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I am submitting herewith a dissertation written by Melissa Kathryn Hunt entitled "Predicting High School Truancy and Academic Performance among Students in the Appalachian South." I have examined the final electronic copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

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PREDICTING HIGH SCHOOL TRUANCY AND ACADEMIC PERFORMANCE AMONG STUDENTS IN THE APPALACHIAN SOUTH

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Melissa Kathryn Hunt

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DEDICATION

To my husband, Luke,

who holds me up with one hand

and pushes me forward with the other.

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ABSTRACT

Truancy and academic underachievement are significant problems among adolescents. Considering the historical emphasis on studying delinquency in populated urban areas, a more concerted effort is needed to examine this issue in rural areas to determine the extent to which findings are culturally generalizable. As a move in this direction, truant behavior was examined in an East Tennessee county in the southern region of the Appalachian Mountains. The primary objective of this exploratory investigation was to assess personality, behavioral, religious, and environmental factors most associated with high school absenteeism and academic achievement in the Appalachian south. Participants were 374 adolescents in grades 9 through 12 who attended four different high schools in a rural county in East Tennessee. Results of the current study lend some support to the notion that problem behaviors tend to cluster within individuals and be inversely related to academic performance. Having set rules and boundaries within the home was found to be important in preventing truant behavior among this high school sample. Participation in prosocial activities was not supported as a protective factor against problem behaviors to the extent that has been found in other samples. Regression analyses indicate that alcohol use and increased sexual activity were especially strongly associated with truant behavior and academic underperformance, as well as the possibility of a cumulative negative effect of absenteeism on G.P.A. over time.

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CHAPTER 1

INTRODUCTION

Truancy and academic underachievement are significant problems among adolescents with respect to the deleterious effects on young persons and the larger-scale effects on society. The U.S. Department of Education currently has no national statistics on truancy, largely because the definition of habitual truancy varies widely across states and school systems. On an individual level, high rates of truant behavior have been associated with increased substance use (Bryant & Zimmerman, 2002; Hallfors et al., 2002; MacLeod, 1995; White, Fyfe, Campbell, & Goldcamp, 2001; Zimmerman & Maton, 1992), earlier initiation of sexual intercourse (Leitenberg & Saltzman, 2000), delinquency, poor academic performance, and high school dropout (White et al., 2001). On a social level, school truancy is associated with future unemployment and reliance on welfare, a less educated workforce, increased cost of social services for truancy intervention efforts, decreased federal and state educational funding, and increased criminal behavior and imprisonment (Baker, Sigmon, & Nugent, 2001; Hallfors et al., 2002; White et al., 2001).

In response to the numerous negative effects of school truancy, many schools across the United States have incorporated truancy intervention programs. These programs often involve intensive work with students and their parents to minimize environmental factors contributing to truant behavior. Problematically, these programs generally are initiated only after students have lost valuable learning time. As an

alternative, primary-prevention programs might serve to proactively reduce truancy and the negative consequences of truancy experienced by students, parents, and society. Unfortunately, our current understanding of the psychosocial predictors of school truancy is limited, especially among rural populations, hindering progress toward resolving the problem. Thus the immediate objective of the current study is to identify correlates and predictors of truant behavior within an Appalachian sample, with the longer-term goal to utilize this knowledge to promote the development of empirically-based, structured interventions that may be implemented within educational systems in Appalachia. Accordingly, parents, teachers, and school officials may be more prepared to target high-risk students, thus limiting the substantial negative consequences of truant behavior.

Related to the issue of truancy, school administrators across the United States report that academic underachievement is a primary concern in the public school system (National Center for Education Statistics, 1998). Truancy and underachievement are associated with school dropout (Dynarski & Gleason, 1999; McCaughlin & Vachu, 1992), crime and violent offenses (Garry, 1996), and other problem behaviors (Jones, 1996; Newsome, 2004). Decreased grade point average (G.P.A.) is highly associated with truancy, and together these problems are associated with other significant issues such as substance use and delinquency (Hallfors, Cho, Brodish, Flewelling, & Khatapoush, 2006; Lamdin, 1996; Peterson & Colangelo, 1996). Decreased G.P.A. also is highly predictive of sexual risk taking among adolescents (Luster & Small, 1994), as well as risk of car accidents and traffic citations (McCartt, Shabanova, & Leaf, 2003). Much like truancy, a common approach to addressing academic underachievement is through intervention and incentive programs. For example, many schools provide after-school enrichment

activities, tutorial programs, individual counseling, and active communication with parents or guardians (Chapman & Sawyer, 2001; Ford & Sutphen, 1996; Newsome, 2004; Schinke, Cole & Poulin, 2000).

As it is clear that school absenteeism and poor academic performance are significant problems that have considerable long term negative consequences, research efforts must focus on identifying variables most associated with these problems. In this way we can better understand how school absenteeism and substandard academic performance may best be addressed through intervention or prevention programs, especially with regard to understudied populations such as rural Appalachia. The problems of truant behavior and academic underachievement are perhaps best approached via a multisystemic framework, which considers not only the individual characteristics of each child, but also aspects of the child's family and community (Bronfenbrenner, 1979). With consideration of Bronfenbrenner's (1979) multi-systemic approach to understanding adolescent behavior and Jessor and Jessor's Problem Behavior Theory (1987), this study examined the predictive validity of several psychosocial variables theoretically related to school absenteeism and poor academic performance as observed among high school students in rural Appalachia.

Problem Behavior Theory

Jessor and Jessor's Problem Behavior Theory (PBT) provides a useful starting point for considering the problems of truant behavior and academic underachievement (Jessor, 1987; Jessor, Donovan, & Costa, 1991) in that it takes a multidimensional approach to understanding problem behaviors. Problem behaviors are defined as those

that can "compromise health, well-being, or social performance" (Jessor et al., 1995). In an effort to explain behavior problems, PBT identifies three major dimensions of the individual system, including one's personality (i.e., internalizing problems and personal beliefs), overt behaviors (i.e., externalizing problems and prosocial activities), and environmental factors as perceived by the individual. *Proneness* is a core concept of PBT and refers to the strength of tendencies to engage in problem behaviors, reflecting instigations toward or controls against problem behavior within each of the three dimensions (Donovan, 1996; Jessor, 1987; Jessor et al., 1991, 1995). PBT holds that proneness toward problem behaviors tends to generalize in individuals, such that participating in one problem behavior increases the likelihood of engaging in other problematic behaviors. As a result, effective intervention of one problem may have transfer effects to other behavioral problems, such as when the prevention of drug use has the positive effect of reducing truancy (Hallfors et al., 2002). Similarly, other research strongly suggests that risk factors tend to cluster in the same individuals (Masten & Coatsworth, 1998; Sameroff, Seifer, Baldwin, & Baldwin, 1993; Sameroff, Seifer, Barocas, Zax & Greenspan 1987). For example, substance use appears to be a common correlate with both truancy and poor academic performance (Bryant & Zimmerman, 2002; Hallfors et al., 2002, 2006; White, Fyfe, Campbell, & Goldcamp, 2001), and individuals who engage in substance use also are more predisposed to engage in risky sexual behavior (Hallfors et al., 2002; Leitenberg & Saltzman, 2000; Patterson, Dishion & Yoerger, 2000). Alternatively, other researchers have suggested that problem behaviors tend to cluster together within individuals not because of an underlying "proneness" to engaging in risky or problematic behavior, but rather because some

problematic activities (for example, drug use) tend to lead to involvement in problematic activities (Elliot & Morse, 1989; Yamaguchi & Kandel, 1987; and Kandel, Raveis, & Davies, 1991).

