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How Much is Too Much?

Investigating When Very High Parental Monitoring Levels

Hinder Adolescent Development

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Abstract

Research on parental monitoring has consistently found associations between high parental monitoring and positive adolescent developmental outcomes, but no research has examined whether there is a level at which parental monitoring can be too high and hinder healthy, normative adolescent development. The current research examines whether extremely highly monitored adolescents experience both positive and negative outcomes. To achieve this objective, I analyze a nationally representative survey of 8th and 10th grade adolescents from the 2007 Monitoring the Future cohort (Johnston, O'Malley, Bachman, & Schulenberg, 2008). ANOVAs on developmental outcomes indicate that parental monitoring significantly predicted nine out of ten outcomes ($p < .001$). Analyzing parental monitoring, grade and sex main effects and interactions suggests that high monitored adolescents engage in fewer social interactions than their medium and low monitored peers ($p < .001$). Peer relationships are essential to successful adolescent development; lacking these social interactions may hinder development. This research concludes that overall, high monitoring is beneficial to adolescents, but may have the potential to hinder adolescent social development.

How Much is Too Much? Investigating When High Parental Monitoring Levels Hinder Adolescent Development

Figuring out the “right” way to parent is challenging, and parents often seek “experts” for parenting advice. Parents who wish to facilitate their child’s healthy development should provide basic needs (food, material goods), and also care and affection to promote cognitive development and emotional well-being (Waldfogel, 2006). Parenting influences overall adolescent development; as Laursen and Collins (in press) explain, many research models assume that parents shape adolescent outcomes, but there is little agreement on the particular influences. Yet much of the research indicates that parents are social and emotional resources to the adolescent (Laursen & Collins, in press).

Grade and sex are key potential moderators of parental monitoring and parental monitoring’s effects on developmental outcomes. Research suggests that parental involvement and parental monitoring (e.g., parental knowledge of child’s whereabouts, activities, friends) varies by the child’s developmental age (Pleck & Masciadrelli, 2004). Furthermore, Jacobson and Crocker (2000) found that gender and grade level can moderate associations between monitoring level and certain outcomes. For example, parental monitoring becomes less critical in adolescence than childhood, but even as adolescents become increasingly independent, parents must still provide some guidance, support, and monitoring (Waldfogel, 2006). While monitoring levels tend to decrease throughout adolescence, research has found that typically, daughters are subjected to higher parental monitoring levels than sons (Svensson, 2003).

Across many domains, research suggests that adolescents experience healthy development when parents demonstrate some form of monitoring (Roth & Brooks-Gunn, 2000). For example, highly monitored children reported fewer experiences with substance use, sexual

activity, and involvement with deviant peer groups (Tolan, Gorman-Smith, & Henry, 2004; Waizenhofer, Buchanan, Jackson-Newsom, 2004). These studies illustrate some benefits that can be ascribed to high parental monitoring levels, such as lower levels of adolescent substance use and sexual activity, thereby suggesting that high parental monitoring is needed for healthy adolescent development. While most of literature suggests higher levels of parental monitoring are most beneficial, the optimal balance between too much and too little parental involvement and parental monitoring is unknown.

Is there a point when high monitoring becomes too high and hinders adolescent development? Some past research suggests that there may be a threshold of very high parental monitoring that is harmful. Nurmi (2004) found that strict parenting limits opportunities for adolescent decision-making, and Waldfogel (2006) states that a poor parent-child relationship (such as that which would result from very close and constricting monitoring) is associated with higher levels of antisocial behavior among youth. The current study specifically focuses on adolescents experiencing extremely high levels of parental monitoring and will determine if both positive and negative outcomes are associated with high parental monitoring levels. This study asks if there are differences in developmental outcomes among very highly monitored adolescents as compared to their medium and low monitored peers. This research expects to find that medium monitored adolescents will experience the healthiest development.

Conceptually, the current study draws from existing theory and research to focus on three categories of developmental outcomes relevant to parental monitoring: social connections, achievement, and deviant behaviors. Schulenberg and Maggs (2002) describe the *social connections* aspect of adolescence as a time of building new friendships and separating from family, and the *achievement* aspect of adolescence as a time with more academic choices and

demands. Jessor (1991) describes *deviant behaviors* and adolescent risk-taking as purposeful and goal-directed, often associated with adolescent psychosocial development issues, like peer acceptance and establishing autonomy from parents. Pulling together these concepts from Schulenberg and Maggs (2002) and Jessor (1991), the current study focuses analysis of outcomes by social connections, achievement, and deviant behavior aspects.

Specifically, the social connections domains include time spent with peers, dating, loneliness, and parental warmth; the achievement domain includes school bonding, academic performance, community/school involvement, and future planning; and finally, the deviant behavior domain includes risk-taking and alcohol use. Each of these outcomes may vary by parental monitoring level (low, medium, high), grade (8th, 10th) and/or sex (male, female).

Social Connections

Peer Relationships. During adolescence, peer relationships become more salient and important. Adolescents begin to spend increased time with their peers and less time with their parents; these extended peer interactions indicate that building and maintaining non-familial relationships is necessary for successful adolescent development (Nurmi, 2004). Peers facilitate an adolescent's personal identity formation and also contribute to an adolescent's well-being (Brown & Larson, in press). The idea that peer relationships contribute to adolescent well-being is bolstered by Brown and Larson (in press), who claim that peer relations assist adolescents in developing social skills and social acceptance to successfully adjust through life. Similarly, Hartup and Stevens (1997) report that adolescents with reciprocated, high quality friendships are more likely to be socially adjusted. It is clear that past literature supports that spending time with peers is essential to healthy adolescent development. The current research hypothesizes that adolescents experiencing high parental monitoring spend less time with their peers (H1), and

therefore have fewer opportunities to form the high-quality peer relationships that are shown to be beneficial during adolescence.

Dating. With increasing time spent with peers, adolescents begin to establish intimate, caring, trusting relationships, first in same-sex friendships, and later in romantic relationships. Through these intimate peer interactions, adolescents can practice social skills and learn how to begin, maintain, and terminate romantic relationships (Morgan & Huebner, 2008). Given that parents tend to regulate their adolescent's dating patterns (Madsen, 2008), the current study hypothesizes that high monitored adolescents will report fewer dating experiences than medium and low monitored adolescents (H2). This may be both a positive and a negative outcome. For example, research shows that dating typically does not begin until middle-late adolescents (15-19); therefore, early-adolescents in 8th grade may be more likely to engage in unhealthy and unsafe relationships (Sorensen, 2007). However, high parental monitoring may inhibit adolescents from establishing intimate relationships, so they may be inadequately prepared to form romantic relationships later in life.

Parental Warmth. Parental involvement and monitoring can be beneficial by providing support to adolescents as they face new and challenging environments. In addition to parents, it is important for adolescents to form warm relationships with other adult figures such as teachers, coaches, and mentors who may serve as role models and provide support and advice (Waldfogel, 2006). Guidance, control, and warmth foster positive adolescent development (Beveridge & Berg, 2007; Conger, Neppi, Kim, & Scaramella, 2003). The current study expects results will be consistent with past findings and hypothesizes that highly monitored adolescents will report more feelings of parental warmth than medium or low monitored adolescents (H3).

Achievement

School Bonding and Academic Performance. Considering the large amount of time many adolescents dedicate to attending school and participating in school-related activities (e.g., studying, athletic teams, musical activities), one may conclude that school plays a significant role in an adolescent's well-being and development. Feeling connected to school is beneficial for adolescents: those with high levels of school attachment also have higher academic motivation, are more likely to participate in extracurricular activities, and are less likely to engage in substance use (Bonny, Britton, Klostermann, Hornung & Slap, 2000; Frey, Ruchin, Martin & Schwab-Stone, 2009). Given these conclusions, the current study hypothesizes that highly monitored adolescents will experience higher levels of school bonding (H4). As for academic achievement, Frey and colleagues (2009) found that parental control contributes to high academic motivation. The current study expects to find comparable results, and hypothesizes that high monitored adolescents will report the highest academic performance (H5).

Community/School Involvement. Many schools provide opportunities for students to participate in community service and/or school sponsored extracurricular activities. Adolescents' participation in extracurricular activities is associated with higher psychological well-being and academic performance (Eccles & Barber, 1999; Sabo, Miller, Melnick, Farrell & Barnes, 2005). Involvement facilitates learning about diverse backgrounds and the community's needs, and encourages adolescents to contribute to society. Research shows that community service participation positively influences adolescents by instilling a sense of empowerment (McMahon, Singh, Garner & Benhorin, 2004). The current study suggests an upside-down U shaped hypothesis for the involvement outcome: due to constricting parenting, high monitored adolescents will report less community/school involvement than medium monitored peers, but more involvement than low monitored peers (H6).

Future Planning. With the increase in cognitive development, adolescents begin to consider their future aspirations and goals (Morgan & Hubner, 2008). Discussions with peers and parents also include future ambitions, as some adolescents ask for advice and suggestions regarding their future plans (Nurmi, 2004). Parents may also act as role models and influence an adolescent's future educational goals (Nurmi, 1991). This leads to the hypothesis that highly monitored adolescents will engage in more future planning than their medium and low monitored peers (H7).

Deviant Behaviors

Alcohol Use. Literature reports that consistent high monitoring is associated with a lower likelihood of adolescent alcohol use (Beck, Shattuck, Haynie, Crump & Simons-Morton, 1999). High monitoring also limits the amount of time adolescents spend with their peers. Because adolescent alcohol use is influenced by friends' alcohol use, high monitored adolescents with limited time spent with friends have fewer opportunities to engage in alcohol use (Schulenberg & Maggs, 2001). This social aspect of drinking is the basis for the hypothesis that high monitored adolescents will report the lowest amount of alcohol consumption (H8).

Risk-Taking. Some risk-taking behaviors in adolescence, including smoking, drug use, unprotected sex and unsafe driving, pose serious threats to the adolescent's safety. Conversely, some risk-taking behaviors, such as trying new sports, asking someone out on a date, and making new friends, actually foster healthy adolescent development. High parental involvement significantly negatively predicts adolescent substance use, but excessively controlling parenting can inhibit an adolescent's identity formation, healthy relationship development, and self-efficacy development (Coley, Medeiros and Schindler, 2007; Pilgrim, Schulenberg, O'Malley,

Bachman, & Johnston, 2006). The present study hypothesizes that high monitored adolescents will report the fewest risk-taking behaviors (H9).

Current Study

Past research has shown that there are numerous benefits associated with high parental monitoring, such as success in school and lower potential for drug use (Pilgrim et al., 2006). The current study examines if high monitoring may also impede upon adolescent development. This study is important because limited research has investigated extremely high parental monitoring levels in adolescents. The large, nationally representative sample used in this research allows analysis to focus only on the very highly monitored adolescents.

The objective of this study is to investigate whether high parental monitoring affects the previously described developmental outcomes and examine whether there are both positive and negative adolescent development outcomes associated with high parental monitoring. A second objective of this study is to investigate how sex and grade level interact with parental monitoring and developmental outcomes. I hypothesize that highly monitored adolescents will experience the following outcomes: less time spent with peers (H1), less dating experiences (H2), lower community/school involvement than medium monitored peers, but higher involvement than low monitored peers (H6), and the lowest levels of risk-taking (H9). Conversely, I recognize that high parental monitoring will result in certain benefits, including highest parental warmth (H3), school bonding (H4), academic achievement (H5), future planning (H7) and lowest levels of alcohol use (H8).

