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Parental Monitoring, Negotiated Unsupervised Time, and Parental Trust: The Role of Perceived Parenting Practices in Adolescent Health Risk Behaviors

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Abstract

Purpose—To compare two different parenting practices (parental monitoring and negotiated unsupervised time) and perceived parental trust in the reporting of health risk behaviors among adolescents.

Methods—Data were derived from 692 adolescents in 9th and 10th grades ($\bar{X}$ = 15.7 years) enrolled in health education classes in six urban high schools. Students completed a self-administered paper-based survey that assessed adolescents' perceptions of the degree to which their parents monitor their whereabouts, are permitted to negotiate unsupervised time with their friends and trust them to make decisions. Using gender-specific multivariate logistic regression analyses, we examined the relative importance of parental monitoring, negotiated unsupervised time with peers, and parental trust in predicting reported sexual activity, sex-related protective actions (e.g., condom use, carrying protection) and substance use (alcohol, tobacco, and marijuana).

Results—For males and females, increased negotiated unsupervised time was strongly associated with increased risk behavior (e.g., sexual activity, alcohol and marijuana use) but also sex-related protective actions. In males, high parental monitoring was associated with less alcohol use and consistent condom use. Parental monitoring had no affect on female behavior. Perceived parental trust served as a protective factor against sexual activity, tobacco, and marijuana use in females, and alcohol use in males.

Conclusions—Although monitoring is an important practice for parents of older adolescents, managing their behavior through negotiation of unsupervised time may have mixed results leading to increased experimentation with sexuality and substances, but perhaps in a more responsible way. Trust established between an adolescent female and her parents continues to be a strong deterrent for risky behaviors but appears to have little effect on behaviors of adolescent males.

Keywords

Adolescent; Behavior management; Gender differences; Parental monitoring; Parental trust; Risk behaviors; Unsupervised opportunities

Parenting practices have been conceptualized as a system of dynamically interrelated dimensions including monitoring (e.g., attention, tracking, and structuring contexts),

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behavior management (e.g., negotiation, problem-solving, limit-setting), and social cognitions (e.g., motivation, values, goals, and norms), with the quality of the parent–child relationship (e.g., trust) serving as the foundation [1]. However, when parenting practices are examined for their role in health risk-taking behaviors in adolescence, such as sexual activity or substance use, research is often limited to a single dimension, and most often, to the role of parental monitoring [2–10]. The other possible dimensions (e.g., behavior management, social cognitions, parental trust) have been considered much less frequently [11,12], although these dimensions may serve as important components of health risk prevention and management.

As children mature and gain independence, parents adjust their supervisory practices to allow for more freedom and independent decision-making by the adolescent [1]. Research has suggested that open lines of communication and knowledge of an adolescent's whereabouts (i.e., parental monitoring) are important in reducing high-risk behaviors [2–6,13–18]. Behavior management approaches are also used by parents of older adolescents as part of their general supervisory practices [1]. However, such approaches have less clear implications with regard to risk behaviors. For example, in later adolescence, parents are more likely to allow their teen the freedom to spend increased unsupervised time with peers [19,20], as part of a negotiated agreement between parent and adolescent. As such, parents may allow their adolescent to "bend the rules" (e.g., curfews, rules about having adult supervision) as long as prior permission is granted for these exceptions. Additionally, parents may believe that they can monitor their teen better if he/she entertains friends at home rather than at a different location (i.e., friend's house). However, in exchange, parents often reduce the amount of direct supervision in these situations by providing private space for the adolescent and his/her friends. Although these examples of negotiated unsupervised time with peers may increase the adolescent's independent decision-making and encourage a level of parent–child trust, they may also lead to more opportunity for experimentation with sexuality and substances.

Such negotiated agreements may be the result of perceived trust established between the parent and adolescent. Parents know that at a certain point in their adolescent's life, they must "stop relying on their own vigilance, discipline, and control and begin relying on their children's responsibility and integrity" [21]. This trust is established through shared knowledge and communication, often centered on parental knowledge of their children's daily activities [11,21] and previous demonstration of established responsibility on the part of the adolescent [21]. Research has shown that adolescents who perceive a strong mutual trust with their parents are less likely to engage in high-risk behaviors such as delinquency [21,22]; however, much less is known about the relationship between perceived trust and other risk behaviors such as sexual activity or substance use. Thus, as an important foundation for parenting practices [1], trust should be examined in the context of the other dimensions of parenting to determine its relative contribution in explaining adolescent risk behavior [21].