Personality Traits and Internalizing Problems

Emotional functioning is an important factor to consider in the study of truant behavior and academic performance given research on the behavioral correlates of negative emotions (Barlow, 2002). In PBT terms, emotional functioning fits into the Personality System (Jessor et al., 1991, 1995). PBT incorporates not only the interrelatedness of problem behaviors (i.e., proneness), but also the influence of the personality system on behaviors. For example, decreased self-esteem, aversive social experiences, and increased anxiety and depressive symptoms may be risk factors for problem behaviors such as substance abuse, poor school performance, and truancy (Brandibas, Jeunier, Clanet, & Fouraste, 2004; Breuner, Smith, & Womack, 2004; Forsterling & Binser, 2002; Hollon, 1970). Additionally, research has indicated that adolescents' academic self-concepts are significantly related to G.P.A. (Anderman, Anderman, & Griesinger, 1999). Intuitively, difficulties with attention and thought problems would also contribute to poorer academic performance, particularly if these problems are unrecognized or untreated.

Religiosity

An area of research that has not been clearly woven into PBT is religiosity, particularly the distinction between intrinsic and extrinsic religiosity. *Intrinsic religiosity*

is an internal sense of spirituality and religious value, while *extrinsic religiosity* encompasses actions that indicate religiousness to others. In PBT, religious affiliation is classified as part of the behavioral system and is considered a protective factor that may serve to attenuate environmental stressors (Jessor et al, 1995). Jessor and Jessor (1977), defining religiosity as church attendance and the expression of religious attitudes (i.e., not distinguishing intrinsic and extrinsic religiosity), found that religiosity was significantly related to decreased deviant behaviors among adolescents.

According to a recent study, the majority of American youth (i.e., 87%) affiliate with some religious group or tradition and approximately one-half of American teenagers regularly participate in religious organizations in the form of service attendance or participation in youth groups (Smith, Denton, Faris, & Regenerus, 2002). There are differences in religious participation by region, with southern youth being most involved in religious groups (Smith et al., 2002). The relationship between religiosity and externalizing behaviors among adolescents has been studied extensively in recent years. In a three-year longitudinal study, religiosity buffered the effects of life stress on substance use (Wills, Yaeger, & Sandy, 2003) whereas another large-scale study revealed that adolescents who attended church weekly and reported that religion was important to them were less likely to engage in binge drinking, smoking, or marijuana use (Wallace & Forman, 1998). Additionally, they were more likely to engage in healthy eating and exercise behaviors as well as report higher sleep quality (Wallace & Forman, 1998). Furthermore, Bahr et al. (1998) found that students who were religious tended not to use drugs and had few peers who engaged in substance use. Bahr and colleagues (1998) also highlighted religiosity as an intervening variable between parent-adolescent bonding and

adolescent drug use, with the association for mother-adolescent bonding being stronger than father-adolescent bonding. To summarize, religiosity appears to be adaptive insofar as it mitigates against problematic behaviors and outcomes such as delinquency, juvenile court referrals, substance use, teen pregnancy, and sexual permissiveness (Adams & Berzonsky, 2003; Hardy & Raffaelli, 2003; Thomas & Carver, 1990). Religious involvement and commitment often also appear to increase prosocial qualities in adolescence, such as school achievement and attendance, higher quality familial relationships, and engagement in community services (Youniss et al., 1999).

Although intrinsic and extrinsic religiosity in adolescence have been associated with better psychological adjustment in some studies (Milevsky & Levitt, 2004), the literature is largely inconsistent in terms of the effects of religiosity on emotional functioning in adolescents. For example, Bergin et al. (1987) found that intrinsic religiosity was negatively correlated with anxiety and positively associated with increased quality of life. Similarly, in a sample of African-American female adolescents, increased intrinsic and extrinsic religiosity were associated with improved psychological functioning (Ball, Armistead, & Austin, 2003). College students and adolescents who use religious coping also appear to have lower levels of depression (Gray, 1987; Park et. al., 1990; Wright, Frost, & Wisecarver, 1993). On the other hand, religiosity may correlate with depression in the opposite direction (Pearce et al., 2003). Rabins et al. (1990) reported that extrinsic religious orientation and negative reframing of events were positively associated with depression. Pearce and colleagues (2003) found that perceptions of inadequate support from the congregation and negative relationship dynamics were strong predictors of depressive symptoms. While a great deal of existing

research supports religion as a healthy avenue for identity development and optimal psychosocial functioning, there are enough exceptions to warrant further investigation. In particular, these exceptions include findings that extrinsic religious orientation has been positively associated with depression in some samples (Rabins et al., 1990), mixed results in the extant literature regarding death anxiety (Cohen et al., 2005), and findings that religious beliefs have been associated with treatment refusal among adolescent cancer patients (Blotcky, Cohen, Conatser, & Klopovich, 1985).

In general, research supports the notion that religion is a developmental asset and may be a protective factor against substance use, high-risk sexual behaviors, and academic problems throughout the adolescent years (Adlaf & Smart, 1985; Amey, Albrecht & Miller, 1996; Hadaway, Elifson & Petersen, 1984; Jessor, Chase, & Donovan, 1980; Jessor & Jessor, 1977; Foshee & Hollinger, 1996; Wills, Yaeger, & Sandy, 2003). In spite of these important findings, direct associations between religiosity and truancy have not been assessed in the literature. Given the highly spiritual nature of the Appalachian culture, increased understanding of the role of religiosity pertaining to school performance and externalizing behaviors seems vitally important to garnering a multisystemic picture of the problem of truant behavior and academic underachievement among teens in the Appalachian South.