Method

Respondents/Procedure

The current study uses nationally representative data from 8th and 10th grade respondents from the 2007 cohort of the Monitoring the Future (MTF) project conducted by the Institute of Social Research at the University of Michigan (Johnston, O'Malley, Bachman, & Schulenberg, 2008). The MTF survey measures drug, alcohol, and cigarette use, as well as various adolescent attitudes and experiences. MTF is funded by the National Institute on Drug Abuse (NIDA), which is a component of the National Institutes of Health (NIH). Respondents completed self-administered surveys in a regular class period during normal school hours. Survey instructions ensure respondent confidentiality; for example, "All your answers are completely confidential. They will never be seen by anyone who knows you, and your name will *not* be on the questionnaire." Additional detail about design, sample, procedures, and further descriptions of the larger MTF study can be found on the project website: <http://www.monitoringthefuture.org>.

The respondents ($N = 4,101$) are relatively equally divided between males (49.0%) and females (51.0%) and between 8th (48.7%) and 10th (51.3%) grade students (Table 1). The public data set classifies the respondents as white (73.0%), black (14.7%) or Hispanic (12.2%), and the distribution of parental educational is also relatively equal between attaining less than college (51.7%) and attaining some college or more (48.3%). Further breakdown of monitoring level by sex, grade, race and parental education is shown in Table 1.

In 2007, four different questionnaire forms were randomly distributed, each version administered to one-quarter of the participants in each classroom. While there were consistent questions on each form, each form also contained a unique section of questions. Because this study is investigating parental monitoring, the data for this study come from Form 3, the only form including the parental monitoring items used to create the parental monitoring level scale.

Measures

The primary construct of interest is parental monitoring, which is determined using four survey items: “My parents know where I am after school,” “When I go out at night my parents know whom I am with,” “When I go out at night my parents know where I am,” and “When I go out on weekend nights I have to be home by a set time.” Possible responses to each of the aforementioned items were (1) “Never,” (2) “Rarely,” (3) “Sometimes,” (4) “Most of the time,” or (5) “Always.” A Cronbach’s alpha of .77 demonstrates good reliability of this parental monitoring measure. In order for a respondent to be classified as either low, medium, or high monitored, the respondent must answer all 4 parental monitoring survey questions. Respondents answering less than all 4 items were not included, resulting in 1,341 excluded respondents, for a total sample size of 4,101.

The mean of the four parental monitoring items form the monitoring scale. Very high parental monitoring was defined as respondents who answered (5) “Always” on all four items. This group became the highest 22.7% of the sample and representative of adolescents who experience extremely high monitoring levels. Monitoring is defined in these terms because this study is focusing on the extremely high monitored respondents. Creating this high threshold ensures a distinction between medium to high monitored and extremely high monitored respondents. This large, nationally representative sample allows for the examination of the extremely high monitored group. The low monitoring group is defined as the lowest 20.5%, or those whose average responses were 3.67 or less. This group is still reporting some parental monitoring (3=sometimes and 4=most of the time), but compared to the others, they are monitored at a relatively lower level. The remainder of the respondents reported a mean monitoring between 3.68 and 4.75, and this group, referred to as medium monitoring, includes both medium and high (but not extremely high) monitored adolescents. To summarize Table 1,

22.7% ($n = 931$) of the respondents indicate very high parental monitoring (which will be referred to simply as “high monitoring”, 20.5% ($n = 841$) indicate low parental monitoring, and 56.8% ($n = 2,335$) indicate medium monitoring (which includes both medium and normally high) levels.

The dependent variables align with the conceptual framework discussed above, and the variables are classified as social connections (time spent with peers, dating, parental warmth), achievement (school bonding, academic performance, community/school involvement, future planning) or deviant behavior (alcohol use, risk taking). The survey items comprising each dependent variable are described in the Appendix.

Each outcome scale is comprised of 1, 2, 3, or 4 survey items. To check if these items accurately measured the desired outcome, Cronbach’s alphas were calculated for each variable containing three or more items; correlations were calculated for outcomes consisting of two items. The reliabilities are as follows: community/school involvement (4 items, $\alpha = .56$), time spent with peers (3 items, $\alpha = .59$), school bonding (3 items, $\alpha = .49$), loneliness (3 items, $\alpha = .75$), future planning (2 items, $r = 0.38$), and risk-taking (2 items, $r = 0.64$). Despite these marginal alphas, the survey items used to create each outcome did hang together in a factor analysis. Raymond Cattell (1978) suggests that for some scales, low alphas are desirable because they indicate a measurement breadth that could not be achieved with a higher alpha scale. Because the outcomes are so broad and are developed from a limited number of available survey items, these low alphas are acceptable.

Analysis Plan

In order to study how the social, achievement, and deviant behavior concepts manifest in low, medium, and high parental monitoring levels, analysis will involve one-way ANOVAs, with

additional generalized linear model analysis of two-way and three-way interactions of monitoring level, grade, and sex for each outcome. Plots of estimated marginal means of each outcome will visually represent how each variable differs by monitoring level, grade, and sex.

Results

First, frequencies and means were estimated for each outcome scale. Frequencies for the social connections outcomes, time spent with peers (6 point scale; $M=3.46$), dating (6 point scale; $M=2.25$), parental warmth (3 point scale; $M=1.98$) and loneliness (5 point scale; $M=3.02$) are in Table 2. Frequencies of achievement outcomes, school bonding (5 point scale; $M=3.01$), academic performance (9 point scale; $M=6.10$), school/community involvement (5 point scale; $M=2.04$) and future planning (4 point scale; $M=3.01$) are in Table 3. Finally, frequencies of the deviant behavior outcomes of risk (5 point scale; $M=2.96$) and alcohol use (7 point scale; $M=1.21$) are in Table 4. Figures 1, 2, and 3 illustrate how means of each aspect of the conceptual framework compare by parental monitoring level. For most outcomes, the high monitoring level has the highest mean.

Next, correlations among all outcome variables were estimated. The majority of the outcomes are significantly correlated with each other ($p < .05$), except dating by community/school involvement, dating by school bonding, loneliness by alcohol use, loneliness by academic performance, and loneliness by future planning (see Table 5 for additional details).

ANOVA analyses were then conducted to determine how each outcome varies by parental monitoring levels, and specifically, if a particular monitoring level is associated with an especially beneficial or negative outcome. One-way ANOVAs were conducted with parental monitoring as the fixed factor and each outcome as the dependent variable, testing whether parental monitoring levels will significantly affect each dependent outcome. Because parental

monitoring is the main variable of interest, it was important to see what the overall main effects were before adding grade or sex effects.

Ten one-way ANOVA tests were conducted with Parental Monitoring (Low, Medium, High) and one of the following: time spent with peers, dating, parental warmth, loneliness, school bonding, academic achievement, community/school involvement, future planning, alcohol use or risk-taking (Table 6). Results indicated that 9 of the 10 ANOVAs were significant, suggesting that these outcomes differ by parental monitoring level. The only insignificant outcome was loneliness, $F(2, 4099) = .494, p = .610$, indicating that parental monitoring level does not affect an adolescent's feelings of loneliness. Parental monitoring is clearly important in the academic achievement arena, as it predicts high means of school bonding, academic performance, community/school involvement, and future planning. Furthermore, parental monitoring facilitates higher feelings of parental warmth, and lower instances of deviant behaviors. However, parental monitoring negatively impacts the amount of time adolescents invest in social interactions.

To further investigate how the outcomes differ by monitoring levels, the predictor variables for Grade (8th, 10th) and Sex (male, female) were added, for a total of three predictor variables in each ANOVA. This created a more robust and complex ANOVA model for each outcome. I tested for main effects, two-way interactions and three-way interactions, but emphasis will be on the highest order significant interpretable interaction involving parental monitoring. Tukey post-hoc tests were used in all outcomes to decipher differences among groups. Discussion of results will follow the study's combination conceptual framework of social connections, achievement, and deviant behavior.

Social Connections

Time Spent With Peers. Beginning with analyzing time spent with peers, the parental monitoring factor was the only significant main effect, and each monitoring level significantly differed from the other two levels [$F(2, 4039) = 114.90, p < .001$]. As monitoring levels increase, the mean time spent with peers decreases; this finding is consistent with the original hypothesis that very highly monitored adolescents will experience less time with peers (H1).

An interesting parental monitoring by sex interaction was found ($F(2, 4039) = 10.76, p < .001$) indicating that females are more strongly affected by high monitoring than males (Table 7, Figure 4). Females report significantly less time spent with peers as monitoring levels increase. Additionally, high monitored females report the lowest mean time spent with peers ($M = 3.03$), which is significantly lower than all other monitoring levels in both males and females ($p < .001$). Therefore, high monitoring appears to negatively impact females more than males.

Dating. As shown above, parental monitoring is a significant main effect, and all three monitoring levels are significantly different from each other ($F(2, 4010) = 53.84, p < .001$, see Table 8). The results indicate an inverse relationship between dating and monitoring level: as monitoring levels increase, dating experiences decrease, which is consistent with the original hypothesis (H2). Grade level is another significant main effect ($F(1, 4010) = 37.27, p < .001$), showing that 10th grade respondents have, on average, more dating experiences ($M = 2.47$) than 8th grade respondents ($M = 2.17$).

The significant parental monitoring by grade interaction ($F(2, 4010) = 12.32, p < .001$) shows that while low monitored 8th and 10th grade respondents report similar amounts of dating experiences ($p = .927$), as monitoring levels increase, 8th grade respondents are more strongly affected than 10th graders (see Figure 5). High monitoring affects 8th grade respondents the most: this group reports the fewest mean dating experiences ($M = 1.703$).

I also found a significant grade by sex interaction ($F(1, 4010) = 16.73, p = .003$), suggesting that females have a greater increase in dating experiences during the middle school to high school transition than males. Males also show an increase in dating experiences from middle school to high school, but this difference is less pronounced than the difference females exhibit.

Loneliness. While the previous two outcomes showed significant main effects of parental monitoring, the loneliness model does not (Table 9). This suggests that the respondents' mean loneliness is fairly consistent across the monitoring levels. However, grade level and sex are both associated with a respondent's feeling of loneliness. The significant main effect of grade ($F(1, 4035) = 10.64, p = .001$) indicates that 10th grade respondents report feeling more lonely ($M = 3.05$) than 8th grade respondents ($M = 2.96$). Furthermore, sex is also a significant main effect ($F(1, 4035) = 40.53, p < .001$); females report more loneliness ($M = 3.13$) than males ($M = 2.91$).

Parental Warmth. The last of the social connections outcomes, parental warmth, returns to the pattern of significant parental monitoring level differences ($F(1, 4018) = 221.05, p < .001$); each monitoring level significantly differs from the other two. Parental monitoring is directly related to parental warmth: as monitoring levels increase, feelings of parental warmth also increase, which is consistent with the original hypothesis (H3). Overall, high monitoring produces the highest feelings parental warmth; the main effect of sex implies that males report higher parental warmth than females ($F(1, 4018) = 11.90, p = .001$, see Table 10).

