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Prevalence and correlates of truancy in the US: Results from a national sample

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A B S T R A C T

Truancy has been a persistent problem in the United States for more than 100 years. Although truancy is commonly reported as a risk factor for substance use, delinquency, dropout, and a host of other negative outcomes for youth, there has been surprisingly little empirical investigation into understanding the causes and correlates of truancy using large, nationally representative samples. Using the adolescent sample ($N = 17{,}482$) of the 2009 National Survey on Drug Use and Health (NSDUH), this study presents the prevalence of truancy and examines individual, school engagement, parental, and behavioral correlates of truancy. Overall, 11% of adolescents between the ages of 12–17 reported skipping school in the past 30 days. Results from multinomial logistic regression models indicate skipping school was robustly associated with an increased probability of reporting externalizing behaviors, less parental involvement, and engagement and lower grades in school. Implications for theory, prevention, and policy are discussed.

Truancy, a persistent problem in the United States for more than 100 years, is associated with a host of life-course problems (Attwood & Croll, 2006; Garry, 1996). Compared to most developed nations, the United States fares poorly with respect to tolerating a relatively high level of truancy and school dropout rate (Willms, 2003). Despite significant efforts and millions of dollars spent by schools, communities, states, and the federal government to reduce truancy over the past 20 years, there is little evidence that any positive impact has been made on school attendance (Attwood & Croll, 2006; Davies & Lee, 2006; National Center for Education Statistics, 2006; Sheppard, 2007; Stahl, 2008).

Although truancy is one of the major issues facing schools and the education of youth in the United States (Heaviside, Rowand, Williams, & Farris, 1998), estimating the prevalence of truancy has been fraught with challenges. Despite federal requirements for states to report truancy, definitions of truancy and the reporting standards are not uniform across states. Due to this lack of uniformity, calculating a national rate of truancy by aggregating state level data is, at best, problematic (National Center for School Engagement, 2006). Several large inner-city schools systems report thousands of unexcused absences each day while some estimate hundreds of thousands of youth being absent from school on a regular basis (Baker, Sigmon, & Nugent,

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2001). Henry (2007), who examined the prevalence and correlates of skipping school among 8th and 10th grade youth using data from the 2003 wave of the Monitoring the Future study, found that nearly 11% of 8th graders and 16% of 10th graders reported recent truancy. Data from other non-peer reviewed sources indicate a wide range of truancy prevalence. For example, the National Comorbidity Survey (Adolescent Supplement) interviewed 9244 students across the country and asked students questions on truant-related behaviors. From this self-report data, 27.04% of adolescents reported that they have ever played hookey or skipped a whole day of school, with adolescents skipping on average 3.78 days of school during the month that they skipped school the most (Kessler, 2001–2004). Another national survey, the School Crime Supplement to the National Crime Victimization Survey, also asked students in the sample about skipping. From this survey, the prevalence of skipping in the four weeks prior to the survey was 5.5% for students between the ages of 12 and 18 (United States Department of Justice, 2007).

While current prevalence estimates lack the accuracy needed to determine the specific magnitude of the problem, there is substantial evidence that truancy is linked to serious consequences. Studies have found that students who are chronically absent from school are more likely to drop out of school and less likely to be employed 6 months after the end of compulsory schooling, which in turn negatively impacts their earning potential over their lifetimes (Attwood & Croll, 2006; Garry, 1996). Truancy has also been associated with a variety of risk behaviors that can negatively impact the development and wellbeing of truant youth. Prior studies have linked truancy to negative outcomes such as the use of tobacco, alcohol, and other drugs; delinquency and crime; poor academic performance; and school expulsion (Best, Manning, Gossop, Gross, & Strang, 2006; Dynarski & Gleason, 1999; Henry, 2010; Henry & Huizinga, 2007; Lochner & Moretti, 2004; Loeber & Farrington, 2000; Perez, Ariza, Sanchez-Martinez, & Nebot, 2010). The associations between truancy and delinquency and substance use suggest that truancy can best be conceptualized as part of the externalizing spectrum (e.g., Krueger et al., 2002; Krueger, Markon, Patrick, & Iacono, 2005; Vaughn et al., 2011).

Notwithstanding the extant research, there has been little attention given to the examination of truancy as a focal problem using nationally representative samples. Much of what is known about truancy is derived from studies examining the consequences and costs of truancy or studies examining other problematic behaviors. Studies of truancy are plagued by small and/or non-probability convenience samples often comprised of students from urban and disadvantaged areas, or the studies have employed qualitative designs. Few studies have identified truancy rates and correlates using large, nationally representative samples.

Conceptual underpinnings

The problem of truancy is increasingly recognized as a developmentally complex and heterogeneous problem that can be influenced by a number of factors in multiple domains including school, family and individual domains (Kearney, 2008; Kim & Streeter, 2006). As such, this study is guided by a developmental-ecological framework that views truancy as an outcome influenced by dispositional and contextual factors across multiple domains that adolescents traverse. Within this overarching framework, truancy is theorized in two major ways: as an externalizing behavior closely corresponding to delinquency and as an indicator of low school engagement (i.e., disengagement). Although more recent research is pointing to a reciprocal relationship between engagement and delinquency (Hirschfield & Gasper, 2011), it is unclear whether truancy is better theorized as low school engagement, or if truancy is indeed more aptly conceived within the externalizing continuum, in which truancy is just one of several other problem behaviors comprising a syndrome of externalizing problem behavior in adolescence that often persists into adulthood (Donovan, Jessor, & Costa, 1998; Jessor, 1991; Krueger et al., 2002, Krueger, Markon, Patrick, Benning, & Kramer, 2007). Therefore, this study aims to examine truancy from a dual largely intertwined framework that considers truancy within an overlapping engagement perspective and externalizing spectrum in adolescence.

