parents=1]	1.08	0.07	.263	0.62	0.12	.000
[race2=7] * [parents=4]	1.21	0.07	.005	1.10	0.10	.334
[race2=7] * [parents=2]	1.38	0.10	.002	1.18	0.13	.221
[race2=7] * [parents=1]	1.17	0.05	.001	1.05	0.07	.491
[race2=5] * [parents=4]	0.97	0.07	.693	1.17	0.10	.097
[race2=5] * [parents=2]	1.25	0.12	.076	1.07	0.16	.675
[race2=5] * [parents=1]	1.24	0.06	.000	1.00	0.08	.967
[race2=3] * [parents=4]	1.04	0.09	.645	1.05	0.12	.692
[race2=3] * [parents=2]	1.35	0.15	.037	1.84	0.19	.001
[race2=3] * [parents=1]	1.08	0.06	.189	1.10	0.09	.307
[race2=2] * [parents=4]	1.13	0.08	.106	0.62	0.11	.000
[race2=2] * [parents=2]	1.75	0.12	.000	1.19	0.15	.225
[race2=2] * [parents=1]	1.17	0.06	.011	0.90	0.08	.224
[race2=1] * [parents=4]	1.00	0.12	.978	0.95	0.20	.787
[race2=1] * [parents=2]	1.26	0.20	.238	0.90	0.29	.728
[race2=1] * [parents=1]	1.17	0.11	.162	1.11	0.18	.566

Cont.

Appendix (cont.)
Full Model GLM Results for Feelings About Going to School and School Plans

Variables	Feelings about going to school			School plans		
	Log-odds	SE	p	Log-odds	SE	p
[race2=8] * Alcohol problems	0.80	0.09	.018	0.89	0.16	.459
[race2=7] * Alcohol problems	1.06	0.06	.346	0.88	0.08	.126
[race2=5] * Alcohol problems	0.95	0.09	.589	0.70	0.13	.005
[race2=3] * Alcohol problems	0.85	0.08	.051	0.97	0.12	.808
[race2=2] * Alcohol problems	0.81	0.09	.012	0.78	0.12	.036
[race2=1] * Alcohol problems	1.11	0.12	.374	1.11	0.19	.588
[race2=8] * Drug problems	0.75	0.11	.006	0.75	0.18	.098
[race2=7] * Drug problems	1.01	0.07	.904	1.13	0.09	.188
[race2=5] * Drug problems	0.95	0.10	.609	0.89	0.14	.395
[race2=3] * Drug problems	0.86	0.10	.112	0.95	0.14	.715
[race2=2] * Drug problems	0.80	0.09	.019	0.83	0.13	.149
[race2=1] * Drug problems	0.99	0.14	.949	1.10	0.21	.638
*[race2=8] * Physical abuse*	0.77	0.09	.002	0.67	0.15	.008
[race2=7] * Physical abuse	1.12	0.06	.057	1.09	0.09	.342
*[race2=5] * Physical abuse*	1.25	0.07	.002	1.34	0.10	.005
[race2=3] * Physical abuse	1.17	0.08	.057	1.09	0.13	.503
[race2=2] * Physical abuse	1.13	0.07	.108	0.85	0.11	.133
[race2=1] * Physical abuse	1.10	0.13	.474	1.09	0.22	.708
[parents=4] * Alcohol problems	1.01	0.05	.914	1.08	0.07	.248
[parents=2] * Alcohol problems	1.27	0.07	.001	1.26	0.09	.013
*[parents=1] * Alcohol problems*	1.17	0.04	.000	1.26	0.05	.000
[parents=4] * Drug problems	1.12	0.06	.060	1.05	0.08	.570
[parents=2] * Drug problems	1.18	0.08	.053	1.33	0.11	.009
[parents=1] * Drug problems	1.20	0.05	.000	1.04	0.06	.489
[parents=4] * Physical abuse	1.11	0.05	.041	0.94	0.08	.398
[parents=2] * Physical abuse	1.24	0.08	.006	1.12	0.11	.288
*[parents=1] * Physical abuse*	1.25	0.04	.000	1.22	0.06	.002
Alcohol problems * Drug problems	1.11	0.04	.010	1.06	0.06	.260
Alcohol problems * Physical abuse	1.00	0.05	.925	0.80	0.06	.000
Drug problems * Physical abuse	0.96	0.05	.364	0.92	0.07	.230

Note. Shaded cells indicate $p<.01$; bolded/italicized variables indicate $p<.01$ for both feelings about going to school and school plans.