While grade level did not have a significant main effect, the parental monitoring by grade interaction ($F(2, 4018) = 5.17, p = .006$) signifies that 8th and 10th grade respondents report different patterns of increasing parental warmth with increasing monitoring levels (Figure 6).

Both 8th and 10th grade respondents experience increases in parental warmth as parental monitoring increases, but this effect is stronger for 8th graders than 10th graders.

Achievement

School Bonding. Consistent with previous results, each parental monitoring level significantly differs from the other two ($F(2,4031) = 15.13, p < .001$), with higher monitoring producing more school bonding, again consistent with the original hypothesis (H4). Females report higher school bonding feelings than males ($F(1, 4031) = 15.47, p < .001$) and 8th grade respondents report higher school bonding feelings than 10th grade respondents ($F(1, 4031) = 32.12, p < .001$, Table 11).

The parental monitoring by sex interaction ($F(2, 4031) = 3.49, p = .031$) shows some interesting, insignificant relationships (Figure 7). First, low monitored females are not significantly different from low, medium, or high monitored males. Second, medium and high monitored females are not significantly different from high monitored males. This interaction reinforces the conclusion that females report higher school bonding feelings than males.

A second significant interaction is grade by sex ($F(1, 4031) = 8.44, p = .004$), which indicates that both males' and females' feelings of school bonding decrease during the transition from 8th grade to 10th grade, but males' school bonding feelings decrease more sharply than females.

The school bonding outcome is unique in that it is the only outcome that produces a significant parental monitoring by grade by sex interaction ($F(2, 4031) = 6.47, p = .002$, Figure 8). The graph illustrates that 10th grade males report the lowest school bonding overall in each parental monitoring level. Interestingly, 8th grade males, 8th grade females, and 10th grade females report similar school bonding across all three parental monitoring levels. Due to the

complexity of this three-way interaction, it is too difficult to draw comprehensible interpretations.

Academic Performance. Continuing the general parental monitoring main effect trend, for academic performance, monitoring levels all significantly differed from each other ($F(2, 4001) = 82.90, p < .001$, Table 12); as parental monitoring levels increase, mean academic performance also increases (Figure 9). This finding is again consistent with the original hypothesis (H5). Additionally, females consistently report higher academic performance than males for all monitoring levels ($F(1, 4001) = 28.80, p < .001$). The Tukey post-hoc tests suggest that medium and high monitored females are similar in academic performance ($p = .125$) and medium and high monitored males are also similar in academic performance ($p = .439$).

Community/School Involvement. Like school bonding, community/school involvement has significant main effects of parental monitoring ($F(2, 4037) = 24.56, p < .001$), grade ($F(1, 4037) = 8.38, p = .004$) and sex ($F(1, 4037) = 124.57, p < .001$, Table 13). The low monitoring group is significantly different from the medium ($p < .000$) and high ($p < .000$) monitoring levels; however, the medium and high monitoring groups do not significantly differ ($p = .205$), indicating that medium and high monitored adolescents are engaged in similar amounts of community involvement and extracurricular activities (Figure 10). This finding does not support the original upside down U-shaped hypothesis (H6), that high monitored adolescents would report less involvement than medium monitored adolescents, but more than low monitored adolescents. Furthermore, females report higher involvement means ($M = 2.23$) than males ($M = 1.87$) while 8th grade respondents report higher mean involvement ($M = 2.09$) than 10th grade respondents ($M = 1.99$).

Future Planning. Continuing the pattern established in community/school involvement and school bonding, the future planning model has parental monitoring ($F(2, 4038) = 39.37, p < .001$), sex ($F(1, 4038) = 40.32, p < .001$), and grade ($F(1, 4038) = 8.29, p = .004$) significant main effects (Table 14). All three parental monitoring levels significantly differ ($p < .001$) from one another (Figure 11). This illustrates a direct relationship with monitoring level and future planning that is consistent with the original hypothesis (H7): as monitoring levels increase, future planning also increases.

Females report higher mean future planning ($M = 3.05$) than males ($M = 2.95$), while 10th graders ($M = 3.06$) have higher means of future planning than 8th graders ($M = 2.99$). However, low monitored 8th grade respondents and low monitored 10th grade respondents do not significantly differ ($p = .895$), while high monitored 8th grade respondents and high monitored 10th grade respondents do not significantly differ ($p = .953$).

Deviant Behaviors

Alcohol Use. Consistent with the majority of the other variables, parental monitoring has a significant main effect ($F(2, 3737) = 82.30, p < .001$, Table 15). Parental monitoring levels all significantly differ from one another ($p < .001$), forming an inverse relationship between monitoring and alcohol use: as monitoring levels increase, mean alcohol use decreases. This is yet another finding that is consistent with the original hypothesis (H8). The main effect of grade ($F(2, 3737) = 122.00, p < .001$) indicates that across all monitoring levels, 8th grade respondents report less alcohol use than 10th grade respondents.

The significant parental monitoring by grade interaction ($F(2, 3737) = 7.30, p = .001$) shows no significant difference in mean alcohol use between medium and high parental monitoring among 8th grade respondents ($p = .960$, Figure 12). High ($M = 1.02$) and medium (M

= 1.05) monitored 8th grade respondents have lower mean alcohol use than low monitored 8th graders ($M = 1.30$). Low monitored 10th grade respondents report the highest mean of alcohol use ($M = 1.71$), a mean significantly higher than both the medium ($p < .000$) and the high ($p < .000$) monitoring groups of 10th grade respondents. It appears that among 8th grade respondents, medium and high monitoring result in similarly low alcohol use, but this similarity between medium and high monitoring does not hold among 10th grade respondents.

Risk Taking. The final outcome to analyze is risk taking behavior. Again, the parental monitoring main effect ($F(2, 3717) = 92.72, p < .001$, Table 16) produces significant differences among all three monitoring levels. An inverse relationship is also apparent: as monitoring levels increase, risk-taking behaviors decrease, consistent with the final hypothesis (H9). Grade ($F(1, 3717) = 15.95, p < .001$) and sex ($F(1, 3705) = 47.13, p < .001$) also have significant main effects, illustrating that 10th grade respondents report more risk-taking than 8th grade respondents, and males report more risk-taking than females.

The final significant interaction to discuss is parental monitoring by sex ($F(2, 3717) = 9.82, p < .001$, Figure 13). The effect parental monitoring has on risk-taking is illustrated by the steep negative slope and reiterates that higher monitoring levels are associated with fewer risk-taking behaviors. Among the low monitored respondents, females and males report similar amounts of risk-taking ($p = .999$); similarly, medium monitored females and high monitored males reported similar risk-taking behaviors ($p = .999$). All other comparisons are significantly different ($p < .000$). To summarize, high monitored respondents report the fewest deviant behaviors overall.

Discussion

Parental monitoring is generally defined as a parent's knowledge of their child's whereabouts, activities, and friends, and may include parental supervision and involvement (Jacobson & Crockett, 2000). Ideally, parental monitoring fosters open communication and trusting parent-child relationships. Research has shown that parent-child relationships with these characteristics are associated with fewer unhealthy risk-taking behaviors and higher academic performance during adolescence (Frey et al., 2009; Borawski et al, 2003; Kerr, Trost & Stattin, 1999). The commonly accepted belief is that parental monitoring is associated with healthy adolescent development, but since the optimal balance between too much and too little parental monitoring is unknown, the current study hypothesizes that very high monitoring levels include both positive and negative adolescent development outcomes.

The objective of the current study was to examine whether both positive and negative outcomes are associated with high parental monitoring levels in 8th and 10th grade adolescent respondents. Very high monitoring levels were defined as respondents who answered (5) "Always," for all 4 parental monitoring survey items. Because this made up 22.7% of the sample, the low monitoring group was defined as the lowest 20.5% of the respondents, the closest cumulative percent to the very high monitoring group. The low monitoring group reported mean monitoring responses ranging from 1 to 3.67 (where (1) is "Never," (2) is "Rarely," (3) is "Sometimes," and (4) is "Most of the time). The medium monitored group (including medium and normally high monitoring) was comprised of the remaining respondents and reported mean parental monitoring between 3.68 and 4.75.

The results indicate a general linear relationship between parental monitoring levels and positive outcomes: as parental monitoring increases, adolescents exhibit higher academic achievement and parental warmth, and lower deviant and social connections (time spent with

peers and dating) behaviors. This research provides evidence that in general, very high parental monitoring is beneficial to adolescent development, but may slightly hinder some aspects of adolescent social development and peer relationships. Therefore, when parents consider which monitoring level to employ, it is important to consider balancing the developmental benefits against potential social costs, such as limited opportunities for various peer interactions.

Discussion will proceed by summarizing and interpreting significant results for each of the framework concepts: social connections, achievement and deviant behaviors. From there, I will move on to acknowledging the strengths and limitations of the study, and I will conclude with future implications.

Social Connections

High monitoring is associated with less time spent with peers, fewer dating experiences, and higher feelings of parental warmth. Time spent with peers and dating experiences decrease as parental monitoring increases (consistent with H1 and H2) while parental warmth increases as monitoring levels increase (consistent with H3). These findings are consistent across sex and grade, suggesting that very highly monitoring adolescents spend less time with their friends and less time dating, but it does not follow that these fewer social interactions impede on normative adolescent development. Additionally, the significant parental monitoring by sex interaction indicates that females are more negatively affected by the high monitoring consequences than males; therefore, very high monitoring may be particularly harmful among females.

Peer relationships are principal methods of socializing. Adolescents with high caliber peer relationships experience peer group acceptance and are more likely to be socially adjusted and demonstrate general well-being indicators (Hartup & Stevens, 1997). When adolescents spend less time with their peers, they have fewer opportunities to form these important, high-

quality social relationships and practice important social skills. To further emphasize the importance of spending time with peers, Waldrip and Jensen-Campbell (2008) found that adolescents with high-quality peer relationships have more friends and expressed adjustment better than adolescents with low-quality peer relationships and fewer friends.

It is apparent that spending time with peers is an essential aspect of adolescent development, but there may be a point where spending too much time with peers can also hinder adolescent development. Adolescents spending unsupervised time with peers are more likely to be sexually active and use alcohol and marijuana than adolescents who do not spend unsupervised time with peers (Borawski et al., 2003). Therefore, it is necessary for adolescents to find a balance between spending too little and too much time with peers. Medium parental monitoring levels may provide this optimal balance.

The dating outcome demonstrates a pattern similar to time spent with peers: high monitoring is associated with the fewest dating experiences. Because these high monitored adolescents spend less time with peers, they have fewer opportunities to form romantic relationships. The parental monitoring by grade interaction indicates that increasing monitoring levels negatively impact 8th grade respondents more strongly than 10th grade respondents. This finding illustrates the age and maturity differences between middle school and high school; in addition to very high monitoring dissuading 8th grade respondents from dating, 8th grade respondents may also be naturally less inclined to date and begin building intimate relationships with other-sex peers at their younger age.