Family and Environment

Family environment and socio-economic variables are part of the Perceived Environment System according to PBT (Jessor et al., 1991). It is clear that increased familial and other environmental stressors is positively associated with externalizing

behaviors that include substance use and school-related problems such as truancy (Bryant & Zimmerman, 2002; DeWit, Silverman, Goodstadt, & Studuto, 1995; Lisak & Miller, 2002; Voelker, 2004). With regard to family structure, Bosworth (1994) reported that individuals with more siblings and those from single-parent families were more likely to be truant. Research also suggests that adolescents with divorced parents had lower G.P.A.'s and school attendance on average than those from intact families, with this trend more pronounced among females than males (Ham, 2003). Wills et al. (2003) also reported that adolescents from single-parent and blended families reported higher rates of substance abuse. Consistent with PBT, in addition to family structure, the experiential environment of the family is important toward understanding externalizing behaviors in adolescents. Researchers have found that decreased family support and parental monitoring, increased family conflict, and insecure attachment to parents have been associated with substance abuse and truancy among adolescents, as well as poorer performance in academic settings (Bean, 1992; Bimler & Kirkland, 2001; Brown, Mounts, Lamborn, & Steinberg, 1993; Bryant & Zimmerman, 2002; Jacobson & Crockett, 2000; Laundra, Kiger, & Bahr, 2002). Poor early parent-child relationships have been found to predict later negative outcomes, such as poor school performance (Pianta & Harbers, 1996; Sameroff et al., 1993; Sameroff et al.,1987).

In a longitudinal research program, Conger and colleagues followed more than 300 adolescents from seventh grade until after high school, assessing individual, family, school, and community factors (Elder & Conger, 2000). The authors demonstrated the importance of traditional values of families in the rural Midwest in facilitating prosocial adolescent behavior (Elder & Conger, 2000). In particular, Conger and colleagues found

that the proportion of single-parent households in the community had a direct effect on girls' conduct problems, as well as an indirect effect by increasing the probability of involvement with deviant peers (Simons et al., 1996). In two-parent families, parental hostility directed toward children was associated with adolescent antisocial behavior, and marital conflict was directly related to adolescent drinking (Conger, Lorenz, Elder, & Melby, 1991). Along these lines, Conger et al. found that increased parental control contributed to increased adjustment problems and decreased self-confidence among adolescents (Conger, Conger, & Scaramella, 1997). Additionally, these researchers found stressful life events and internalizing and externalizing problems were reciprocally interrelated over time (Kim, Conger, Elder, & Lorenz, 2003). In the current study, socioeconomic factors, family structure, and students' perceptions of family environment were assessed.

The Current Study

Considering the historical emphasis on studying delinquency in populated urban areas (Bryant & Zimmerman, 2002), a more concerted effort is needed to examine this issue in rural and underserved areas to determine the extent to which findings are culturally generalizable. As a move in this direction, truant behavior and academic performance were examined in an East Tennessee county in the southern region of the Appalachian Mountains. Geographically, Appalachia refers to land within the Appalachian mountain system extending from Georgia to Maine. This area and its people have many unique qualities. Appalachia is one of the poorest regions of the United States (Kronick, 2005), though as a culture, Appalachian people demonstrate a remarkably

strong attachment to place. They tend to distrust people they view as outsiders. Appalachian people generally exhibit a sense of pride and individuality, and tend to be highly spiritual. Appalachian culture promotes inductive reasoning, intuition, and creativity (Best, 1986; Kronick, 2005). Appalachian people tend to be more parsimonious with their language, avoiding superfluous discourse. Behaviorally, Appalachian people tend to be more emotion driven rather than thought driven (Best, 1986; Kronick, 2005).

In light of the paucity of research focused on assessing psychosocial correlates of truancy in non-urban areas, the primary objective of this exploratory investigation was to assess personality, behavioral, religious, and environmental factors most associated with high school absenteeism and academic achievement in the Appalachian south. Psychosocial factors assessed included: religiosity (religious beliefs and involvement), environmental factors (family structure, parents' education, and teens' perceptions of family functioning), internalizing problems and personality factors (anxiety, depression, thought problems, attentional problems, and personal beliefs), and externalizing problems and overt behaviors (participation in school activities, substance use, high-risk sexual behaviors, and rule-breaking behaviors). The following hypotheses were tested: H1: externalizing or problem behaviors would be positively correlated, or cluster within individuals; H2: religiosity, participation in school activities, and positive family support (all considered protective factors according to PBT) would be negatively associated with problem behaviors (truant behavior in particular) and positively associated with academic performance; H3: internalizing problems (e.g. anxiety and depression) would be positively associated with problem behaviors and inversely related to positive family support as well as academic achievement; H4: G.P.A. and truant behavior would be

significantly and negatively correlated; H5: Psychosocial variables would account for significant variance in predicting high school absenteeism as assessed via regression analyses; and H6: Psychosocial variables would account for significant unique variance in predicting academic performance as assessed via regression analyses.

CHAPTER 2

METHOD

Participants

Participants included 374 adolescents in grades 9 through 12 who attended four different high schools in a rural county in East Tennessee. This area is considered Appalachian both geographically and culturally. A representative sample of students was targeted by administering the study in the context of English classes, a course common to all students regardless of their choice to pursue a college or vocational track. As the schools participating in this project operated on block scheduling, approximately half of the students were enrolled in English class at any given time. All English classes were included with the exception of those fulfilling special education requirements.

Instruments

The Religious Commitment Inventory-11

The *Religious Commitment Inventory-11* (RCI-11) is an 11-item scale modified from the RCI-10 (Worthington et al., 2003) to assess religiosity in teenagers. Strong internal consistency (coefficient alpha = .93) and test-retest reliability (.87 at three weeks) have been documented for the RCI-10 with adults (Worthington et al., 2003). Construct validity has been demonstrated as response patterns on the RCI-10 positively and significantly correlate with religious participation, viewing salvation as a primary value, self-rated spirituality, and self-rated religious commitment (Worthington et al., 2003).

Since the wording was somewhat inappropriate for adolescents, the RCI-10 was modified by revising the language to be more applicable for teenagers. For example, on the RCI-10, the second item reads, "I make financial contributions to my religious organization." Considering that teenagers may not have the means to make financial contributions, but may be contributing in other ways, this item was changed to, "I give money or devote some of my time in order to help the causes endorsed by my religious organization." The eleventh item, "I feel that it is important to share my faith with others," was added by the current authors. This item was thought to accurately reflect both a reasonable way that adolescents can demonstrate faith and a basic tenet of the Christian church, which is the most common form of organized religion in the Appalachian south. The total score from the RCI-11 was used in data analysis. Internal consistency for the RCI-11 was strong in the current sample (Alpha = .95; M = 30.5, SD = 13.16).