In the present investigation, we explored these three aspects of parenting (monitoring, negotiated unsupervised time, and trust) as they related to behaviors commonly initiated in adolescence: sexual activity and substance use (tobacco, alcohol and marijuana). Adolescence is a time when experimentation is more likely to occur, as well as when safe and responsible behavior patterns (e.g., safe sexual practices) are adopted. Based on the literature, we hypothesized that all three parental variables (monitoring, management/negotiation, and trust) would play independent and significant roles in the engagement in risky behaviors among a sample of urban high school adolescents. Specifically, we hypothesized that increased perceived parental monitoring and parental trust would be negatively associated with engagement in risk behaviors. With regard to negotiated

unsupervised time, we believe that parents engage in this action to provide supervision and yet still respect their adolescent's desire for increased freedom and independence. Thus, we hypothesized that negotiated unsupervised time would be positively associated with experimentation but may also be associated with more "safe" behavior (i.e., consistent condom use), particularly among those who report strong perceived parental trust. Finally, these associations may differ by gender, based on the literature that suggests that parents monitor and supervise their daughters differently than their sons [5].

Methods

Participants

The study population was comprised of 692 adolescents in the 9th and 10th grades (mean age = 15.7 years) enrolled in health education classes in six urban high schools in the Midwest. Students were participants in a larger intervention study aimed at reducing human immunodeficiency virus (HIV) risk. Data for the current study were derived from the follow-up survey conducted 4 months post-intervention (follow-up rate = 96%) and were collected via confidential, self-administered surveys that were scanned using Teleform™ technology. Students were exposed either to a HIV or health promotion (e.g., nutrition, physical activity, stress) curricula; however, neither curricula addressed parent-adolescent relationships. Moreover, students from the two different intervention arms did not differ with regard to demographic variables or parental variables being explored in the current study (monitoring, negotiated time, trust).

Introduction letters from the school principal and the research team were mailed to the students' homes, informing parents of the survey and instructing them to return the consent form via any of five methods (delivery to school, mail, fax, e-mail, or telephone). Two additional reminder letters were mailed to nonresponding parents before a passive consent process was enacted, the final step in a process that was described in the first letter. Parent information meetings were held at each of the participating schools, and parents were encouraged to contact the principal investigator with any questions or concerns. Written assent of students was also obtained before the survey. This study was approved by the Institutional Review Board of the authors' university. The parent and student refusal rate was approximately 3%.

Measures

Demographics—Baseline demographic measures included age (in years), gender (F = 1, M = 0), parental education (one or more parents having post-high school education = 1, other = 0), living arrangements (dual parents = 0, other = 1), and self-identified ethnicity (assessed with three index variables for African-American, Hispanic, and Other, respectively, with white students serving as the reference category). Owing to the homogeneity of the neighborhoods involved in this study, we also included a macro-level measure of socioeconomic status (SES) derived from the recently released 2000 Census: the percentage of households within the census tract living below the poverty line. Individuals were linked to their respective census tract based on their home addresses.

We included two variables in our multivariate analyses, one to identify the intervention to which the student was exposed (HIV vs. health curricula) and a measure of attendance (i.e., proportion of sessions attended from 0 to 100%) to assess the intensity of intervention exposure. We acknowledge that because the intervention was taught as part of the regular health curriculum, this latter measure is also an indicator of school attendance, which may have its own effects on risk behaviors.

Parenting practices variables

PARENTAL MONITORING: The Parental Monitoring Scale was employed to assess adolescents' perceptions of parents' tracking and supervision of their whereabouts and activities. This 6-item scale was initially developed by Silver-berg and Small [23], and further developed and validated by Li et al. [4,5,8]. Adolescents were asked to assess the degree to which their parents "know where and with whom they are with and the activities they are engaging" [4], measured with items such as "When I go out at night, my parent(s) know where I am" and "I talk to my parents(s) about the plans I have with my friends." Response options range from "never" (0) to "always" (4). The alpha reliability of the scale in the current study was 0.88. As with all the measures used in this study, the items were summed and divided by the number of items to retain the original response range for descriptive purposes.