Research explains that beginning to date during adolescence is important because it helps adolescents develop the capacity to form stable and fulfilling romantic relationships which prepare them for the key developmental tasks of late adolescence and young adulthood (Scharf &

Mayseless, 2008). While the current research investigated only 8th and 10th grade respondents, Scharf and Mayseless' research is still relevant because it maintains that forming high-quality relationships with other-sex peers is critical. As Quatman, Sampson, Robinson and Watson (2001) explain, one of the most important tasks of adolescence is engaging in relationships with other-sex peers and learning about the different emotional and power dynamics. In addition to these experiences, adolescents seem to enjoy spending time with other-sex peers, reporting excitement, happiness and satisfaction from these interactions with other-sex peers (Csikszentmihaly & Larson, 1984).

Despite these positive effects, frequent dating can be associated with certain negative effects; specifically, adolescents in 8th, 10th, and 12th grade who frequently date report poorer academic, motivational, and emotional outcomes (Quatman et al., 2001). Again, there is a need to find the balance between too much and too little social interaction, and medium monitoring may assist with optimal social development.

The third significant social connections outcome, parental warmth, is highest among the very high monitored adolescents. The parental monitoring by grade level interaction signifies that 8th and 10th grade respondents of the same monitoring level report similar parental warmth feelings - there is no difference in warmth relationships between the two grades, but differences arise among the monitoring levels.

Maintaining a positive relationship with parents during adolescence is important. Adolescents engaging in friendly, warm interactions with parents and other adult role models experience positive adaption (Beveridge & Berg, 2007). With higher feelings of warmth, adolescents may feel comfortable asking parents and other adults for advice and help with

difficulties. Therefore, very high parental monitoring is beneficial to adolescent development in terms of parental warmth.

Achievement

School bonding, academic performance, community/school involvement, and future planning outcomes all increase as monitoring levels increase (consistent with H4, H5 and H7). The parental monitoring by sex interaction for school bonding interestingly suggests that males, for the most part, indicate the lowest feelings of school bonding. However, high monitoring appears to have a positive impact on males: high monitored males report significantly higher feelings of school bonding than both medium ($p = .002$) and low ($p = .002$) monitored males. Meanwhile, low monitored females report feelings of school bonding that are similar to low ($p = .977$), medium ($p = .999$), and high monitored males ($p = .065$). High parental monitoring is therefore beneficial to both males and females, as these groups report the most school bonding feelings and higher academic performance.

The findings for community/school involvement are contrary to the original hypothesis (H6), which suggested that the very high monitored group would be less involved than medium monitored peers, but more involved than low monitored peers. The results indicate high monitored adolescents report the highest levels of involvement. To reiterate the McMahon (2004) research, higher community involvement positively influences adolescent development, so I conclude that high parental monitoring is beneficial in regards to extracurricular involvement.

As for future planning, the general trend is the more parental monitoring, the more adolescents think about their future. The role of parents impacting future planning is explained by Nurmi (1991), who posited that parents are significant influences on adolescents' future

orientation because parents set standards and serve as role models. Nurmi (1991) also stated that the adolescent's own internal belief about his/her future is a major influence on the adolescent's future orientation. Overall, very high parental monitoring fosters positive achievement outcomes.

Deviant Behaviors

Deviant behaviors of risk-taking and alcohol consumption decrease as monitoring levels increase, holding true across sex and grade. In regards to alcohol use, I find support for the original hypothesis (H8) that highly monitored adolescents will imbibe less alcohol than their low and medium monitored peers. The parental monitoring by grade interaction shows very high monitoring inhibits 8th grade respondents from consuming alcohol more than the 10th grade respondents. Like the dating construct, this finding illustrates the difference in age and maturity between middle school and high school; perhaps middle school respondents are simply less interested in imbibing alcohol, which may explain this monitoring by grade level interaction.

Moving on to risk-taking behaviors, I find support for my hypothesis that high monitored adolescents engage in the fewest risk-taking behaviors (H9). The parental monitoring by sex interaction suggests that high monitoring may prevent females from taking risks more than males; however, low monitored females report similar amounts of risk-taking behaviors than males. As monitoring levels increase, this gender difference in risk-taking becomes more pronounced.

Past literature suggests that the risky behaviors adolescents engage in (smoking, drug use, unprotected sex, unsafe driving) are associated with negative health, economic and psychological effects (Reyna & Farley, 2006). From this perspective, very high monitoring is beneficial to adolescents, as it provides protection from potentially harmful situations. However, very high

monitoring may hinder healthy risk-taking behaviors as well, discouraging very high monitored adolescents from experiencing new activities (like pursuing a new creative art or learning about a new culture). When applying positive youth development theory, which suggests that socially integrated adolescents are more likely to avoid deviant behaviors, it is possible to infer that low monitored females are less socially integrated because they are in the highest participation of deviant behaviors (Benson, Scales, Hamilton & Sesma, 2006; Hawkins, Smith, Hill, Kosterman, Catalano & Abbott, 2007). While very high monitored adolescents are not engaging in many risk-taking behaviors or alcohol use, parents who practice very high monitoring should ensure they also encourage healthy risk-taking to foster the adolescent's development.

Strengths, Limitations, and Future Research

Strengths of this research include using nationally representative data with a large respondent sample size, therefore improving the generalizability of the findings. The large sample size enables research to focus on the exceptionally high monitored adolescents, a unique sample which would not otherwise be possible to investigate using smaller data sets.

The main limitation is that the current study relies solely on cross-sectional data, making it impossible to establish causal relationships. While it is very likely that parental monitoring contributes to the pattern of our outcomes, it is also possible that the outcomes can affect parental monitoring. Another limitation to this research is the parental monitoring construct, which assesses a basic level of parental monitoring from the adolescent respondent's perspective. It is also noteworthy to mention that measures were limited to the topics asked in the survey, which explains the marginal Cronbach's alphas of the survey items encompassing the outcome measures.

A third limitation is that some aspects of adolescent development are not investigated. If the data were available, the current study would include two additional outcomes: identity formation and autonomy. Future research should investigate other outcomes to determine if other negative results of high parental monitoring exist. It may also be beneficial to investigate how racial, ethnic, and socioeconomic status differences affect parental monitoring and if there are any associated negative or positive results.

Implications

The current study concludes that very high parental monitoring is associated with many positive outcomes in adolescence; however, very high monitored adolescents may not experience as many peer interactions that could facilitate social development. On the whole, the medium and high monitoring groups have relatively similar results, but medium monitoring is not accompanied with the consequence of limited peer interactions. Therefore, it is critical to realize that medium monitoring may provide the optimal balance of social connections, achievement, and deviant behaviors in adolescent development.

When parents determine how closely to monitor their adolescent, it is important to consider the potential positive and negative results associated with each monitoring level. Knowing the relationships between monitoring levels and various developmental outcomes can help parents decide which monitoring level is right for their family. Medium monitoring may act as a vehicle to attaining an optimal balance of peer interactions and high-quality relationships, which are important during adolescence and life-course development.

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Appendix

Survey Questions Comprising Each Outcome Measure

Independent Variables

Grade

A1: What is your grade level in school?

1. 7th grade
2. 8th grade
3. 9th grade
4. 10th grade
5. 11th grade
6. 12th grade

Sex

C3: What is your sex?

1. Male
2. Female

Parental Monitoring

C28a: The following questions are about your parents (or stepparents or guardians): My parents know where I am after school.

1. Never
2. Rarely
3. Sometimes
4. Most of the time
5. Always

C28b: The following questions are about your parents (or stepparents or guardians): When I go out at night, my parents know whom I am with.

1. Never
2. Rarely
3. Sometimes
4. Most of the time
5. Always

C28c: The following questions are about your parents (or stepparents or guardians):

When I go out at night, my parents know where I am.

1. Never
2. Rarely
3. Sometimes
4. Most of the time
5. Always

C28d: The following questions are about your parents (or stepparents or guardians): When I go out on weekend nights, I have to be home by a set time

1. Never
2. Rarely
3. Sometimes
4. Most of the time
5. Always

Dependent Variables

Time Spent With Peers

A3f: The next questions ask about the kinds of things you might do. How often do you do each of the following? Get together with friends informally (in your free time)

5. Almost every day
4. At least once a week
3. Once or twice a month
2. A few times a year
1. Never

A3k: The next questions ask about the kinds of things you might do. How often do you do each of the following? Go to parties or other social affairs.

5. Almost every day
4. At least once a week
3. Once or twice a month
2. A few times a year
1. Never

C26: During a typical week, on how many evenings do you go out for fun and recreations?

(Don't count things you do with your parents or other adult relatives.)

1. Less than one evening per week
2. One evening
3. Two evenings
4. Three evenings
5. Four or five evenings
6. Six or seven evenings per week

Dating

C27: On the average, how often (if ever) do you go out with a date?

1. Never
2. Once a month or less
3. 2 or 3 times a month
4. Once a week
5. 2 or 3 times a week
6. Over 3 times a week

Loneliness

A3h: The next questions ask about the kinds of things you might do. How often do you do each of the following? Spend at least an hour of leisure time (free time) alone

5. Almost every day
4. At least once a week
3. Once or twice a month
2. A few times a year
1. Never

E1a: Do you agree or disagree with each of the following? A lot of times I feel lonely.

1. Disagree
2. Mostly Disagree
3. Neither
4. Mostly Agree
5. Agree

E1d: Do you agree or disagree with each of the following? I often feel left out of things.

1. Disagree

2. Mostly Disagree
3. Neither
4. Mostly Agree
5. Agree

Parental Warmth

C29: If you were having problems, do you think you would talk them over with one or both of your parents?

3. Yes, for most or all problems
2. Yes, for at least some of my problems
1. No

Alcohol Use

B22: On how many occasions (if any) have you been drunk or very high from drinking alcoholic beverages during the last 30 days?

1. 0 Occasions
2. 1-2 Occasions
3. 3-5 Occasions
4. 6-9 Occasions
5. 10-19 Occasions
6. 20-39 Occasions
7. 40 or More

School Bonding

A8a: Now thinking back over the past year in school, how often did you...Enjoy being in school?

1. Never
2. Seldom
3. Sometimes
4. Often
5. Almost Always

A8c: Now thinking back over the past year in school, how often did you...Try to do your best work in school?

1. Never
2. Seldom
3. Sometimes
4. Often
5. Almost Always

A8g: Now thinking back over the past year in school, how often did you...Get sent to the office, or have to stay after school, because you misbehaved?

1. Never
2. Seldom
3. Sometimes
4. Often
5. Almost Always

Academic Performance

C14: Which of the following best describes your average grade in this school year?

9. A (93-100)
8. A- (90-92)

7. B+ (87-89)
6. B (83-86)
5. B- (80-82)
4. C+ (77-79)
3. C (73-76)
2. C- (70-72)
1. D (69 or below)

Community/School Involvement

E2a: To what extent have you participated in the following school activities during this school year? School newspaper or yearbook

1. Not At All
2. Slight
3. Moderate
4. Considerable
5. Great

E2b: To what extent have you participated in the following school activities during this school year? Music or other performing arts

1. Not At All
2. Slight
3. Moderate
4. Considerable
5. Great

E2d: To what extent have you participated in the following school activities during this school

year? Other school clubs or activities

1. Not At All
2. Slight
3. Moderate
4. Considerable
5. Great

A3d: The next questions ask about the kinds of things you might do. How often do you do each of the following? Participate in community affairs or volunteer work?