The Sexual Behaviors Questionnaire

The *Sexual Behaviors Questionnaire* is an eight-item questionnaire assessing the degree of risky sexual behavior. Brief, age-appropriate questionnaires regarding sexual activity are not readily available. Therefore, this face-valid questionnaire was developed for this study. Internal consistency cannot be calculated given the structure of the questionnaire. Select items from this questionnaire were used for data analysis in the current study. Items that tapped frequency of and risk level associated with participants' sexual intercourse experiences were utilized and included: "Have you ever had sexual intercourse?" (responses: a) never, b)once, c) 2 – 5 times, d) 6 – 10 times, and e) more than 10 times); "When you have sexual intercourse, how often do you or your sexual

partner use condoms?;" and "How many partners have you had sexual intercourse with in the past year?"

The Perceived Benefit of Drinking Scale and the Perceived Benefit of Drug Use Scale

The *Perceived Benefit of Drinking Scale* and the *Perceived Benefit of Drug Use Scale* are both 5-item scales that provide information regarding the function of substance use in adolescents' lives. Research has indicated adequate internal consistency (alpha = 0.69 and 0.82, respectively) and discriminant validity in these two scales (Petchers, Singer, Angelotta, & Chow, 1988). In the current study, the Perceived Benefit Scales were presented as part of a modification of the St. Vincent Charity Hospital and Health Center Adolescent Unit Youth Questionnaire, a 36-item self-report questionnaire given to adolescent inpatients (Bean, 1992). Additional questionnaire items assess frequency and circumstances of use, level of intoxication, and problems related to substance use. The author of this study eliminated items from the youth questionnaire that were redundant to other questionnaires in the packet, and changed some of the wording to reflect today's youth culture. No items from the Perceived Benefit scales were altered. In the current study, good internal reliability was found for both the Perceived Benefit of Drinking scale (Alpha = .77) and the Perceived Benefit of Drug Use scale (Alpha = .85).

The Youth Self-Report

The *Youth Self-Report* (YSR) is a measure for adolescents aged 11-18, designed as a self-report extension of the *Child Behavior Checklist (CBCL)* to assess emotional functioning, activities, and problem behaviors. This measure is widely used among

mental health professionals and yields two primary factors, Internalizing and Externalizing behaviors. Three symptom patterns load most significantly on the Internalizing factor: Anxious/Depressed (.81), Withdrawn/Depressed (.60), and Somatic Complaints (.54) (Achenbach & Rescorla, 2001). On the Externalizing factor, the Aggressive Behavior and Rule-Breaking Behavior symptom patterns had loadings of .90 and .72, respectively (Achenbach & Rescorla, 2001). Social Problems, Thought Problems, and Attention Problems comprise the group of mixed syndromes, as they load moderately on both factors (Achenbach & Rescorla, 2001). Internal consistency across subscales ranges from 0.71 to 0.95 for the YSR (Achenbach, 1991; Achenbach & Edelbrock, 1986). All scale scores on the YSR discriminate between clinical and non-clinical individuals and correlate significantly with DSM-IV clinical diagnoses (Achenbach & Rescorla, 2001). Sternberg and colleagues (1993) reported YSR differences among children as a function of physical abuse, with abused children endorsing more internalizing and externalizing behaviors. In the current study, the two primary factors, as well as individual scales are considered in data analysis to fully capture the effects of these variables on truant behavior and academic performance.

The Family Environment Scale

The *Family Environment Scale* Real Form (FES Form R) is a 90-item true/false self-report measure of individuals' perceptions of their current family environment. The scale has been adequately normed and is psychometrically sound (Moos & Moos, 2002). The measure consists of 10 subscales: Cohesion, Expressive, Conflict, Independence, Achievement, Intellectual-Cultural, Active-Recreational, Moral-Religious, Organization,

and Control (Moos & Moos, 2002). The Cohesion subscale assesses "the degree of commitment, help, and support family members provide for one another" (Moos & Moos, 2002). The Expressiveness subscale reflects the experience of family members being encouraged to express their feelings directly. The Conflict subscale assessed "openly expressed" anger among family members (Moos & Moos, 2002). These three subscales reflect relationship dimensions within the family. The FES contains five scales intended to assess personal growth dimensions within the family: Independence, Achievement Orientation, Intellectual-Cultural Orientation, Active-Recreational Orientation, and Moral-Religious Emphasis. Finally, two subscales measure system maintenance dimensions within the family. The Organization subscale reflects "the degree of importance of clear organization and structure in planning family activities and responsibilities" (Moos & Moos, 2002). The Control subscale assesses the extent to which there are set rules and procedures utilized in the family life (Moos & Moos, 2002). Internal consistency across subscales ranges from .61 to .78, and test-retest reliability at two months ranges from .68 to .86 across subscales (Mancini & Sporakowski, 1994). Individuals from larger families tend to report lower cohesion, expressiveness, independence, and organization, as well as higher conflict, recreation, and control. Individuals from single-parent families indicate experiencing more expressiveness, conflict, organization, and independence than two-parent families, although this finding has not been consistent across studies. Families of youth with behavior problems, conduct disorders, substance abuse, and emotional problems all indicate decreased cohesion, expressiveness, independence, achievement orientation, and intellectual, recreational, and religious pursuits, as well as increased conflict and control. No differences have been

found between depressed and non-depressed members of the same family in perception of family environment (Moos & Moos, 2002). Subscale scores were used in the current study for data analysis.

Procedure

Informed consent forms were given to students in all English classes for grades 9 through 12 at high schools participating in the study. Students were asked to take them home to be read and signed by their parents. Only students who obtained consent from their parents participated in the study. Participants remained in the classroom while completing self-report measures. Students not participating in the study were given other tasks to perform by the teacher. Participating students were provided with a description of the study and were asked to sign an informed assent form. If both parental consent and student assent were obtained, students were asked to complete a demographics form followed by five self-report measures. This generally took approximately 60 minutes. The demographics form consisted of questions regarding age, grade level, ethnicity, participation in extra-curricular activities, parents' education and marital status, attendance in counseling and juvenile detention centers, and participation in organized religion. Data on truant behavior and grades were obtained for each student from school records provided by school office personnel (Zimmerman, Caldwell, & Bernat, 2002). In the current study, truant behavior or absenteeism was defined as total number of unexcused absences for the entire 2004-2005 academic year.