Present study purpose

Understanding the correlates of truancy is important to the development of prevention and intervention strategies. Although numerous prevention and intervention efforts are in operation across the United States, they have done little to impact truancy (Maynard, McRea, Pigott, & Kelly, 2012). This study improves upon and expands the current knowledge base on truancy by examining correlates of truancy in multiple domains from an engagement and problem behavior theory/externalizing behavior framework while controlling for key confounding variables; exploring differences between students who report no skipping, some skipping, and high rates of skipping; and utilizing a large, nationally representative sample to provide a broader, more comprehensive and generalizable view of truancy in the United States.

Specifically, this study considers five research questions: (1) What is the prevalence of truancy? (2) What are the socio-demographic and mental health correlates of truancy? (3) What associations does school engagement have on skipping school? (4) To what extent are youth who skip school less likely to have a parent involved in their lives and in what aspects? and (5) To what extent does the externalizing spectrum of behaviors increase the likelihood of skipping school? We also explore the relative associations among youth who reported higher rates of truancy (4 or more days in the prior 30) compared to moderate rates of truancy (1–3 days in the prior 30). Our overarching hypothesis is that truancy is part of the externalizing spectrum of behavior and, as such, correlates with other externalizing behaviors will have the strongest effects even after controlling for the confounding effects of age, gender, race/ethnicity, family income, and internalizing behavior (lifetime anxiety and depression).

Methods

Sample and procedures

This study is based on data from the 2009 National Survey on Drug Use and Health (NSDUH) (SAMHSA, 2009). NSDUH is designed to provide population estimates of substance use and health-related behaviors in the U.S. general population. It utilizes multistage area probability sampling methods to select a representative sample of the U.S. civilian, non-institutionalized population aged 12 years or older for participation in the study. Study participants include household residents, residents of shelters, rooming houses, and group homes, residents of Alaska and Hawaii, and civilians residing on military bases.

NSDUH study participants were interviewed in private at their places of residence. Potential participants were assured that their names would not be recorded and that their responses would be kept strictly confidential. Participants were paid 30 dollars for their participation. All field interviewers signed a confidentiality agreement, and the procedures and protections were carefully explained to potential participants in the informed consent protocol. The NSDUH interview utilized a computer-assisted interviewing (CAI) methodology to increase the likelihood of valid respondent reports of illicit drug use behaviors (SAMHSA, 2009). The CAI methodology includes a combination of computer-assisted personal interviewing (CAPI) and audio computer-assisted self-interviewing (ACASI) methodologies. ACASI is designed to provide the respondent with a highly private and confidential means of responding to questions and is used for questions of a sensitive nature.

A total of 68,736 respondents aged 12 years or older completed the 2009 survey. The study analytic sample was confined to youth age 12–17 ($N = 18{,}819$). Weighted response rates were 89% for household screening and 74.4% for interviewing (SAMHSA, 2009). Each independent, cross-sectional NSDUH sample was considered representative of the U.S. general population. NSDUH design and data collection procedures have been reported in detail elsewhere (SAMHSA, 2009).

The mean age of the study sample is 14.6 years old (SD = 1.7). The respondents are evenly distributed between males (51.0%) and females (49.0%) but are unevenly distributed in terms of race/ethnicity. More than half of the respondents are White (58.7%), 17.7% are Hispanic, and 14.0% are African American. The annual family income of 15.8% of the sample is less than $20,000; 32.6% have income between $20,000 and $49,999; 19.4% have income between $50,000 and $74,999; and 32.2% have more than $75,000 annual family income.

Measurement

Skipping school

The NSDUH survey queried youth on how many days they missed school from skipping in the past 30 days. We subsequently coded this variable into non-school skipping (0 days), moderate skipping (1–3 days), and high levels of school skipping (4+ days).

Sociodemographic and mental health covariates

The following demographic variables were used: Age, gender, race/ethnicity (non-Hispanic white, non-Hispanic black, Hispanic, and other [American Indian or Alaska Native, Asian, other Pacific Islander or Native Hawaiian, and persons reporting more than one race]), education level, father in the home (0 = no, 1 = yes), incarcerated in the past year (0 = no, 1 = yes), worked in the past year (0 = no, 1 = yes), and total annual family income (less than $20,000; $20,000 to $49,999; $50,000 to $74,999; and $75,000 or more). Family income was ascertained by asking respondents, "Of these income groups, which category best represents your total combined family income during the previous calendar year?" Because adolescents are often unable to provide accurate estimates about family household income, responses from an adult or other household member were provided. Additionally, we also examined lifetime history of depression and anxiety. This was based on whether respondents were told by a doctor or medical professional that they had either of these disorders.

School engagement

Seven variables were used to assess various aspects of school engagement. Two items included past semester grades (A or B, C, D or lower) and the number of school based activities attended (none, 1 or 2, 3 or more). Five items queried youth about their feelings toward school. These included such questions as "How interesting are courses at school?"; "How often you felt school work was meaningful?"; and "How often did a teacher let you know you were doing a good job?" These five questions originally had a response format of always, sometimes, seldom, and never. These were subsequently dichotomized into always/sometimes and seldom/never to enhance interpretability.

Parental involvement

Five items were used to assess various forms of parental involvement. Like the school engagement response format, this original response format of always, sometimes, seldom, and never was also dichotomized into always/sometimes and seldom/never to enhance interpretability. Sample items included "During the past 12 months, how often did your parents provide help with your homework when you needed it?"; "During the past 12 months, how often did your parents limit the amount of time you went out with friends on school nights?"; and "During the past 12 months, how often did your parents provided positive reinforcement, such as telling you they were proud of you for something you had done?"