5. Almost everyday
4. At least once a week
3. Once or twice a month
2. A few times a year
1. Never

Future Planning

C18: How often do you think about your future beyond high school?

1. Never
2. Seldom
3. Sometimes
4. Often

C19: Which best describes your plans after high school?

1. I have no idea what I will do.
2. I have a few ideas about what I might do.
3. I know pretty well what I will do.

4. I know exactly what I will do.

Risk Taking

E1c: Do you agree or disagree with each of the following? I get a real kick out of doing things that are a little dangerous

1. Disagree
2. Mostly Disagree
3. Neither
4. Mostly Agree
5. Agree

E1f: Do you agree or disagree with each of the following? I like to test myself every now and then by doing something a little risky

1. Disagree
2. Mostly Disagree
3. Neither
4. Mostly Agree
5. Agree

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Table 1

Distribution of Sociodemographic Characteristics across Parental Monitoring

	Low Monitoring	Medium Monitoring	High Monitoring
Race			
Black	26.3	51.2	22.5
White	17.9	59.6	22.5
Hispanic	23.2	51.6	25.2
Grade Level			
8 th Grade	17.0	56.7	26.3
10 th Grade	23.8	57.0	19.2
Sex			
Male	24.7	54.5	20.7
Female	16.1	59.2	24.7
Parental Education			
< Some College	23.2	54.2	22.7
≥ Some College	17.1	60.7	22.2
Total	20.5	56.8	22.7

Table 2

Frequencies of Social Outcomes

Range	Time Spent With Peers	Range	Loneliness
1-1.50	70	1-1.50	229
1.6-2.0	265	1.6-2.0	586
2.1-2.5	285	2.1-2.5	608
2.6-3.0	833	2.6-3.0	758
3.1-3.5	574	3.1-3.5	412
3.6-4.0	1,116	3.6-4.0	558
4.1-4.5	458	4.1-4.5	435
4.6-5.0	447	4.6-5.0	515
5.1-5.5	53		
5.6-6.0	0		
Total	4,101	Total	4,101

Range	Dating	Range	Parental Warmth
1.0	1,659	1.0	1,114
2.0	963	2.0	1,951
3.0	656	3.0	1,036
4.0	386		
5.0	287		
6.0	150		
Total	4,101	Total	4,101

Table 3

Frequencies of Achievement Outcomes

Range	School Bonding	Range	Involvement
1-1.50	29	1-1.50	1,516
1.6-2.0	224	1.6-2.0	862
2.1-2.5	396	2.1-2.5	686
2.6-3.0	1,875	2.6-3.0	478
3.1-3.5	901	3.1-3.5	312
3.6-4.0	631	3.6-4.0	159
4.1-4.5	35	4.1-4.5	62
4.6-5.0	10	4.6-5.0	26
Total	4,101	Total	4,101
Range	Future	Range	Academic Performance
1.0	47	1	153
1.5	100	2	182
2.0	317	3	174
2.5	862	4	413
3.0	1,184	5	418
3.5	1,012	6	778
4.0	579	7	658
		8	613
		9	712
Total	4,101	Total	4,101

Table 4

Frequencies of Deviant Behavior Outcomes

Range	Risk	Range	Alcohol
1.0	605	1	3,593
1.5	238	2	336
2.0	374	3	99
2.5	333	4	41
3.0	771	5	19
3.5	482	6	4
4.0	629	7	9
4.5	297		
5.0	372		
Total	4,101	Total	4,101

Table 5
Intercorrelations between Dependent Outcome Variables

Measure	1	2	3	4	5	6	7	8	9	10
1. Time Spent With Peers	--	0.40 **	-0.14 **	-0.03 *	0.23 **	0.05 **	-0.09 **	0.03 *	0.04 *	0.20 **
2. Dating		--	-0.11 **	-0.04 **	0.19 **	0.01	-0.13 **	-0.01	0.05 **	0.18 **
3. Loneliness			--	-0.14 **	0.01	-0.08 **	-0.03	0.03 *	0.02	0.17 **
4. Parental Warmth				--	-0.12 **	0.16 **	0.22 **	0.15 **	0.14 **	-0.19 **
5. Alcohol Use					--	-0.09 **	-0.15 **	-0.13 **	-0.06 **	0.20 **
6. School Bonding						--	0.18 **	0.16 **	0.17 **	-0.08 **
7. Academic Performance							--	0.27 **	0.14 **	-0.15 **
8. Community/School Involvement								--	0.19 **	-0.10 **
9. Future Planning									--	-0.05 **
10. Risk taking										--

Note. * $p \leq 0.05$; ** $p \leq 0.01$.

Table 6

Analysis of Variance Summary for Outcome Variables

	Sum of Squares	df	Mean Square	F
Time Spent with Peers				
Between Groups	183.79	2	91.90	124.71***
Within Groups	3023.29	4103	0.74	
Total	3207.08	4105		
Dating				
Between Groups	231.42	2	115.71	58.17***
Within Groups	8104.25	4074	1.99	
Total	8335.67	4076		
Loneliness				
Between Groups	1.01	2	0.51	0.49
Within Groups	4198.03	4099	1.02	
Total	4199.04	4101		
Parental Warmth				
Between Groups	210.50	2	105.25	221.58***
Within Groups	1938.01	4080	0.475	
Total	2148.51	4082		
Alcohol Use				
Between Groups	97.05	2	48.52	111.76***
Within Groups	1645.94	3791		
Total	1742.99	3793		
School Bonding				
Between Groups	12.67	2	6.34	22.67***
Within Groups	1143.81	4094	0.28	
Total	1156.48	4096		
Academic Performance				
Between Groups	917.53	2	458.77	98.34***
Within Groups	18933.47	4060	4.66	
Total	19851.00	4062		
Community/School Involvement				

Between Groups	58.07	2	29.03	37.05***
Within Groups	3213.63	4101	0.78	
Total	3271.67	4103		
Future Planning				
Between Groups	41.01	2	20.50	48.67***
Within Groups	1727.81	4101	0.42	
Total	1768.81	4103		
Risk Taking				
Between Groups	350.06	2	175.03	114.27***
Within Groups	5788.27	3779	1.53	
Total	6138.33	3781		

Note. *** $p \leq 0.001$.

Table 7

Summary of Time Spent With Peers ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	167.44	2	83.72	114.90***
Grade	0.95	1	0.95	1.30
Sex	2.30	1	2.30	3.15
PM * Grade	0.82	2	0.41	0.56
PM * Sex	15.69	2	7.84	10.76***
Grade * Sex	0.23	1	0.23	0.31
PM * Grade * Sex	0.64	2	0.32	0.44
Error	2934.18	4027	0.73	
Total	51767.56	4039		

Note. *** $p \leq 0.001$; PM = Parental Monitoring.

Table 8

Summary of Dating ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	208.33	2	104.16	53.84***
Grade	72.10	1	72.10	37.27***
Sex	3.20	1	3.20	1.65
PM * Grade	47.65	2	23.83	12.32***
PM * Sex	0.66	2	0.33	0.17
Grade * Sex	16.73	1	16.73	8.65**
PM * Grade * Sex	0.10	2	0.50	0.03
Error	7734.69	3998	1.94	
Total	29094.00	4010		

Note. ** $p \leq 0.01$; *** $p \leq 0.001$; PM = Parental Monitoring.

Table 9

Summary of Loneliness ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	0.39	2	0.20	0.82
Grade	10.72	1	10.72	.001***
Sex	40.83	1	40.83	.000***
PM * Grade	1.01	2	0.51	0.61
PM * Sex	0.49	2	0.25	0.78
Grade * Sex	0.05	1	0.05	0.82
PM * Grade * Sex	0.22	2	0.11	0.90
Error	4053.02	4023	1.01	
Total	41148.75	4035		

Note. *** $p \leq 0.001$; PM = Parental Monitoring.

Table 10

Summary of Parental Warmth ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	208.81	2	104.41	221.05***
Grade	0.07	1	0.07	0.15
Sex	5.62	1	5.62	11.90***
PM * Grade	4.89	2	2.44	5.17**
PM * Sex	1.53	2	0.76	1.62
Grade * Sex	0.14	1	0.14	0.30
PM * Grade * Sex	0.16	2	0.08	0.17
Error	1892.09	4006	0.47	
Total	17866.00	4018		

Note. ** $p \leq 0.01$; *** $p \leq 0.001$; PM = Parental Monitoring.

Table 11

Summary of School Bonding ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	8.25	2	4.13	15.13***
Grade	8.76	1	8.76	32.12***
Sex	4.22	1	4.22	15.47***
PM * Grade	0.10	2	0.05	0.18
PM * Sex	1.91	2	0.95	3.49*
Grade * Sex	2.30	1	2.30	8.44**
PM * Grade * Sex	3.53	2	1.76	6.47**
Error	1096.43	4019	0.27	
Total	37570.94	4031		

Note. * $p < 0.05$; ** $p < 0.01$; *** $p \leq 0.001$; PM = Parental Monitoring.

Table 12

Summary of Academic Performance ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	763.32	2	381.66	82.90***
Grade	8.09	1	8.09	1.76
Sex	132.56	1	132.56	28.80***
PM * Grade	28.70	2	14.35	3.12*
PM * Sex	1.55	2	0.77	0.17
Grade * Sex	8.53	1	8.53	1.85
PM * Grade * Sex	24.75	2	12.38	2.69
Error	18364.96	3989	4.60	
Total	171699.00	4001		

Note. * $p < 0.05$; *** $p \leq 0.001$; PM = Parental Monitoring.

Table 13

Summary of Community/School Involvement ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	36.99	2	18.49	24.56***
Grade	6.31	1	6.31	8.38**
Sex	93.79	1	93.79	124.57***
PM * Grade	1.31	2	0.66	0.87
PM * Sex	3.53	2	1.76	2.34
Grade * Sex	0.89	1	0.84	1.19
PM * Grade * Sex	1.66	2	0.83	1.10
Error	3031.20	4026	0.75	
Total	20572.06	4038		

Note. ** $p < 0.01$; *** $p \leq 0.001$; PM = Parental Monitoring.

Table 14

Summary of Future Planning ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	32.47	2	16.24	39.37***
Grade	3.42	1	3.42	8.29**
Sex	16.63	1	16.63	40.32***
PM * Grade	0.90	2	0.50	1.09
PM * Sex	0.23	2	0.11	0.27
Grade * Sex	1.52	1	1.52	3.69
PM * Grade * Sex	1.73	2	0.87	2.10
Error	1660.30	4026	0.41	
Total	38741.75	4038		

Note. ** $p < 0.01$; *** $p \leq 0.001$; PM = Parental Monitoring.