CHAPTER 3

RESULTS

Descriptive Statistics and Bivariate Correlations

Descriptive statistics are provided on primary variables and are presented in Table A-1. Bivariate correlations among variables were assessed using Pearson Product-Moment Correlations, and those that correlated significantly with either truancy or GPA are presented in Table A-2. Consistent with Hypothesis 1 (*i.e.* that problem behaviors would be correlated within individuals), multiple problem behavior variables were significantly and positively correlated with truant behavior. G.P.A. was significantly negatively associated with multiple externalizing problems. Total scores on the Perceived Benefit of Drinking Scale correlated significantly with absenteeism ($r = .18$, $p < .01$) and G.P.A. ($r = -.34$, $p < .01$). Total scores on the Perceived Benefit of Drinking Scale also were significantly and positively associated with frequency of alcohol use ($r = .67$, $p < .01$), speaking to the construct validity of the scale. Perceived Benefit of Drug Use Scale total scores also correlated significantly with both absenteeism ($r = .18$, $p < .01$) and G.P.A. ($r = -.34$, $p < .01$). A strong positive correlation was found between total scores on this scale and frequency of drug use ($r = .74$, $p < .01$), supporting the construct validity of the Perceived Benefit of Drug Use Scale. Additionally, frequency of alcohol use correlated significantly with frequency of drug use ($r = .52$, $p < .01$), total number of sexual intercourse experiences ($r = .38$, $p < .001$), and total number of sexual partners within the last year ($r = .41$, $p < .01$). Frequency of drug use was correlated significantly with total number of sexual intercourse experiences ($r = .30$, $p < .001$).

The second hypothesis of the current study was that religiosity, participation in school activities, and positive family support would be negatively associated with problem behaviors (absenteeism in particular) and positively associated with academic performance. Correlations specific to this hypothesis are presented in Table A-3. Consistent with hypothesis 2, RCI total scores were correlated negatively and significantly with frequency of alcohol use ($r = -.27$, $p < .01$), frequency of drug use ($r = -.22$, $p < .01$), and absenteeism ($r = -.12$, $p = .02$). RCI total scores were associated positively with GPA ($r = .36$, $p < .01$). Participation in school sports was negatively associated with scores on the YSR Rule-breaking scale ($r = -.11$, $p < .05$), as was participation in school leadership activities ($r = -.13$, $p = .01$). Participation in school leadership activities also was associated negatively with frequency of drug use ($r = -.14$, $p < .01$). Both participation in sports ($r = .22$, $p < .01$) and participation in school leadership activities ($r = .30$, $p < .01$) were positively associated with higher GPA. FES cohesion scale scores were associated with fewer externalizing problems across variables.

It was hypothesized (hypothesis 3) that internalizing problems would be positively associated with problem behaviors and inversely related to positive family support as well as academic achievement. In the current sample, the mean score for the YSR Internalizing factor was 54.1 (SD = 11.4), and the mean score for the YSR Externalizing factor was 55.3 (SD = 10.7). Both truant behavior ($r = .12$, $p < .05$) and G.P.A. ($r = -.31$, $p < .001$) correlated significantly with the Externalizing factor, while neither truant behavior ($r = .09$) or G.P.A. ($r = -.03$) correlated significantly with the Internalizing factor. When looking at individual scale scores, differences existed between truant behavior and G.P.A. in terms of which YSR scale scores correlated with each

dependent variable. Correlations between internalizing problems and externalizing problems, as well as between internalizing problems and family support variables are presented in Table A-4. Scores on the YSR Thought Problems scale were negatively associated with GPA ($r = -.18$, $p < .01$) and positively associated with YSR Rule-breaking scale scores ($r = .53$, $p < .01$), YSR Aggression scale scores ($r = .56$, $p < .01$), frequency of alcohol use ($r = .25$, $p < .01$), and frequency of drug use ($r = .25$, $p < .01$), among others. YSR Withdrawn/depressed scale scores correlated significantly and positively with frequency of alcohol use ($r = .13$. $p = .01$) and frequency of drug use ($r = .16$, $p < .01$). YSR Attention Problems scale scores were significantly correlated with truant behavior ($r = .14$, $p < .01$), YSR Rule-Breaking scale scores ($r = .56$, $p < .01$), frequency of alcohol use ($r = .23$, $p < .01$), frequency of drug use ($r = .29$, $p < .01$), total number of sexual intercourse experiences ($r = .19$, $p < .01$), and number of sexual partners within the past year ($r = .23$, $p < .01$). Regarding participants' perceptions of family support, higher scores on the YSR Withdrawn/Depressed scale correlated negatively with FES Cohesiveness scale ($r = -.40$, $p < .01$), FES Expressiveness scale ($r = -.14$, $p < .01$), and positively with FES Conflict Scale ($r = .33$, $p < .01$). YSR Anxiety scale scores correlated negatively with FES Cohesiveness scale scores ($r = -.37$, $p < .01$) and FES Expressiveness scale scores ($r = -.17$, $p < .01$), and positively with FES Conflict scale scores ($r = .38$, $p < .01$). Consistent with hypothesis 4, truant behavior and GPA were significantly negatively correlated ($r = -.30$, $p < .001$).

Multivariate Regression Analyses

For multivariate procedures, hierarchical regression analysis was used to formulate a model of the association between truant behavior and significantly correlated predictor variables (using R^2). The coefficient of multiple determination (R^2) indicates the proportion of variability in truancy that is associated with each predictor variable in the model. In the context of hierarchical regression analysis, Analysis of Variance was used to provide an F-test of the overall model, in order to determine whether the regression model with multiple predictor variables accounted for significant variance beyond that accounted for by controlled variables.

Hierarchical regression analysis for predicting truant behavior included the following independent variables: *Block 1*: G.P.A.; *Block 2*: age and mother's level of education; *Block 3:* YSR withdrawn and depressed scale, YSR attention problems scale, frequency of becoming intoxicated, drug use frequency, Perceived Benefit of Drinking total score, Perceived Benefit of Drug Use total score, total number of times having sexual intercourse, frequency of condom use, RCI total score, FES Cohesion scale, FES Moral-Religious scale, and FES Control Scale. These variables were included in the regression analysis because bivariate correlations revealed significant associations with truant behavior, and they theoretically should account for variance in truant behavior. Although demographic information was analyzed in the study, ethnicity data were not included in analyses because the sample was almost exclusively Caucasian. In the regression analysis for truant behavior, G.P.A. was entered in the first block, demographic and SES variables were entered in the second block, and all other psychosocial variables were entered into the third block. Truant behavior was examined

as a continuous variable. As indicated in Table A-5, all three regression models were significant. However, the regression model containing age and mother's education was significant in predicting truant behavior (R = .40, adjusted r^2 = .15, F (3, 302) = 18.71, p < .001), beyond a model that contained only G.P.A. (R = .33, adjusted r^2 = .11, F (1, 304) = 37.89, p < .001). Furthermore, the model containing independent psychosocial predictor variables (R = .46, adjusted r^2 = .22, F (15, 290) = 5.31, p < .001) was significant in predicting truant behavior beyond the first two models. Specifically, G.P.A., age, frequency of drinking to intoxication, total number of sexual intercourse experiences, and FES Control scale score accounted for unique and significant variance in the model. Additionally, mother's level of education and YSR Withdrawn/Depressed scale score accounted for marginally significant amounts of variance in the regression model.