Externalizing behavior

A host of deviant behavior and risk-related variables, including delinquent behaviors and substance use were used. Delinquent variables were self-reported past-year selling of illegal drugs, stealing an item worth 50 dollars or more, attacking someone with the intent to injure, serious fighting at school or work, and carrying a handgun. These were measured dichotomously (i.e., yes or no), with the exception of serious fighting at school or work for which four categories of frequencies were utilized. Substance use variables assessed were self-reported past-year use of alcohol, marijuana, and illicit drugs (hallucinogens, cocaine/crack, ecstasy, and heroin). These were also measured dichotomously as use and non-use. Two dichotomously coded items were used to assess risk propensity: "How often do you get a real kick out of doing things that are a little dangerous?" and "How often do you like to test yourself by doing something a little risky?"

Data analysis

Weighted prevalence estimates and standard errors were computed using Stata 11SE (StataCorp, 2009). This system implements a Taylor series linearization to adjust standard errors of estimates for complex survey sampling design effects including those found in clustered data. A series of multinomial logistic regression analyses were conducted to assess the associations between categories of skipping school (moderate and high levels) and demographic, school engagement, delinquency and risky behavior, and parental involvement variables. Youth who did not skip school served as the reference group for all unadjusted and adjusted odds ratios. We chose to use individual variables from the school engagement, externalizing behaviors, and parental involvement domains. We could have indexed these items as a form of data reduction but given that we had adequate statistical power this approach would provide less information about the differential associations across these domains. Final adjusted models controlled for the influences of age, gender, race/ethnicity, family income, and mental health (lifetime anxiety and depression). Adjusted odds ratios (AORs) and 95% confidence intervals (CIs) are presented to reflect association strength. AORs were considered statistically significant only if associated confidence intervals did not include the value 1.0.

Results

What is the prevalence and the sociodemographic and mental health correlates of skipping school?

The prevalence of past month skipping school was 11%, with 9% reporting having skipped 1–3 days and 2% reporting having skipped 4 or more days of school. Table 1 shows the sociodemographic and mental health characteristics of youth who reported moderate and high levels of skipping school in the past 30 days. Following adjustments for confounding, youth reporting a moderate and high level of skipping school were significantly more likely to be older (31 and 35% respectively) than youth not reporting skipping school. Only high level school truants were less likely to report an annual family income of $75,000 or more. With respect to not having a father in the household only the moderate group was significant. For mental health variables, high level school skippers were nearly 3 times more likely to report depression than non-school skippers and approximately two and one-half times more likely to report anxiety, whereas moderate truants were just significantly more likely to report anxiety.

What associations does school engagement have on skipping school?

Table 2 compares the correlations of various indicators of school engagement of moderate and high level school skipping groups. Consistent effects were found with both groups being significantly less engaged in school and more likely to receive lower grades. The odds ratios were comparable for both the moderate and high levels groups with respect to engagement indicators except participating in 3 or more school activities. However, high level truants were far more likely to receive C grades and D grades or lower. Overall, both groups were significantly less likely to like or kind of like school.

To what extent are youth who skip school less likely to have a parent involved in their lives and in what aspects?

Table 3 compares the associations between various forms of parental involvement to moderate and high levels of skipping school. Results of AORs indicate a uniform pattern such that youth who reported skipping school were significantly less likely to have a parent involved. AORs ranged from 0.40 to 0.75. Although high level school skippers generally had less parental involvement than moderate school skippers, the differences were negligible.

To what extent does the externalizing spectrum of behaviors increase the likelihood of skipping school?

The models depicted in Table 4 examine externalizing behaviors. Several variables were found to have large AORs. However, effects were uniformly larger for high level truants compared to moderate truants including serious fighting at school or work 6 or more times, carrying a handgun, selling illegal drugs, frequent stealing, attacking someone, testing oneself by doing risky things, doing dangerous things, using alcohol, using marijuana, and any other illicit drug use.

Table 1
Demographic and mental health characteristics of moderate and high truancy youth in the U.S.