Table 15

Summary of Alcohol Use ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	69.57	2	34.78	82.30***
Grade	51.57	1	51.57	122.00***
Sex	1.90	1	1.90	4.38*
PM * Grade	6.17	2	3.08	7.30***
PM * Sex	1.48	2	0.74	1.75
Grade * Sex	0.67	1	0.67	1.58
PM * Grade * Sex	1.21	2	0.60	1.43
Error	1574.42	3725	0.42	
Total	7315.00	3737		

Note. * $p < 0.05$; *** $p \leq 0.001$; PM = Parental Monitoring.

Table 16

Summary of Risk-Taking ANOVA

Source	Sum of Squares	df	Mean Square	F
PM	276.21	2	138.10	92.72***
Grade	23.76	1	23.76	15.95***
Sex	70.20	1	70.20	47.13***
PM * Grade	6.39	2	3.19	2.14
PM * Sex	29.25	2	14.63	9.82***
Grade * Sex	0.003	1	0.003	0.002
PM * Grade * Sex	3.13	2	1.56	1.05
Error	5518.67	3705	1.50	
Total	38307.00	3717		

Note. *** $p \leq 0.001$; PM = Parental Monitoring.

Figure Captions

Figure 1. Social Outcome Means by Monitoring Level.

Figure 2. Achievement Outcome Means by Monitoring Level.

Figure 3. Deviant Behavior Outcome Means by Monitoring Level.

Figure 4. Time Spent With Peers: Parental Monitoring by Sex.

Figure 5. Dating: Parental Monitoring by Grade.

Figure 6. Parental Warmth: Parental Monitoring by Grade.

Figure 7. School Bonding: Parental Monitoring by Sex.

Figure 8. School Bonding: Parental Monitoring by Sex by Grade.

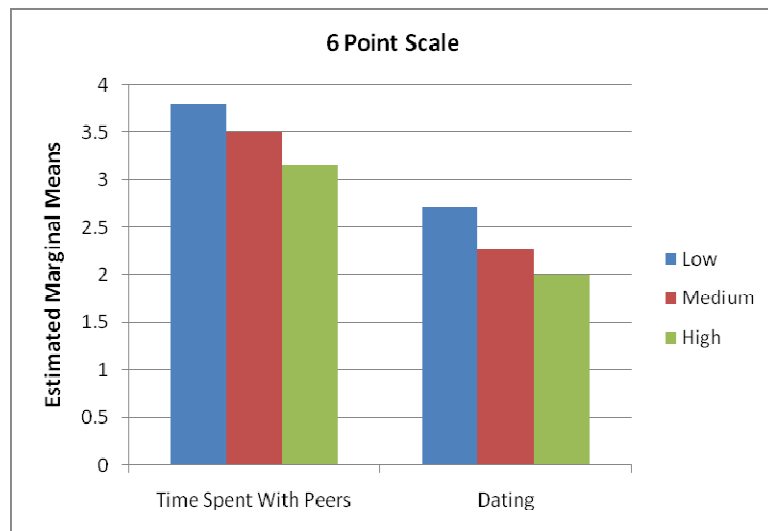
Figure 9. Academic Performance Means by Parental Monitoring.

Figure 10. Community/School Involvement Means by Parental Monitoring.

Figure 11. Future Planning Means by Parental Monitoring.

Figure 12. Alcohol Use: Parental Monitoring by Grade.

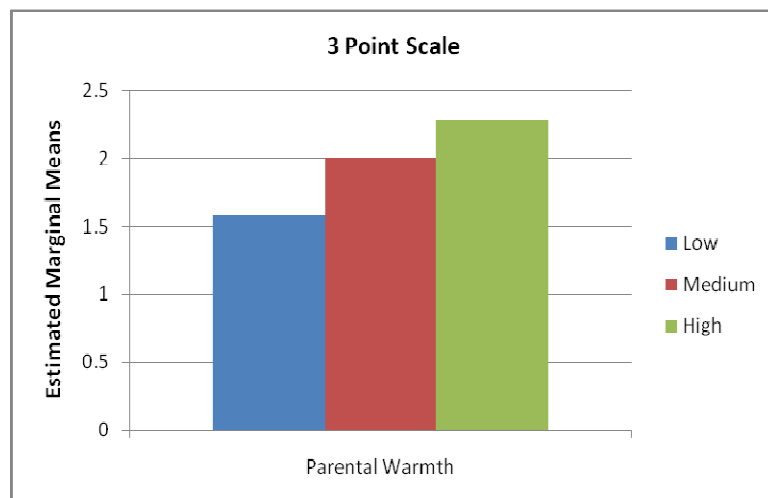
Figure 13. Risk Taking : Parental Monitoring by Sex.



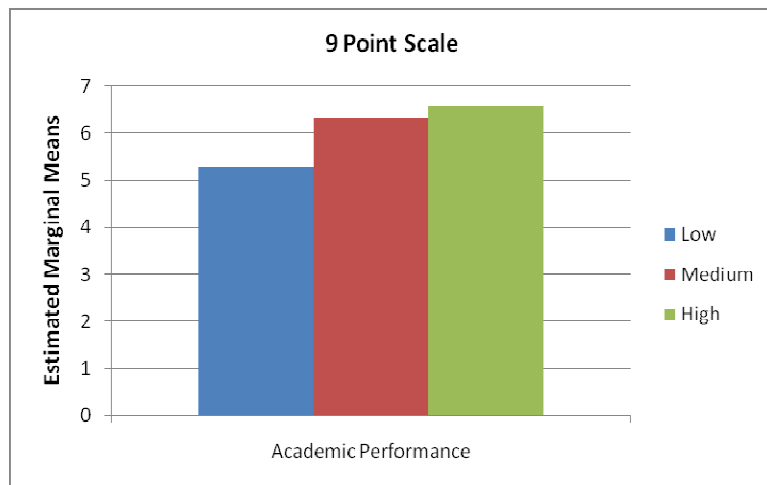
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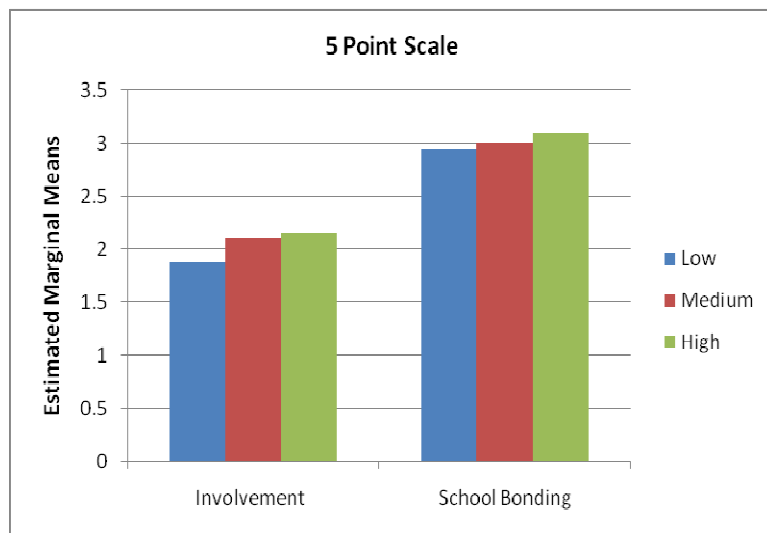
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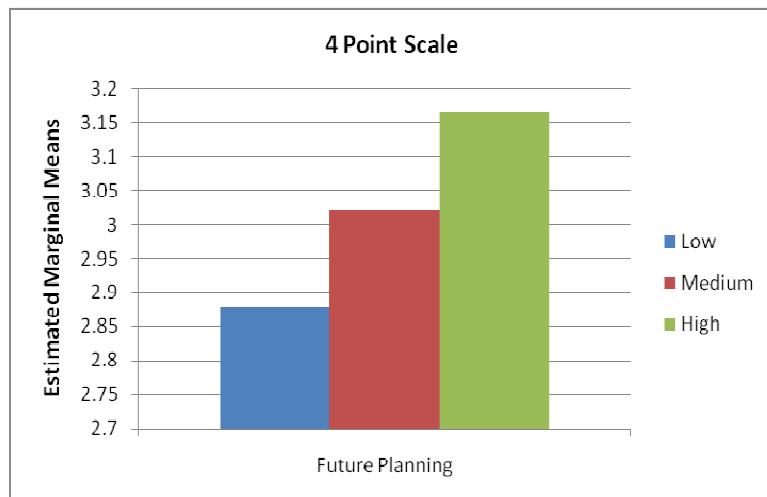
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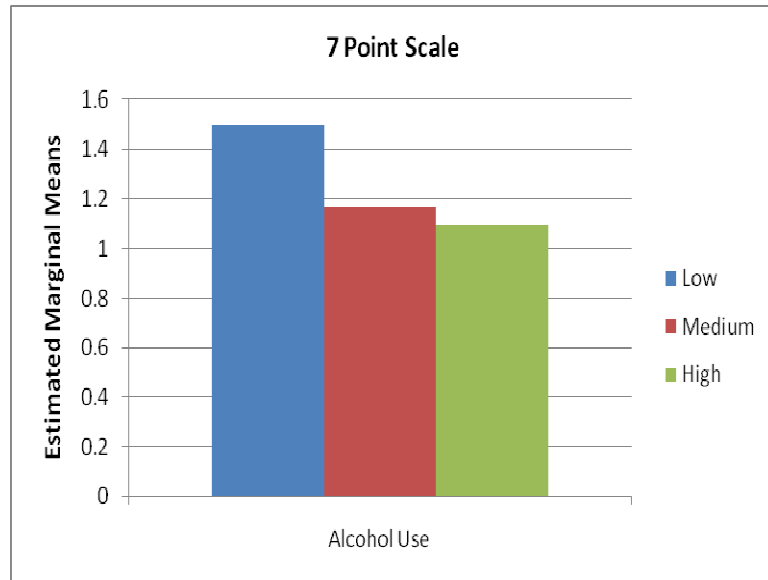
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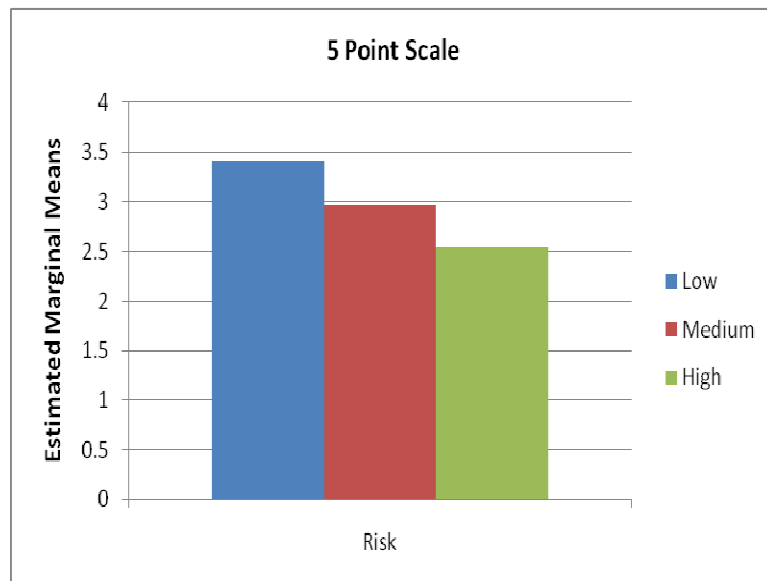
b. Community/School Involvement and School Bonding



c.