Because the relationship between truant behavior and G.P.A. was significant, and because correlation analyses revealed that a number of individual, behavioral, and social variables were significantly associated with G.P.A., a separate hierarchical regression analysis was conducted to formulate a predictive model for G.P.A. In the regression for G.P.A., truant behavior was entered in the first block, demographic and SES variables were entered in the second block, and psychosocial variables were entered into the second block. G.P.A. was examined as a continuous variable. Potential predictors included in the regression model were: age, gender, mother's level of education, father's level of education, participation in school sports, participation in school leadership activities and/or academic clubs, frequency of becoming intoxicated, drug use frequency, Perceived Benefit of Drinking total score, Perceived Benefit of Drug Use total score, total

number of times having sexual intercourse, YSR Attention Problems scale, YSR Rule-breaking scale, RCI total score, and FES Control scale. These variables were included in the regression because bivariate correlations revealed significant associations with G.P.A. ($p < .05$) and because theoretically it was assumed they would account for significant variance in predicting G.P.A. As presented in Table A-6, all three regression models were significant. However, the regression model containing demographic and SES variables was better in predicting G.P.A. ($R = .51$, adjusted $r^2 = .24$, F (5, 294) = 20.35, $p < .001$), than a model that contained only absenteeism ($R = .35$, adjusted $r^2 = .12$, F (1, 298) = 40.22, $p < .001$). Moreover, the regression model containing independent psychosocial variables ($R = .69$, adjusted $r^2 = .45$, F (16, 283) = 15.98, $p < .001$) was significant in predicting G.P.A. beyond the first two models. The following variables added unique, significant variance to the model: absenteeism, age, gender, father's level of education, participation in sports activities, participation in academic leadership activities, frequency of alcohol use, Perceived Benefit of Drinking total score, total number of sexual intercourse experiences, and YSR Attention Problems scale.

CHAPTER 4

DISCUSSION

Results of the current study lend at least partial support to the hypothesis that problem behaviors cluster within individuals and are inversely related to academic performance. Truant behavior was positively associated with multiple externalizing problems, and G.P.A. was negatively correlated with multiple externalizing problems. Alcohol use and intoxication, as well as total scores on the Perceived Benefit of Drinking Scale, correlated significantly with absenteeism ($r = .18$) and G.P.A. ($r = -.34$). This finding provides support for the notion of proneness in the current sample, particularly since total scores on the Perceived Benefit of Drinking Scale also were significantly and positively associated with frequency of alcohol use ($r = .67$, $p = .01$). Drug use and frequency of getting high, in addition to Perceived Benefit of Drug Use Scale total scores, also correlated significantly with both truant behavior ($r = .18$) and G.P.A. ($r = -.34$), providing further support for the notion of problem behaviors clustering within individuals. Further examination of correlations among externalizing problem behaviors also suggested that Jessor's notion of proneness holds true to some extent in this Appalachian adolescent sample. Specifically, rule-breaking behaviors, frequency of alcohol use, more frequent drinking to intoxication, frequency of drug use, greater number of sexual intercourse experiences, higher number of sexual partners, and less frequency of condom use with sexual intercourse correlated significantly with higher levels of truant behavior. The same externalizing problems, with the addition of

aggressive behaviors, were associated significantly with lower G.P.A. However, in the regression analyses for both truant behavior and GPA, it became clear that, among externalizing behaviors, alcohol use was an important variable in understanding academic performance in the current sample. For absenteeism, frequency of drinking to intoxication was significantly associated with higher rates. For GPA, simply drinking alcohol more often, regardless of intoxication level, was associated with worse performance academically. Additionally, total number of sexual intercourse experiences accounted for significant variance in regressions for both truant behavior and G.P.A., indicating that adolescents who have more sexual intercourse experiences also have higher rates of absenteeism and poorer academic performance.

Secondly, it was predicted that family support and participation in prosocial activities would play a role in predicting academic performance and truant behavior. Adolescent perceptions of their families as more cohesive was correlated with a more healthy behavioral pattern across externalizing variables. There was some support, albeit minimal, that family support was significant in the regression model for truant behavior, but family support was not significant in predicting G.P.A. Specifically, higher scores on the Control scale of the FES were associated with lower rates of unexcused absences. Intuitively, this makes sense, given that the Control scale measures the extent to which set rules and procedures are used to run family life. In other words, parental provision of structure within the home was highly associated with decreased rates of truant behavior among this high school sample.

In the current sample, RCI total scores and prosocial activities were significantly correlated with decreased problem behaviors. However, neither participating in prosocial

activities nor having strong religious beliefs predicted lower absenteeism rates in the regression analysis. On the other hand, participation in sports and being active in academic or leadership clubs at school was significantly associated with higher G.P.A. in the regression analysis. RCI total scores were significantly correlated with less truant behavior, decreased frequency of alcohol and drug use, lower total number of sexual intercourse experiences, fewer sexual partners, and increased use of condoms during intercourse. Although religiosity is frequently found as a protective measure against externalizing behaviors, this finding did not hold true for truant behavior in the Appalachian population in the regression analysis, and the correlation between RCI total scores and absenteeism was small ($r = -.12$, $p < .05$). One possibility is that the potency of religion as a protective factor is minimized in the context of a highly spiritual culture and largely church-going population such as the Appalachian south. In other words, in contrast with the current geographical setting, research in more urban settings that suggests practicing religion is strongly negatively correlated with externalizing behaviors may be related to the fact that being religious is less ingrained in the culture, and thus more significant in the life of the individual adolescent, leading to behavioral choices that are more commensurate with religious beliefs. Alternatively, truant behavior may present a different kind of externalizing behavior—a different construct altogether—leading to different findings in terms of predicting and preventing it. However, given the strong intercorrelation between truant behavior and other problem behaviors, the latter seems less likely. Additionally, participation in prosocial activities was not supported as a protective factor against problem behaviors to the extent that has been found in other

samples. It is possible that a limited availability of prosocial activities may impact their utility in this Appalachian school population.