Demographic characteristics	Number of days skipped											
	Moderate		High		Moderate		High		Moderate		High	
	%	95% CI	%	95% CI	OR	95% CI	OR	95% CI	AOR	95% CI	AOR	95% CI
Age in years (mean)	15.15	[15.03, 15.27]	15.53	[15.33, 15.72]	**1.30**	**[1.23, 1.37]**	**1.52**	**[1.38, 1.68]**	**1.31**	**[1.13, 1.53]**	**1.35**	**[1.01, 1.8]**
Sex												
Female ($n = 6612$)	9.43	[8.54, 10.40]	1.72	[1.35, 2.19]	1.00		1.00		1.00		1.00	
Male ($n = 6824$)	9.21	[8.31, 10.19]	1.74	[1.39, 2.18]	0.97	[0.83, 1.14]	1.01	[0.72, 1.41]	1.10	[0.87, 1.38]	1.30	[0.79, 2.15]
Race/Ethnicity												
White ($n = 8034$)	8.69	[7.92, 9.52]	1.43	[1.15, 1.77]	1.00		1.00		1.00		1.00	
Black ($n = 1792$)	8.91	[7.35, 10.76]	1.79	[1.19, 2.69]	1.03	[0.82, 1.3]	1.26	[0.79, 2.02]	1.01	[0.71, 1.43]	0.89	[0.43, 1.85]
Hispanic ($n = 2279$)	12.18	[10.41, 14.19]	2.63	[1.85, 3.72]	**1.48**	**[1.21, 1.81]**	**1.95**	**[1.28, 2.96]**	1.31	[0.97, 1.78]	1.36	[0.64, 2.90]
Other ($n = 1331$)	7.79	[5.89, 10.25]	1.82	[1.02, 3.23]	0.89	[0.65, 1.23]	1.27	[0.68, 2.38]	0.96	[0.63, 1.48]	1.58	[0.69, 3.58]
Annual family income												
Less than $20,000 ($n = 2094$)	11.63	[9.90, 13.62]	4.08	[3.06, 5.42]	1.00		1.00		1.00		1.00	
$20,000–$49,999 ($n = 4201$)	10.52	[9.30, 11.89]	1.56	[1.16, 2.08]	0.87	[0.69, 1.09]	0.37	[0.24, 0.56]	0.83	[0.60, 1.14]	**0.46**	**[0.25, 0.85]**
$50,000–$74,999 ($n = 2603$)	8.37	[7.08, 9.87]	1.27	[0.79, 2.02]	**0.67**	**[0.52, 0.87]**	**0.29**	**[0.17, 0.51]**	0.79	[0.54, 1.16]	0.54	[0.21, 1.36]
$75,000 or more ($n = 4538$)	7.91	[6.93, 9.01]	1.16	[0.84, 1.60]	**0.63**	**[0.50, 0.79]**	**0.26**	**[0.17, 0.41]**	0.76	[0.53, 1.09]	**0.34**	**[0.14, 0.81]**
Father in household												
Father in HH ($n = 9850$)	8.30	[7.59, 9.06]	1.45	[1.17, 1.79]	1.00		1.00		1.00		1.00	
No father in HH ($n = 3576$)	12.52	[11.12, 14.07]	2.62	[2.04, 3.37]	**1.60**	**[1.36, 1.89]**	**1.93**	**[1.37, 2.70]**	**1.37**	**[1.04, 1.81]**	1.08	[0.59, 1.96]
Stay in jail/detention												
No ($n = 13,209$)	9.28	[8.63, 9.97]	1.65	[1.40, 1.96]	1.00		1.00		1.00		1.00	
Yes ($n = 182$)	14.13	[9.34, 20.82]	5.58	[2.48, 12.07]	**1.69**	**[1.04, 2.73]**	**3.74**	**[1.57, 8.91]**	1.09	[0.56, 2.11]	1.49	[0.47, 4.68]
Worked in past year												
No ($n = 4148$)	11.36	[10.15, 12.69]	2.32	[1.78, 3.00]	1.00		1.00		1.00		1.00	
Yes ($n = 1166$)	13.74	[11.10, 16.89]	2.25	[1.40, 3.60]	1.24	[0.94, 1.64]	0.99	[0.57, 1.74]	1.19	[0.90, 1.58]	1.03	[0.59, 1.79]
Lifetime depression												
No ($n = 12,428$)	9.18	[8.52, 9.89]	1.53	[1.28, 1.83]	1.00		1.00		1.00		1.00	
Yes ($n = 628$)	12.22	[9.25, 15.97]	4.84	[3.11, 7.46]	**1.43**	**[1.04, 1.98]**	**3.41**	**[2.07, 5.60]**	0.85	[0.51, 1.41]	**2.88**	**[1.54, 5.39]**
Lifetime anxiety												
No ($n = 12,681$)	9.19	[8.53, 9.89]	1.59	[1.34, 1.88]	1.00		11.00		1.00		1.00	
Yes ($n = 375$)	14.27	[10.33, 19.40]	4.98	[2.60, 9.33]	**1.72**	**[1.18, 2.51]**	**3.46**	**[1.72, 6.97]**	**1.97**	**[1.13, 3.44]**	2.47	[0.98, 6.24]

Note: Reference group: students who did not report missing any school. Adjusted models include age, sex, race/ethnicity, annual income, and lifetime depression and anxiety. Odds ratios in bold are statistically significant.

Sensitivity analysis

In order to assess the sensitivity of our findings across the developmental period of 12–17 years of age we reanalyzed our data for 12–14 year olds and 15–17 year olds separately. Examining the associations between moderate and severe truancy and its correlates among adolescents between the ages of 12–14 and 15–17 year olds suggested no significant differences across these two developmental time periods inasmuch as all confidence intervals for the two developmental subgroups were overlapping and directionality was the same.

Discussion

This study examines the prevalence and correlates of truancy using a large, nationally representative sample and provides a more accurate and generalizable picture of truancy than was previously available. The findings of the present study clearly demonstrate that truancy is a significant problem in the United States. Of the 17,482 youth between the ages of 12–17 years who completed the NSDUH survey, 11% reported skipping school within the 30 days prior to completing the survey. Henry (2007) also found a prevalence of 11% of truancy using data from the 2003 Monitoring the Future Study with a similarly constructed question. With an estimated 17.2 million students enrolled in grades 9–12 (U.S. Census Bureau, 2011), approximately 2 million students skip school at least once in a given month.

The present study uniquely extends the knowledge base on truant youth by examining correlates of truancy in multiple domains; exploring differences between youth who report moderate and high rates of truancy; and providing a broader, more comprehensive and generalizable understanding of truancy and truant youth in the United States. The findings suggest that truant youth are multi-problem youth who exhibit risk factors in multiple domains. Truant youth are more likely to be older and report substance use, externalizing and internalizing behavior problems, lower school engagement, less parental involvement, and lower grades than their non-truant counterparts. Although we anticipated that African-American and

Table 2
Comparisons of school engagement for moderate and high truancy youth in the U.S.