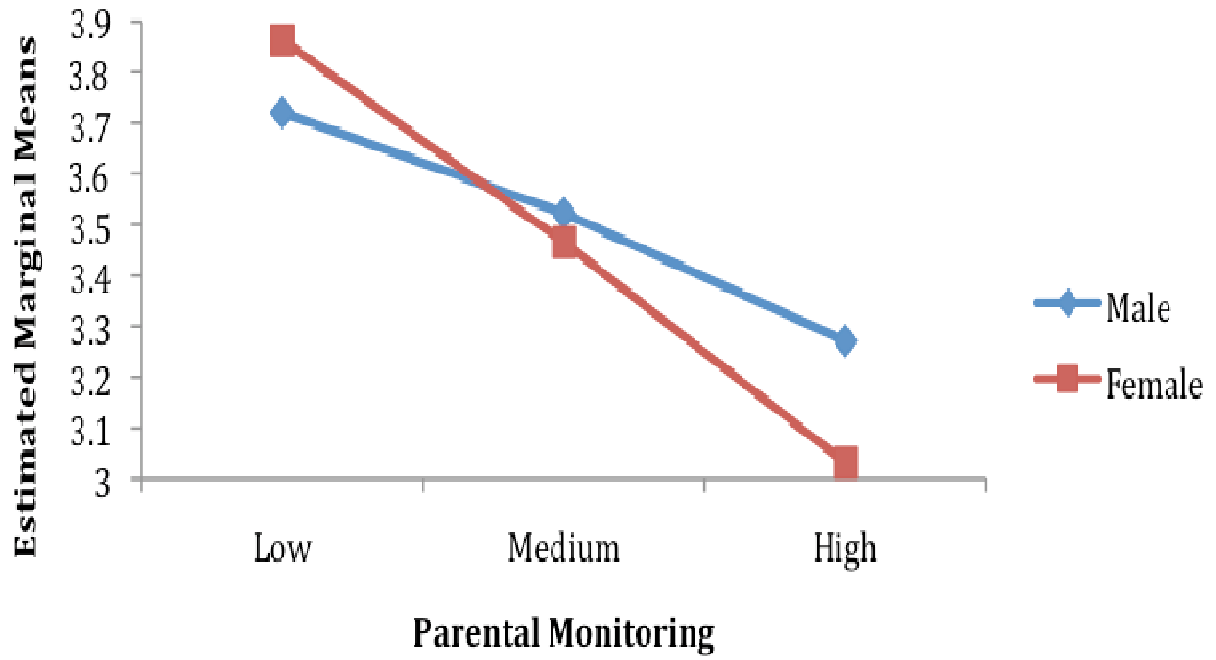


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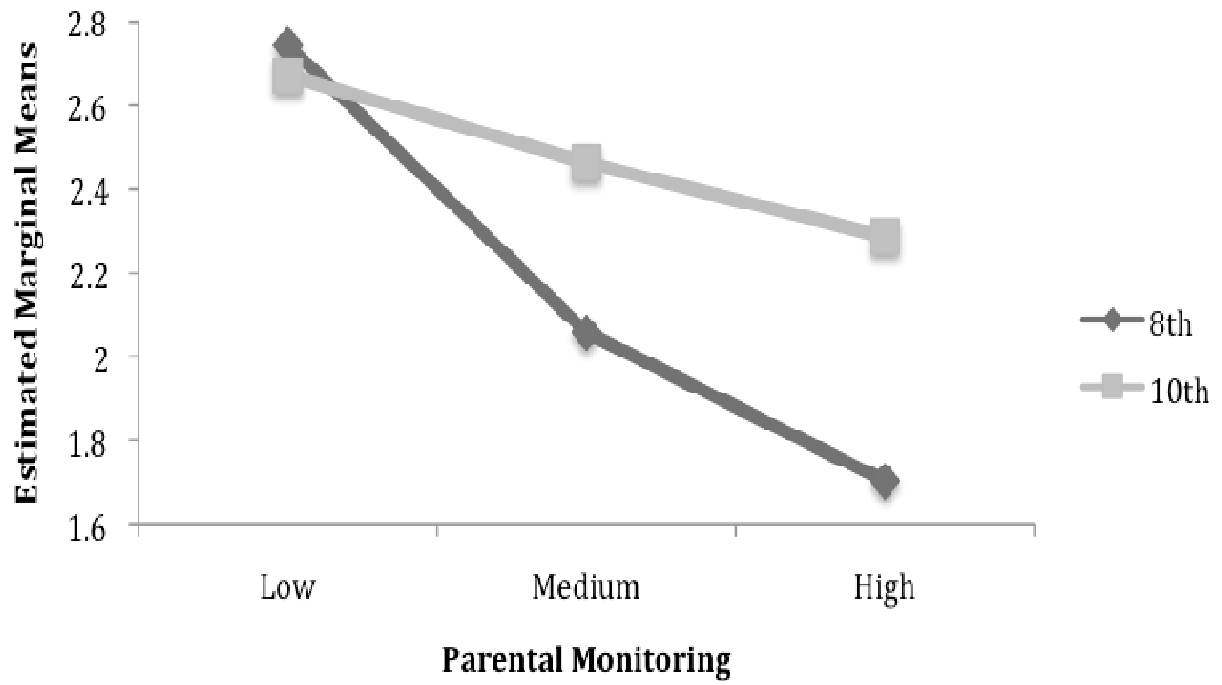


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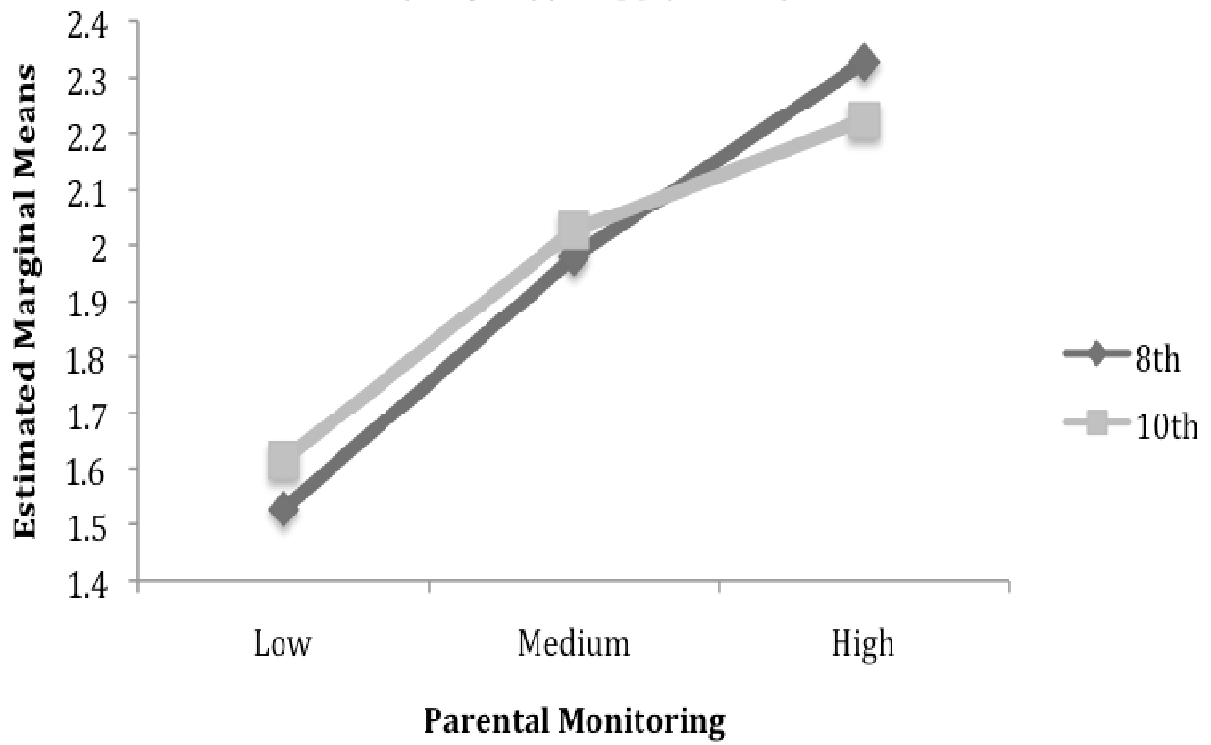
Time Spent With Peers