Results of the current study support the original hypothesis that G.P.A. and truant behavior would be inversely and significantly correlated, as indicated via bivariate correlations and supported by multivariate regression procedures. Although not all variables were significant in predicting truant behavior and academic performance in the regression analyses, several were significant. Specifically, lower G.P.A., increased age, increased frequency of drinking to intoxication, increased sexual intercourse experiences, and more controlled family environment were significant in predicting absenteeism rates. Increased number of unexcused absences, increased age, gender, father's level of education, participation in sports or academic leadership activities, frequency of alcohol use, beliefs about drinking, and attention problems were significant in predicting G.P.A. Taken together, both regression analyses strongly suggested that alcohol use and increased sexual intercourse experiences were importantly associated with truant behavior and academic underperformance. It could not be determined definitively whether students who use alcohol and to engage in sexual intercourse more frequently tended to eventually have more unexcused absences or whether students who showed increased truant behaviors tended to begin drinking more alcohol and/or become increasingly sexually active. Regardless, the current data indicated that when one of these behaviors is present, the other is also likely to co-occur. Additionally, results of the two regression analyses suggested the possibility of a cumulative effect of truancy on G.P.A. over time. Having sufficient provision of structure within families was very important in terms of preventing truant behavior, and as a result, possibly impacted academic

performance. Among the current Appalachian sample, it appears that the more educated an adolescent's father, the more likely he or she was to make better grades in school. Additionally, participation in sports and/or academic leadership activities was associated with higher G.P.A., demonstrating an important effect of prosocial activities on academic performance. What could not be determined in the current study, however, was whether students with better grades tended to participate in extracurricular activities, or whether participating in extracurricular activities facilitated greater academic performance. Not surprisingly, students with attentional problems tended to have poorer grades. Importantly, attentional problems in the current sample did not seem to lead to higher rates of truant behavior.

A primary strength of the present investigation was the use of a largely unstudied rural Appalachian sample. Although there is ample research on adolescent problem behaviors and academic achievement, little has been written about adolescents in the Appalachian south. Additionally, the use of varied assessment methods improved the quality of the current study. Specifically, data were gathered by multiple self-report measures, and by obtaining school records of G.P.A. and unexcused absences in order to ensure data validity. Finally, the present investigation took into consideration ideographic characteristics and environments of adolescents, such as internalizing and externalizing behaviors, psychological functioning, participation in activities, interests, and family life.

Limitations

A primary weakness of the current study is its cross-sectional design. Without question, a better understanding of truant behavior and academic performance could be

garnered using a longitudinal design. Ideally, research in this area could promote more definitive conclusions about the causal relationships among variables studied as they pertain to academic underachievement and truancy. Secondly, the present investigation is likely weakened by the use of two measures with untested psychometric properties. Specifically, the RCI-11 was revised for the current high school sample, and there were no data supporting the use of this measure with adolescents. Additionally, the Sexual Behaviors Questionnaire was created by the author for this study. An age-appropriate measure to assess the information in question was not readily available at the time of data collection. Thirdly, this study did not employ a comparison group. Attempts were made to include other school districts in the study, which would have allowed for comparisons between rural Appalachian schools and schools in more populated southern localities. However, although four other school systems were approached for inclusion, the school system represented in this paper was the only one to agree to participate in the project. Finally, there is the possibility of a sampling bias in the current study. Not all students who were recruited for the study actually participated. There may be fundamental differences between those students who did and did not participate. These differences may be related to anything from family dynamics to individual characteristics to situational factors. Also, it is quite possible that those students who fell on the higher end of the absenteeism continuum may not have been at school on the days of data collection. Ultimately the differences between participants and non-participants cannot be determined within the current study.

Conclusion

In summary, the current study adds to the literature and broadens the understanding of adolescent behavior and academic performance by incorporating a sample rarely studied and vitally in need of examination. The Appalachian young people included in this project represent arguably one of the most financially and educationally needy groups in the U.S. While there is certainly some diversity among the sample studied in terms of socioeconomic status, the reality is that few social resources are available to young people in the Appalachian region. By increasing awareness and understanding of environmental, psychological, and behavioral factors that are inhibiting these adolescents' educational and social advancement, it is hoped that progress will be made toward increasing support systems within Appalachian schools and communities aimed at identifying potential for problem behaviors and school failure, and implementing proactive programs for at-risk youth.

Results of this study support the use of early intervention and prevention, as the effects of absenteeism on G.P.A. may be worse as students get older. Creating school incentive programs that intervene with students exhibiting early truant behaviors, including setting up meaningful rewards and consequences based on attendance, would likely be useful to address the problem of nonattendance and academic underachievement in this underserved area. Appalachia is the largest poverty region in the U.S., and it is essential that effective research-based school programs uniquely suited to this population be established in order to further the educational and social development of its youth. Additionally, the current data suggest that it is vitally important to focus intervention efforts on preventing alcohol abuse prior to beginning high school. Students need to be

educated about the affects of alcohol abuse on academic performance. Starting with the middle school grades, school systems should offer direct, honest guidance about drinking in a meaningful way to students. For example, it may be useful to inform students that it is normative for adolescents to experiment with alcohol, but that frequent and excessive use of alcohol impedes learning and academic achievement. School officials paying attention as early as elementary school to warning signs of school failure, such as attentional problems, low level of family structure, and less educated parents, may be another key to prevention. Targeting these at-risk youth, engaging them in positive activities, and providing them with community resources may circumvent the trajectory towards school failure.

There is a great deal of work yet to be done in terms of solidifying our understanding of truant behavior and academic underachievement among Appalachian youth. Future research would ideally include longitudinal studies of Appalachian samples so that causal results regarding behavioral difficulties and academic performance can be obtained. Additionally, future research should be aimed at developing and implementing realistic and feasible primary prevention programs, particularly in underserved regions.

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APPENDIX

Table A-1

Descriptive Statistics for Study Variables

Variable	Mean	Standard Deviation	N
Absenteeism	4.25**	.46	360
G.P.A.	2.75	.87	359
YSR Internalizing	54.09*	11.35	368
YSR Externalizing	55.27*	10.73	368
YSR Anxiety	56.15*	7.69	368
YSR Withdrawn/Depressed	55.82*	7.14	368
YSR Somatic Complaints	57.98*	8.40	368
YSR Social Problems	55.28*	6.50	368
YSR Thought Problems	57.81*	8.59	368
YSR Attention Problems	57.58*	8.36	368
YSR Rule Breaking	58.90*	8.21	368
YSR Aggression	56.27*	7.75	368
Age of first drink	12.98	2.89	263
Drinking Frequency	1.66	0.88	367
Intoxication Frequency	1.85	1.73	363
Friends who drink	2.14	0.67	365
Perceived Benefit of Drinking	1.08	1.58	364
Age of first drug use	13.33	2.16	123
Frequency of getting high	1.56	1.62	360
Friends who use drugs	1.80	0.73	364
Perceived Benefit of Drug Use	0.74	1.54	357
Total Sexual Intercourse	2.55	1.73	366
Condom Use	4.87	1.47	359
Number Sexual Partners Past Year	1.15	1.85	318
RCI Total	30.54	13.16	367
FES Cohesiveness	45.83*	17.71	352
FES Expressiveness	45.65*	11.35	352
FES Conflict	51.96*	13.68	352
FES Independence	44.65*	13.95	352
FES Achievement Orientation	54.70*	10.20	352
FES Intellectual-Cultural Orientation	43.32*	11.70	351
FES Active-Recreational Orientation	50.12*	11.10	352
FES Moral Religious	55.37*	11.39	350
FES Organization	48.37*	12.30	352
FES Control	55.03*	11.12	352

* Indicates T-scores.
** Total number of days missed for the school year.