School engagement	Number of days skipped											
	Moderate		High		Moderate		High		Moderate		High	
	%	95% CI	%	95% CI	OR	95% CI	OR	95% CI	AOR	95% CI	AOR	95% CI
How felt overall about going to school												
Didn't like very much/ hated ($n = 2472$)	14.87	[13.07, 16.88]	3.96	[3.08, 5.08]	1.00		1.00		1.00		1.00	
Liked a lot/kind of liked ($n = 10{,}949$)	8.10	[7.44, 8.81]	1.24	[1.00, 1.53]	**0.49**	**[0.41, 0.58]**	**0.28**	**[0.20, 0.39]**	**0.50**	**[0.41, 0.60]**	**0.26**	**[0.18, 0.37]**
How often felt school work meaningful												
Seldom/never ($n = 2790$)	13.57	[11.90, 15.44]	3.14	[2.42, 4.07]	1.00		1.00		1.00		1.00	
Always/sometimes ($n = 10{,}612$)	8.21	[7.54, 8.93]	1.38	[1.12, 1.69]	**0.56**	**[0.47, 0.66]**	**0.40**	**[0.29, 0.57]**	**0.58**	**[0.48, 0.7]**	**0.48**	**[0.33, 0.69]**
How important things learned												
Somewhat/very unimportant ($n = 1585$)	13.81	[11.75, 16.16]	2.70	[1.99, 3.67]	1.00		1.00		1.00		1.00	
Very/somewhat important ($n = 11{,}823$)	8.71	[8.05, 9.43]	1.60	[1.32, 1.93]	**0.59**	**[0.48, 0.72]**	**0.55**	**[0.38, 0.80]**	**0.62**	**[0.50, 0.77]**	**0.63**	**[0.42, 0.94]**
How interesting courses at school												
Somewhat/very boring ($n = 3064$)	13.37	[11.82, 15.10]	2.49	[1.93, 3.22]	1.00		1.00		1.00		1.00	
Very/somewhat interesting ($n = 10{,}348$)	8.17	[7.49, 8.91]	1.52	[1.23, 1.87]	**0.57**	**[0.48, 0.68]**	**0.57**	**[0.40, 0.80]**	**0.58**	**[0.49, 0.69]**	**0.61**	**[0.43, 0.87]**
No. of school based activities												
None ($n = 2143$)	12.52	[10.74, 14.54]	3.69	[2.79, 4.87]	1.00		1.00		1.00		1.00	
1–2 ($n = 6754$)	9.83	[8.90, 10.85]	1.84	[1.47, 2.30]	**0.75**	**[0.61, 0.91]**	**0.47**	**[0.33, 0.69]**	**0.80**	**[0.65, 0.99]**	**0.55**	**[0.37, 0.81]**
3 or more ($n = 4487$)	6.98	[6.08, 8.00]	0.59	[0.37, 0.92]	**0.51**	**[0.40, 0.63]**	**0.14**	**[0.08, 0.25]**	**0.57**	**[0.45, 0.72]**	**0.19**	**[0.11, 0.34]**
Teacher let youth know doing a good job												
Seldom/never ($n = 2754$)	12.21	[10.68, 13.94]	2.98	[2.21, 4.02]	1.00		1.00		1.00		1.00	
Always/sometimes ($n = 10{,}654$)	8.61	[7.92, 9.36]	1.41	[1.16, 1.71]	**0.66**	**[0.56, 0.79]**	**0.45**	**[0.31, 0.64]**	**0.69**	**[0.58, 0.83]**	**0.52**	**[0.36, 0.77]**
Grades for last semester												
A or B ($n = 9370$)	7.56	[6.88, 8.32]	0.89	[0.68, 1.16]	1.00		1.00		1.00		1.00	
C ($n = 2783$)	14.15	[12.46, 16.03]	2.92	[2.25, 3.77]	**2.07**	**[1.73, 2.47]**	**3.63**	**[2.48, 5.32]**	**1.83**	**[1.51, 2.22]**	**3.23**	**[2.17, 4.81]**
D or lower ($n = 758$)	13.48	[10.51, 17.12]	8.00	[5.55, 11.41]	**2.08**	**[1.53, 2.81]**	**10.53**	**[6.51, 17.02]**	**1.83**	**[1.33, 2.52]**	**8.80**	**[5.31, 14.60]**

Note: Reference group: students who did not report missing any school. Adjusted models include age, sex, race/ethnicity, annual income, and lifetime depression and anxiety. Odds ratios in bold are statistically significant.

Table 3
Comparisons of parental involvement for moderate and high truancy youth in the U.S.

Parental involvement	Number of days skipped											
	Moderate		High		Moderate		High		Moderate		High	
	%	95% CI	%	95% CI	OR	95% CI	OR	95% CI	AOR	95% CI	AOR	95% CI
Parents check homework												
Seldom/never ($n = 2787$)	14.58	[12.92, 16.42]	2.91	[2.22, 3.80]	1.00		1.00		1.00		1.00	
Always/sometimes ($n = 10{,}617$)	7.98	[7.31, 8.71]	1.42	[1.15, 1.74]	**0.50**	**[0.42, 0.59]**	**0.44**	**[0.31, 0.63]**	**0.62**	**[0.52, 0.74]**	**0.59**	**[0.41, 0.85]**
Parents help with homework												
Seldom/never ($n = 2747$)	14.19	[12.54, 16.01]	2.99	[2.29, 3.90]	1.00		1.00		1.00		1.00	
Always/sometimes ($n = 10{,}646$)	8.03	[7.35, 8.76]	1.39	[1.13, 1.71]	**0.52**	**[0.44, 0.61]**	**0.43**	**[0.30, 0.60]**	**0.66**	**[0.56, 0.8]**	**0.63**	**[0.43, 0.91]**
Parents provide positive reinforcement												
Seldom/never ($n = 1973$)	12.72	[10.94, 14.75]	3.80	[2.84, 5.07]	1.00		1.00		1.00		1.00	
Always/sometimes ($n = 11{,}441$)	8.73	[8.05, 9.46]	1.36	[1.12, 1.66]	**0.64**	**[0.52, 0.77]**	**0.33**	**[0.23, 0.48]**	**0.75**	**[0.61, 0.91]**	**0.40**	**[0.27, 0.58]**
Parents limit television viewing												
Seldom/never ($n = 8208$)	11.15	[10.25, 12.12]	2.16	[1.80, 2.59]	1.00		1.00		1.00		1.00	
Always/sometimes ($n = 5163$)	6.64	[5.81, 7.59]	1.04	[0.72, 1.49]	**0.56**	**[0.47, 0.66]**	**0.45**	**[0.3, 0.68]**	**0.67**	**[0.56, 0.80]**	0.65	[0.42, 1.00]
Parents limit time out at night												
Seldom/never ($n = 3860$)	12.27	[10.92, 13.75]	2.49	[1.94, 3.18]	1.00		**1.00**		1.00		1.00	
Always/sometimes ($n = 9406$)	8.18	[7.48, 8.95]	1.44	[1.15, 1.79]	**0.63**	**[0.53, 0.74]**	**0.54**	**[0.39, 0.76]**	**0.71**	**[0.60, 0.84]**	**0.62**	**[0.43, 0.89]**

Note: Reference group: students who did not report missing any school. Adjusted models include age, sex, race/ethnicity, annual income, and lifetime depression and anxiety. Odds ratios in bold are statistically significant.