NEGOTIATED UNSUPERVISED TIME WITH PEERS: Assessed with four items developed for the current study to explore adolescents' perceptions of the degree and conditions under which parents manage their children's increasing requests for independence and freedom. These items specifically related to adolescents being given opportunities for unsupervised time spent with peers, such as: "I am allowed to stay out past curfew *as long as I call home first*," "I am allowed to have friends over when my parents are not home *as long as I tell my parents beforehand*," "I am allowed to have opposite sex friends in bedroom," and, "There is a place in my house where I am allowed to hang out with my friends where my parents won't bother us." Response options ranged from "never" (0) to "always" (4). Higher scores reflect adolescents reporting that their caregivers give them more opportunities for unsupervised time with peers. The 4-item composite yielded an alpha reliability of 0.70.

PARENTAL TRUST: Adolescents' perceptions of the degree to which their parents trust them was assessed with two items, "My parents trust me to make good decisions" and "My parents trust me to make good decisions because I have made good decisions in the past." Response options range from "strongly disagree" (0) to "strongly agree" (4). The correlation between the two items is 0.71 ($p < .001$).

BEHAVIORAL INTENTIONS AND OUTCOMES: Binary measures of sexual activity and use of substances (i.e., tobacco, alcohol, and marijuana) served as our primary outcomes. Sexual behavior was measured in two ways: reports of ever having sexual intercourse ("no" = 0; "yes" = 1) and reports of recent sexual activity in the past four months ("no" = 0; "yes" = 1). Sexual intentions were also included by asking the teen's intentions to have sex in the next 3 months ("definitely/probably likely" = 1; "not at all to somewhat likely" = 0).

Measures of risky aspects of sexual activities included multiple sexual partners in the past 4 months ("0–1 partner" = 0; "2 or more" = 1) and reports of being diagnosed with a sexually transmitted disease (STD) within the past 1 1/2 years ("no" = 0; "yes" = 1). In contrast, proactive prevention methods included: *carrying a condom* or having quick access to protection should they have sex ("no" = 0; "yes" = 1), declining sexual activity when protection (*no condom, no sex)* was not available ("never" = 1 to "many times" = 5), and using a condom during every act of sexual intercourse (*consistent condom use*). The measure of consistent condom use was derived from a question on the frequency in which a condom was used during sexual intercourse during the past 4 months, with those reporting use "every time" (coded 1) being compared with all other responses (coded 0).

Use of *tobacco*, *alcohol*, and *marijuana* was assessed with individual items, asking adolescents to best describe their use of each of the three substances, from "never trying" (0)

to "using on a daily basis" (4). For each variable, responses were dichotomized to distinguish those who had never imbibed or had only experimented with the substance from those who use on a more regular basis. Tobacco and marijuana use included those who reported occasional (3) or daily use (4), whereas alcohol use included those who reported use at least once a month or more.

Analyses

Measures of bivariate association (e.g., Chi-square, Student's *t*-tests, one-way ANOVA) were used to describe the levels of perceived parental monitoring, negotiated unsupervised time, and parental trust among various demographic subgroups, as well as to explore the association between the parenting practices variables and behavioral outcomes. To examine the unique contribution of the three different parenting practices to the behavioral outcomes, multivariate logistic regression analyses were conducted for each outcome, controlling for demographic covariates (e.g., age, gender, ethnicity, % of poverty in census "neighborhood"), reporting 95% confidence intervals for the odds ratios. We also included the two measures of intervention exposure (e.g., HIV vs. health curricula, attendance) to partial out effects of adolescents taking part in an intervention study. Three of the sex-related risk behaviors were limited to only those students who engaged in the particular behavior. For example, consistent condom use was assessed only among those who reported recent sexual activity. Based on the literature, the parenting variables were hypothesized to differ for males and females, and therefore interaction terms (e.g., gender × parental monitoring) were introduced into the models after the main effects. As expected, significant gender interactions were observed in many of the models, and thus separate logistic regression models were analyzed for males and females.