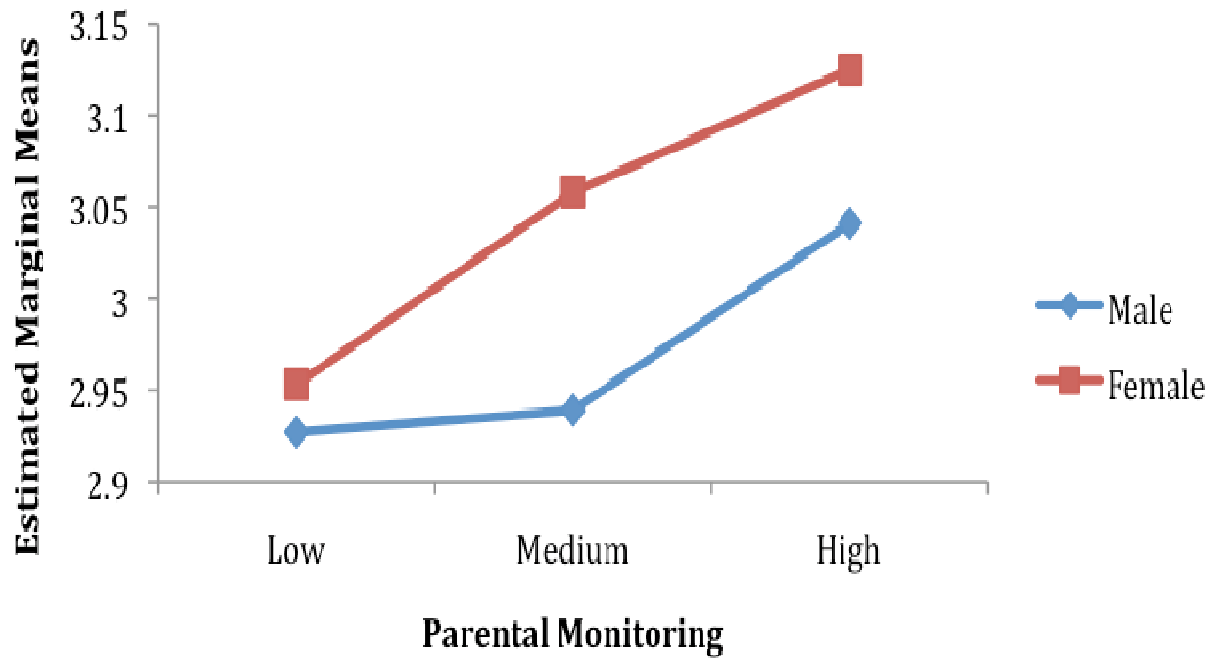
Dating



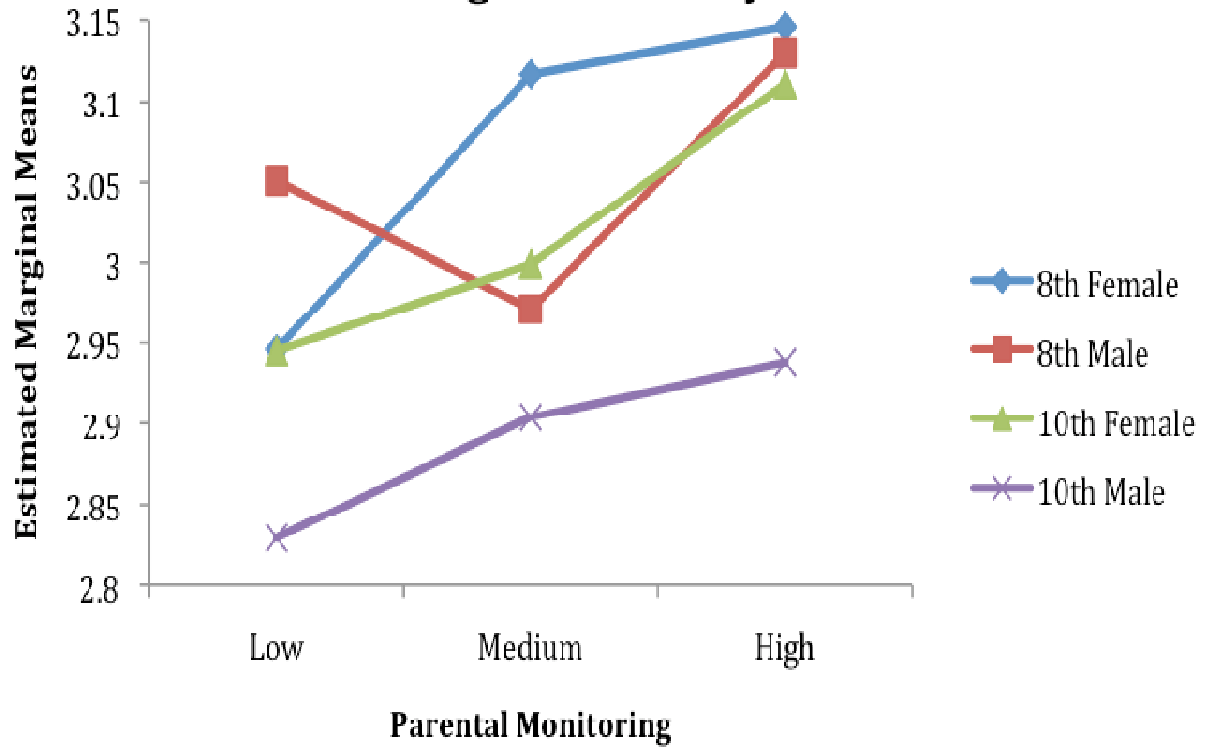
Parental Warmth



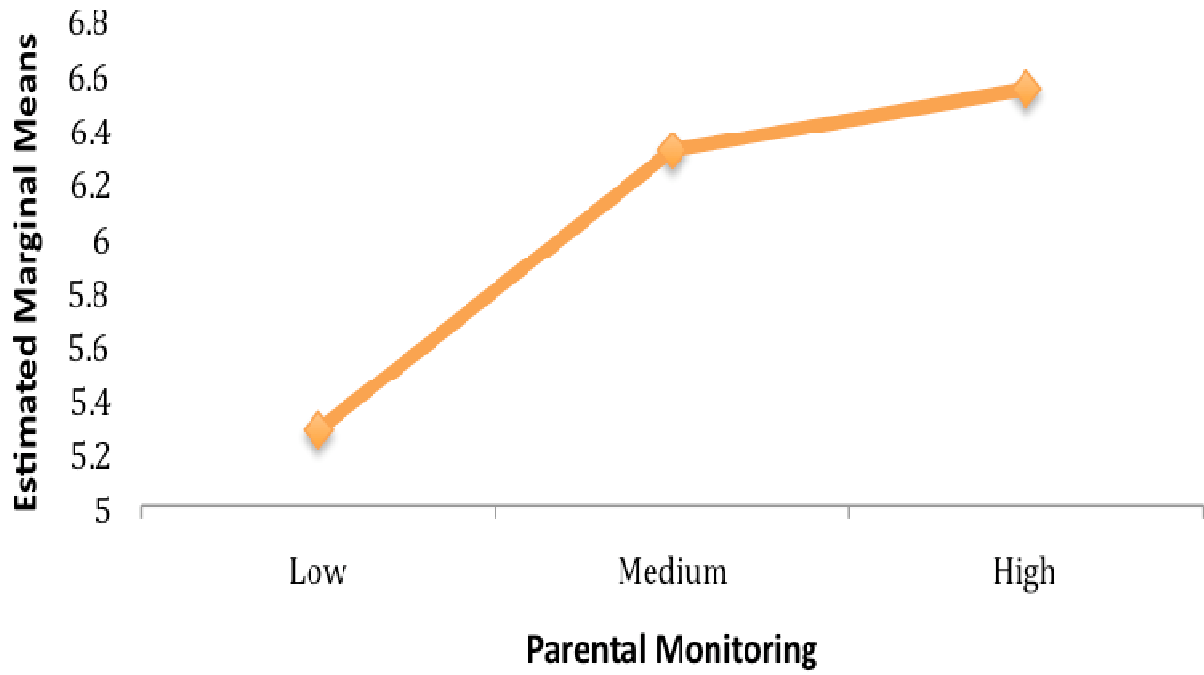
School Bonding



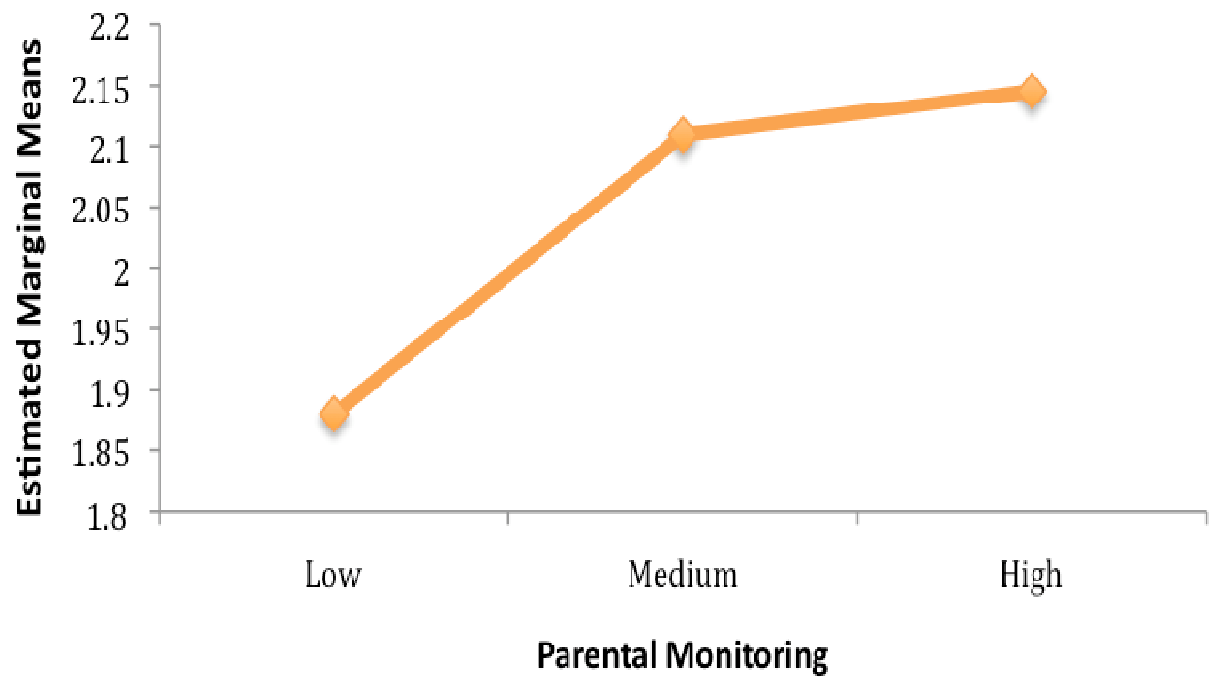
School Bonding - Three Way Interaction



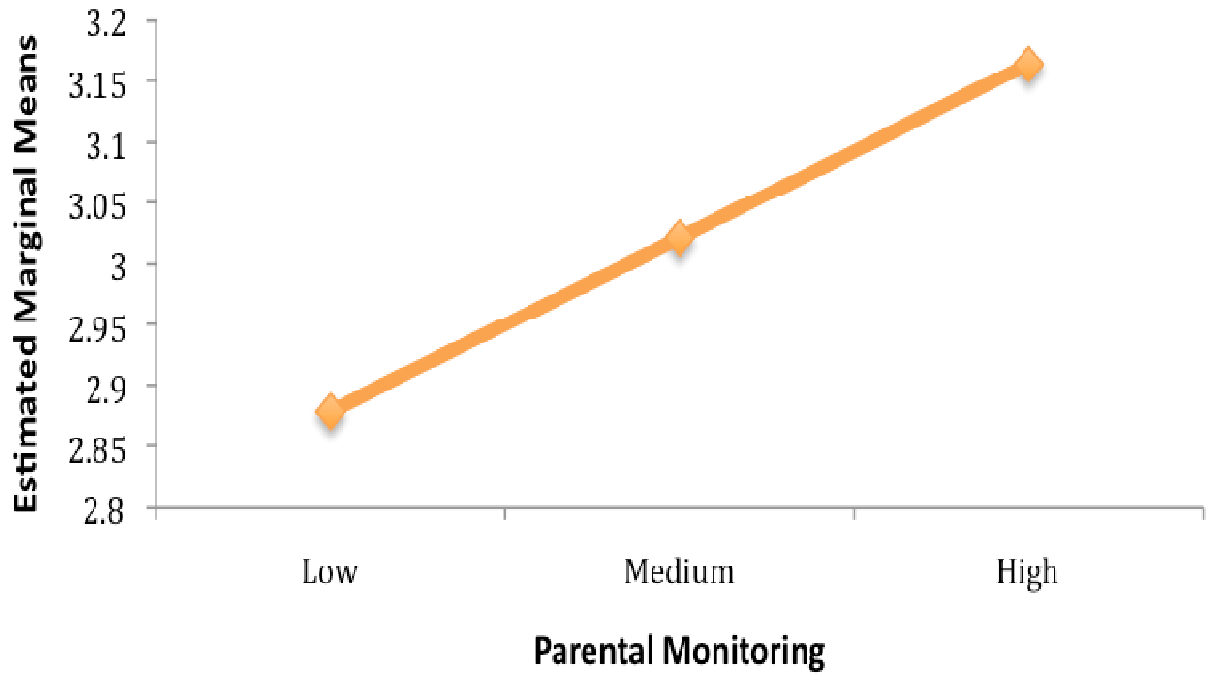
Academic Performance



Community/School Involvement



Future Planning



Alcohol Use