Table 4
Comparisons of externalizing behaviors (past year) for moderate and high truancy youth in the U.S.

Externalizing behaviors	Number of days skipped											
	Moderate		High		Moderate		High		Moderate		High	
	%	95% CI	%	95% CI	OR	95% CI	OR	95% CI	AOR	95% CI	AOR	95% CI
Serious fight at school/work												
0 times ($n = 10{,}557$)	8.03	[7.36, 8.76]	1.28	[1.03, 1.58]	1.00		1.00		1.00		1.00	
1–2 times ($n = 2167$)	13.84	[11.99, 15.93]	2.64	[1.91, 3.64]	**1.87**	**[1.55, 2.27]**	**2.24**	**[1.51, 3.33]**	**1.99**	**[1.63, 2.44]**	**2.46**	**[1.64, 3.69]**
3–5 times ($n = 439$)	17.65	[13.44, 22.82]	5.40	[3.21, 8.94]	**2.59**	**[1.85, 3.63]**	**4.97**	**[2.76, 8.95]**	**2.63**	**[1.86, 3.70]**	**3.92**	**[2.06, 7.46]**
6 or more times ($n = 218$)	12.13	[7.40, 19.26]	7.78	[3.94, 14.78]	1.71	[0.98, 2.99]	**6.89**	**[3.23, 14.68]**	1.59	[0.87, 2.92]	**6.27**	**[2.60, 15.12]**
Youth carried handgun												
None ($n = 12{,}939$)	9.14	[8.49, 9.83]	1.59	[1.34, 1.89]	1.00		1.00		1.00		1.00	
1 or more times ($n = 457$)	15.34	[11.34, 20.42]	5.97	[3.72, 9.44]	**1.90**	**[1.33, 2.73]**	**4.25**	**[2.50, 7.23]**	**1.84**	**[1.28, 2.64]**	**3.73**	**[2.14, 6.51]**
Youth sold illegal drugs												
None ($n = 12{,}948$)	8.85	[8.21, 9.53]	1.51	[1.26, 1.81]	1.00		1.00		1.00		1.00	
1 or more times ($n = 462$)	24.10	[19.03, 30.02]	8.91	[6.11, 12.81]	**3.64**	**[2.65, 5]**	**7.90**	**[5.02, 12.43]**	**2.97**	**[2.14, 4.12]**	**5.39**	**[3.35, 8.70]**
Youth stole/tried to steal												
0 times ($n = 12{,}756$)	8.68	[8.04, 9.36]	1.52	[1.26, 1.82]	1.00		1.00					
1 or 2 times ($n = 462$)	22.20	[17.35, 27.96]	4.59	[2.91, 7.17]	**3.14**	**[2.28, 4.33]**	**3.71**	**[2.22, 6.21]**	**2.75**	**[1.99, 3.8]**	**2.98**	**[1.72, 5.16]**
3 or more times ($n = 183$)	27.60	[19.39, 37.67]	9.69	[5.22, 17.28]	**4.56**	**[2.83, 7.34]**	**9.15**	**[4.52, 18.52]**	**3.68**	**[2.23, 6.06]**	**5.73**	**[2.66, 12.35]**
Youth attacked with intent to seriously harm												
None ($n = 12{,}457$)	8.71	[8.07, 9.40]	1.44	[1.21, 1.73]	1.00		1.00		1.00		1.00	
1 or more times ($n = 944$)	17.79	[14.67, 21.42]	5.11	[3.43, 7.56]	**2.38**	**[1.86, 3.04]**	**4.13**	**[2.62, 6.51]**	**2.34**	**[1.82, 3.02]**	**3.83**	**[2.28, 6.42]**
Like to test yourself by doing risky things												
Never/seldom ($n = 8826$)	7.74	[7.01, 8.53]	1.36	[1.08, 1.72]	1.00		1.00		1.00		1.00	
Sometimes/always ($n = 4515$)	12.52	[11.28, 13.88]	2.47	[1.96, 3.12]	**1.73**	**[1.43, 2.08]**	**1.94**	**[1.39, 2.71]**	**1.63**	**[1.38, 1.92**	**1.80**	**[1.24, 2.61]**
Get a real kick out of doing dangerous things												
Never/seldom ($n = 8023$)	7.61	[6.87, 8.42]	1.32	[1.03, 1.69]	1.00		1.00		1.00		1.00	
Sometimes/always ($n = 5246$)	12.08	[10.92, 13.33]	2.37	[1.90, 2.95]	**1.69**	**[1.44, 1.98]**	**1.92**	**[1.37, 2.69]**	**1.57**	**[1.33, 1.86]**	**1.75**	**[1.22, 2.51]**
Alcohol												
No ($n = 9227$)	6.13	[5.53, 6.80]	0.84	[0.64, 1.10]	1.00		1.00		1.00		1.00	
Yes ($n = 4209$)	16.51	[15.00, 18.13]	3.76	[3.07, 4.60]	**3.14**	**[2.68, 3.68]**	**5.24**	**[3.70, 7.41]**	**2.51**	**[2.11, 2.98]**	**3.48**	**[2.36, 5.13]**
Marijuana												
No ($n = 11{,}040$)	7.07	[6.47, 7.73]	0.99	[0.76, 1.29]	1.00		1.00		1.00		1.00	
Yes ($n = 2396$)	20.50	[18.28, 22.91]	5.43	[4.44, 6.61]	**3.60**	**[3.03, 4.27]**	**6.79**	**[4.83, 9.54]**	**2.71**	**[2.25, 3.27]**	**4.33**	**[2.95, 6.36]**
Illicit drug use[a]												
No ($n = 12{,}839$)	8.68	[8.05, 9.35]	1.45	[1.20, 1.75]	1.00		1.00		1.00		1.00	
Yes ($n = 530$)	26.04	[20.96, 31.86]	9.49	[6.84, 13.03]	**4.18**	**[3.10, 5.65]**	**9.13**	**[6.05, 13.76]**	**3.00**	**[2.20, 4.08]**	**5.19**	**[3.31, 8.16]**