In general, missing data were minimal (< 2% of cases) throughout the survey, with the exception of parental education, where 10% of cases (n = 69) were either missing or students reported that they did not know the education level of their parents or guardians. However, the alternative measures of SES (number of parents in household, percentage of "neighborhood" poverty) were available on nearly all respondents, and therefore, parent education was excluded from the multivariate analyses and only included in the descriptive results.

Results

Sample Description

Table 1 provides a description of the sample of the 692 urban high school students, stratified by gender. Overall, the sample was balanced with regard to gender, the average age was 15.7 years, and was racially diverse with 41% white, 36% African-American, and 21% of Hispanic backgrounds. Half of the adolescents reported having parents with a high school education or less, and over half of the adolescents lived with both parents. Among those not living with both parents, 36% lived with their mothers only, 4% with their fathers only, and the remaining 7% lived with foster families, other relatives, or nonrelatives. The male and female samples were similar with regard to demographic characteristics, with the exception of age, with the male sample being somewhat older than the female sample ($p < .05$).

Adolescents generally reported high levels of parental monitoring and parental trust, with an average score of 3.1 on each scale (range 0–4). The distribution for parental monitoring was more skewed at higher levels than for parental trust. Although negotiated unsupervised opportunities scores were substantially lower (mean score of 2.2), the distribution is quite evenly spread. Moreover, there were a significant number of students who reported "usually" or "always" being permitted to have friends over when parents were not home if

parents were informed (56%), to stay out late if they call (50%), and to have a place to hang with friends unmonitored by parents (59%). Fewer students were permitted to entertain same-sex friends in their bedrooms (31%) (data not shown).

A low but significant correlation was found among the three parenting variables, with parental monitoring being positively correlated with parental trust ($r = .23$; $p < .01$) and negatively associated with negotiated unsupervised time ($r = -.25$; $p < .01$). However, there was a positive association between perceived parental trust and negotiated unsupervised time ($r = .17$; $p < .01$). That is, students who report high levels of parental monitoring are more likely to report high levels of parental trust but lower levels of negotiated unsupervised time. However, students who report high levels of parental trust paradoxically are more likely to report higher levels of negotiated unsupervised time.

As expected, female students report significantly higher levels of parental monitoring ($\bar{X}$ = 3.45 vs. 2.77) and lower levels of parent-negotiated unsupervised time ($\bar{X}$ = 1.98 vs. 2.44) than their male counterparts (both $p < .001$). Male and female students did not differ in their reporting of perceived parental trust.

With regard to behavioral outcomes, over half of the sample had initiated sexual intercourse, with 35% reporting sexual activity in the previous 4 months. Half of the sample reported that they carried protection (e.g., condoms) with them, and 34% reported that on at least one occasion they did not have sex because they did not have a condom. Almost 20% of the sexually active teens reported having an STD in the past year and a half, similar to other reports [24].

With regard to substance use, over 70% reported experimentation with alcohol, 60% with tobacco, and 49% with marijuana. Over a quarter of the sample reported occasional or regular use of marijuana and tobacco, and 17% drink alcohol at least once a month. Males were significantly more likely to carry protection, intend to have sex in the future, and report recent alcohol use than their female peers.

In addition to gender differences, we also examined how reports of parenting practices differed by age, ethnicity, parental education, number of parents in the household, and neighborhood level SES (data not shown). Although students were similar in age, older students (≥ 16 years) reported significantly less parental monitoring ($\bar{X}$ = 3.03 vs. 3.25; $p < .001$) and more negotiated unsupervised time ($\bar{X}$ = 2.30 vs. 2.07; $p < .01$) than their younger (≤ 15 years) peers. Reports of parental trust did not vary by age.

Reports of negotiated unsupervised time among white students and those of other ethnic groups were significantly higher ($\bar{X}$ = 2.49 and 2.37, respectively) than their African-American or Hispanic peers (2.00 for both groups; $p < .001$). However, post hoc analyses revealed that only white students differed from African-American and Hispanic students ($p < .001$). No racial/ethnic differences were observed in reports of parental monitoring or parental trust. Students living in census tracts with higher median household incomes and lower proportions of households living in poverty reported higher levels of negotiated unsupervised time; however, there was no association between the SES measures and parental monitoring or parental trust.