Table A-2

Bivariate Correlations: Hypothesis 1

Variable	Absenteeism	G.P.A.
YSR Aggression	.08	-.21**
YSR Rule-Breaking	.20**	-.41**
Alcohol Use Frequency	.21**	-.24**
Intoxication Frequency	.20**	-.31**
Drug Use Frequency	.13*	-.31**
Frequency of Getting High	.21**	-.26**
Total Sexual Intercourse	.28**	-.29**
Condom Use	-.19**	.24**
Number Sexual Partners Past Year	.20**	-.36**
Juvenile Detention	.12*	-.14*

* Indicates significance at .05 level.
** Indicates significance at .01 level.

Table A-3

Bivariate Correlations: Hypothesis 2

Variable	FES—Family Cohesion	RCI	Sports	Leadership
Absenteeism	-.14*	-.12*	.02	-.07
G.P.A.	.15**	.36**	.22**	.30**
YSR Aggression	-.36**	-.26**	-.06	.00
YSR Rule-Breaking	-.32**	-.40**	-.11*	-.13*
Alcohol Use Frequency	-.12*	-.27**	.02	-.10
Intoxication Frequency	-.13*	-.22**	.01	-.09
Drug Use Frequency	-.19**	-.22**	-.02	-.14**
Frequency of Getting High	-.13*	-.20**	.01	-.17**
Total Sexual Intercourse	-.14**	-.33**	-.11*	-.05
Condom Use	.22**	.22**	.12*	.03
Number Sexual Partners Past Year	-.11	-.29**	-.07	-.05

* Indicates significance at .05 level.
** Indicates significance at .01 level.

Table A-4

Bivariate Correlations: Hypothesis 3

Variable	Thought Problems	Withdrawn/ Depressed	Attention Problems	Anxiety
Absenteeism	.10	.13*	.14**	.04
G.P.A.	-.18**	-.07	-.31**	.02
YSR Aggression	.56**	.40**	.58**	.38**
YSR Rule-Breaking	.53**	.32**	.56**	.28**
Alcohol Use Frequency	.25**	.13*	.23**	.07
Intoxication Frequency	.21**	.11*	.20**	.04
Drug Use Frequency	.25**	.16**	.29**	.14**
Frequency of Getting High	.21**	.13*	.21**	.13*
Total Sexual Intercourse	.18**	.07	.19**	.07
Condom Use	-.17**	-.10	-.18**	-.09
Number Sexual Partners Past Year	.21**	.08	.23**	.07
FES Expressiveness	-.08	-.14**	-.07	-.17**
FES Cohesion	-.41**	-.40**	-.36**	-.37**
FES Conflict	.45**	.33**	.42**	.38**

* Indicates significance at .05 level.
** Indicates significance at .01 level.

Table A-5

Hierarchical Regression Analysis for Absenteeism

Independent Variable	Standard Coefficient (B)	SE	t	p
STEP 1				
G.P.A	-.33	.48	-6.16	.00
$R^2 = .11$				
STEP 2				
G.P.A.	-.34	.48	-6.31	.00
Age	.19	.21	3.51	.00
Mother's education	-.10	.41	-1.8	.07
$R^2 = .16$				
STEP 3				
G.P.A.	-.30	.56	-4.68	.00
Age	.14	.22	2.50	.02
Mother's education	-.10	.42	-1.7	.08
YSR Withdrawn/Depressed	.12	.07	1.80	.07
YSR Attentional Problems	-.002	.06	-.03	.98
Intoxication Frequency	.20	.37	2.61	.01
Drug Use Frequency	-.14	.77	-1.62	.11
Perceived Benefit of Drinking	-.11	.40	-1.33	.19
Perceived Benefit of Drug Use	.09	.46	1.04	.30
Total Sexual Intercourse	.13	.31	1.95	.05
Condom Use	.01	.34	.18	.86
RCI Total Score	.11	.04	1.60	.12
FES Cohesion	-.07	.03	-1.08	.28
FES Moral-Religious	.02	.05	.28	.78
FES Control	-.11	.04	-2.00	.05
$R^2 = .22$				

Model 2: $\Delta R^2 = .05$ [$F(3, 302) = 18.71$, $p < .01$]
Model 3: $\Delta R^2 = .06$ [$F(15, 290) = 5.31$, $p < .01$]

Table A-6

Hierarchical Regression Analysis for G.P.A.

Independent Variable	Standard Coefficient (B)	SE	t	p
STEP 1				
Absenteeism	-.35	.01	-6.34	.00
$R^2 = .12$				
STEP 2				
Absenteeism	-.33	.01	-6.47	.00
Age	.18	.03	3.58	.00
Gender	.26	.09	5.17	.00
Mother's education	.07	.05	1.25	.21
Father's education	.18	.05	3.18	.00
$R^2 = .26$				
STEP 3				
Absenteeism	-.24	.01	-5.09	.00
Age	.20	.02	4.20	.00
Gender	.23	.08	5.13	.00
Mother's education	.00	.04	.02	.98
Father's education	.12	.04	2.47	.01
Sports	.11	.08	2.33	.02
Leadership	.16	.07	3.41	1.00
YSR Attentional Problems	-.14	.01	-2.50	.02
YSR Rule-Breaking	-.12	.01	-1.60	.12
Drinking Frequency	.17	.07	2.60	.01
Drug Use Frequency	-.007	.07	-.10	.92
Perceived Benefit of Drinking	-.18	.04	-2.37	.02
Perceived Benefit of Drug Use	-.05	.04	-.70	.49
Total Sexual Intercourse	-.12	.03	-2.21	.03
RCI Total Score	.08	.00	1.49	.14
FES Control	.05	.00	1.13	.26
$R^2 = .48$				

Model 2: $\Delta R^2 = .14$ [$F(5, 294) = 20.35$, $p < .01$]; Model 3: $\Delta R^2 = .22$ [$F(16, 283) = 15.98$, $p < .01$]

VITA

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