Note: Reference group: students who did not report missing any school. Adjusted models include age, sex, race/ethnicity, annual income, and lifetime depression and anxiety.

[a] Includes cocaine or crack, ecstasy, heroin, hallucinogens. Odds ratios in bold are statistically significant.

Hispanic youth would have a higher likelihood of reporting truant behavior relative to White youth based on prior research and strong correlations between truancy, poverty status and single-parenthood, the results of this study found that while Hispanic youth were more likely to report truancy, African-American youth were not. We speculate that African-American adolescents, who are at the highest risk for truancy and dropping out of school, may also be more likely to be absent from school for longer periods of time and therefore were not surveyed.

The results of this study support our hypothesis that youth who skip school more frequently are at higher risk and exhibit more serious externalizing behaviors and substance use than youth who skip school less frequently. Our exploratory analysis revealed that youth who reported higher rates of truancy were 1.5–2 times more likely than moderately frequent truants to report alcohol and drug use, serious fighting at school, carrying a handgun, selling illegal drugs, stealing/trying to steal 3 or more times, and attacking with intent to seriously harm. Moreover, our findings suggest a consistent pattern of differences between the types and severity of externalizing behaviors. It is apparent from an examination of Table 5 that high frequency truants were much more likely to report engaging in more severe externalizing behaviors than truants reporting less skipping. As these results indicate, the two groups of truants varied in important ways across the substance use and externalizing behavior spectrum. However, we should also point out that the largest effect for highly truant youth were poor academic grades. Although poor academic grades can be viewed as a sign of disengaging from school, it also can be seen as intertwined with externalizing behavior as prior studies indicate that delinquent adolescents also are likely to receive poor grades (Hinshaw, 1992).

Despite stronger correlates found for highly truant youth compared to moderately truant youth, this does not mean that intervention resources should solely be directed for this severe group; it seems probable that moderately truant youth may become more severe in their frequency of skipping school over time. It could be argued that prevention resources may be best utilized with moderate skippers given the possibility that highly truant youth are a smaller proportion of the population and may be more difficult to reach.

Table 5
Summary of study effect sizes for adjusted analyses.[a]

Moderately truant youth	Highly truant youth
Small (1.01–2.00)	Small (1.01–2.00)
Mean age (1.31)	Mean age (1.35)
No father in household (1.37)	Enjoy risky things (1.80)
Less likely engaged at school (0.80–0.50)	Enjoy dangerous things (1.75)
6 or more serious fights at school/work (1.59)	Medium (2.01–4.00)
Last semester grades were C's (1.83)	Lifetime depression (2.88)
Last semester grades were D's or lower (1.83)	Less likely engaged at school (0.63–0.19)
Youth carried handgun 1 or more times (1.84)	Last semester grades were C's (3.23)
Lifetime anxiety (1.97)	1–2 serious fights at school/work (2.46)
1–2 serious fights at school/work (1.99)	Youth stole or tried to steal 1–2 times (2.98)
Enjoy risky things (1.63)	Alcohol use (3.48)
Enjoy dangerous things (1.57)	Youth carried handgun 1 or more times (3.73)
Medium (2.01–4.00)	Violent aggression 1 or more times (3.83)
Violent aggression 1 or more times (2.34)	3–5 serious fights at school/work (3.92)
Alcohol use (2.51)	Large (4.01+)
3–5 serious fights at school/work (2.63)	Marijuana use (4.33)
Marijuana use (2.71)	Illicit drug use (5.19)
Youth stole or tried to steal 1–2 times (2.75)	Youth sold illegal drugs 1 or more times (5.39)
Youth sold illegal drugs 1 or more times (2.97)	Stealing 3 or more times (5.73)
Illicit drug use (3.00)	6 or more serious fights at school/work (6.27)
Stealing 3 or more times (3.68)	Last semester grades were D's or lower (8.80)

[a] Note: Although we organize these effect sizes based on Cohen (1988), we recognize that small effects can have greater practical significance than large effects and effect size magnitudes should be interpreted within the context of a given phenomenon.

Study findings suggest that frequency of skipping school has implications for youth both in terms of the likelihood of engaging in problematic risk behaviors, as well as the pattern of behaviors in which they engage. Because most prior studies do not examine the effects of frequency of skipping on outcomes, differences between youth who report different rates of truancy has not been adequately examined in prior research. This analysis extends the literature on truant youth by demonstrating that frequency of truancy has important implications. Future research must more closely examine frequency of skipping as a moderator of outcomes for truant youth to better guide policy and practice in this area. In addition, future longitudinal studies should also attempt to disentangle the relationship between externalizing behaviors and the processes of disengaging from school.

In addition to variation between moderate and high frequency skippers on substance use and externalizing behaviors, we also observed variation in reports of lifetime anxiety and depression between the moderate and high skippers. Interestingly, youth who reported higher rates of skipping were 3 times more likely to report depression and 2.5 times more likely to report anxiety than moderate truants, whereas moderate skippers were just significantly more likely to report anxiety. These findings point to differential mental health risks and needs of youth who exhibit more chronic patterns of truancy.

The results of the present analysis demonstrate that while truancy is found to be correlated with engagement factors, the most salient correlates of truancy are substance use and externalizing behaviors. It is obvious from our analyses that truant youth are not only significantly more likely to report engaging in substance use and deviant behavior than non-truant youth but that more frequent skippers exhibited consistent patterns of higher probability and greater severity across multiple categories of problematic risk behaviors compared to truant youth who reported moderate frequency of skipping. While there a several competing theoretical perspectives on truancy, the present investigation suggests that truancy is part and parcel of an externalizing behavior spectrum. These results are consistent with prior research that report a positive association between truancy and delinquency, drug use, aggression, and an overall propensity toward risk (Hallfors et al., 2002; Henry, 2007, 2010; Maynard, Salas-Wright, Vaughn, & Peters, 2012). Recent research on the externalizing spectrum indicates a common liability that manifests early, is partly heritable, and is comorbid with a broad array of not only risk behaviors but also psychiatric problems over the life-course (Dick et al., 2009; Krueger et al., 2002, 2007; Markon & Krueger, 2005). These findings also lend support to Jessor and Jessor's (1977) Problem Behavior Theory in which problematic behaviors (i.e., drinking, marijuana use, delinquent behavior and sexual intercourse) cluster to constitute a syndrome of problem behavior in adolescence (Donovan & Jessor, 1985). The present results support the notion of a syndrome of problem behaviors, with truancy being an additional problem behavior highly correlated with other delinquent behaviors, indicating an underlying factor or latent variable across a range of externalizing behaviors, including truancy.

The externalizing behavior perspective contrasts with other views on truancy and school dropout phenomena, which cast this problem in the context of school disengagement. The disengagement perspective places greater onus on the school and school attachment. From this view, truancy and dropout are part of a process of disengaging that begins early as children are not engaged or fully bonded with the school. Multiple academic, psychological, cognitive, and behavioral factors are involved, but at the heart of the problem lay the lack of connection with school. Prior research has often used truancy as a measure or predictor of school engagement (Archambault, Janosz, Fallu, & Pagani, 2009), while others have found that skipping school clustered much more strongly with measures of delinquency than measures of engagement (Hirschfield & Gasper, 2011).

Although truant youth in this study were more likely to report lower school engagement than non-truant youth, effects of the engagement indicators were weaker compared to substance use and externalizing behavior indicators. These findings suggest that truancy conceptualizations should include the externalizing spectrum of behavior rather than viewed merely as a school engagement problem.

Toward a theory of truancy

We suggest that a theory of truancy reflects interplay between externalizing behavior and school disengagement, each mutually reinforcing one another during childhood and adolescence. Normative cognitive, behavioral, familial, and ecological challenges that children face developmentally may give rise to, or are aggravated by, a tendency toward externalizing. In turn, this amplifies the prospects for disengaging from school resulting in a harmful spiral where stronger supports and scaffolds are badly needed. Although externalizing and engagement perspectives on truancy and dropout overlap, we speculate that the externalizing spectrum may occur prior to disengagement. Because our present cross-sectional analysis does not permit us to disentangle temporal ordering of variables, this speculation is based largely on evidence from chronic school skippers who demonstrate a very high risk for juvenile delinquency, criminal behavior and serious psychiatric problems reflecting a general externalizing. Prior research studies have indicated that externalizing behaviors manifest early in childhood (Caspi, Moffitt, Newman, & Silva, 1996; Vaughn, Beaver, DeLisi, & Wright, 2009; Vaughn, Perron, Beaver, DeLisi, & Wexler, 2010). Thus, disengagement and dropout may ultimately be a consequence of the externalizing spectrum, though at various points in time during adolescence one can show that engagement in school predicts externalizing behaviors (Li et al., 2011). Other longitudinal research suggests that delinquency and engagement affect each other, although the effects were not consistent across all engagement domains (i.e., cognitive, emotional, and behavioral; Hirschfield & Gasper, 2011).

Limitations and conclusions

Although the size, scope, and long-term stability of the NSDUH are impressive, there are important limitations that should bear caution. First and foremost, study data were cross-sectional and prevented not only an assessment of the temporal relationships between variables, but also a temporal look at the unfolding of truancy risk. Further, little data was available on truancy and its correlates outside of the self-report measurement paradigm. Although there are some limitations of self-report data in terms of over or underreporting problematic behaviors, Khatapoush & Hallfors (2000, cited in Hallfors et al., 2002) found that students reporting of truancy more closely approximated truancy rates in school records, thus giving us greater confidence in the prevalence estimates of truancy from this self-report survey. Our approach could have underestimated the prevalence of school truancy, because youth who have already dropped out or are chronically absent for large swaths of time (e.g., weeks or months), may not be included in the analysis. It would also have been useful to distinguish between whether truancy prevalence is similar or different with respect to public or private school attendance. We were not able to do so due to data constraints and lack of detailed information about school experiences of youth. Another limitation is the lack of data on such ecological characteristics as neighborhood and community disadvantage, which may uniquely contribute to truancy via such mechanisms as fear or loosening of social controls and supports around families. In line with this, one of the weaknesses of this dataset is a lack of data on normative developmental challenges as it relates to truancy. Future complimentary studies capable of assessing contextual and situational risk of identified correlates are a natural extension of the present investigation.

Despite these limitations, this study provides an empirical examination of the prevalence and correlates of truancy in a nationally representative sample. We find that truancy is robustly associated with an increased probability of reporting externalizing behaviors, less parental involvement, and engagement and lower grades in school suggesting the importance of the interplay between externalizing and disengaging from school.

Conflict of interest statement

The authors report no conflicts of interest.

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