Students from two-parent homes reported higher levels ($\bar{X}$ = 3.20) of parental monitoring than those from one-parent homes ($\bar{X}$ = 3.01; $p < .01$), but no differences were observed for negotiated unsupervised time or parental trust. Interestingly, among those students living in one-parent or “other” household arrangements, those living in households headed by grandparents, foster parents, or others report similar levels of parental monitoring to that of those living in two-parent homes, whereas those living in mother-only or father-only led

households report significantly lower levels of parental monitoring ($F = 4.987$; $p < .002$). Lastly, students with parents who had a high school education or more reported very similar levels of monitoring, negotiated unsupervised time, and parental trust to those with less educated parents.

Bivariate Association: Parenting Variables and Behavioral Outcomes

We next examined the bivariate associations between the parenting variables and the behavioral outcomes (sexual activity and substance use) (Table 2). Higher levels of parental monitoring were significantly associated with less sexual activity (ever or recent), lower intentions to have sex in the future, and lower rates of alcohol, tobacco, or marijuana use, and higher rates of consistent condom use. In contrast, higher reports of negotiated unsupervised time were significantly associated with more sexual activity (ever or recent) and increased prevalence of alcohol, tobacco, and marijuana use. However, greater unsupervised opportunities were also associated with the proactive behavior of carrying condoms for protection and not having sex owing to unavailability of a condom. Moreover, although students who report greater unsupervised opportunities were more likely to engage in behaviors, they were no more likely to initiate sex early, intend to have sex, engage in unprotected sex, or report having a STD than those reporting their parents allowed them to have fewer unsupervised opportunities. For perceived parental trust, higher reports of trust was associated with lower prevalence of sexual activity (ever or recent), reporting of STD, intentions to have sex, and alcohol, tobacco, and marijuana use and higher rates of consistent condom use.

Multivariate Results

To explore the relative effect of the three parenting variables, individual multivariable logistic regression models were conducted using block entry procedures. In addition to the parenting variables, the models included covariates of age, gender, ethnicity, neighborhood SES, intervention exposure, and the interactions terms of these variables with the parenting variables. Parent's education was not found to be a significant covariate and was dropped from the multivariate analyses owing to the number of missing cases. All other covariates had some predictive value in one or more models and were thus retained in subsequent models. Significant gender interactions were observed across the models, but not for age, ethnicity, SES, or intervention status. Therefore, all subsequent models were conducted stratified by gender, controlling for the main effects of gender, age, SES and intervention status (Tables 3 and 4).

Table 3 provides the results for the male sub-sample (n = 345). Among males, parental monitoring was found to be negatively associated with alcohol use and recent sexual activity (i.e., increased monitoring, lower prevalence of behavior); however, the association between monitoring and sexual activity was borderline significant ($p < .07$). High parental monitoring was also associated with consistent condom use among sexually active males. Perceived parental trust was found to be associated with only one behavioral outcome: alcohol use. In contrast, negotiated unsupervised time with peers was found to be significantly associated with nearly all of the outcomes. That is, after controlling for levels of parental monitoring and parental trust and the demographic covariates, males who reported high levels of negotiated unsupervised time were more likely to be sexually active (both in behavior and intention) and to use alcohol and marijuana than their male peers who reported lower levels of this parental practice. However, they are also more likely to carry protection (e.g., condoms) and report consistent condom use during recent sexual encounters.

Table 4 provides the results for the female sub-sample (n = 347). Among female respondents, parental monitoring was not found to be associated with any of the behavioral outcomes. Similar to their male counterparts, higher levels of negotiated unsupervised time was associated with increased odds of reporting sexual activity (ever and recent), intentions to have sex in the future, alcohol and marijuana use. In addition, negotiated unsupervised time was significantly associated with protective behaviors of carrying protection and not having sex when a condom was not available. In contrast to the males, perceived parental trust was found to be an extremely important factor in behavior among females. After controlling for covariates, females who reported higher levels of perceived parental trust were less likely to be sexually active (in behavior or intentions) or to use tobacco or marijuana than their female peers who reported less perceived parental trust. However, parental trust was not related to sex-related protective behaviors.

Discussion

Research has amply documented that the greater the communication between parent and adolescent and the greater the parent knowledge of the adolescents' whereabouts (i.e., parental monitoring), the lower the likelihood that the adolescent will engage in health risk behaviors [2–6,13–18]. Similarly, the few studies that have explored the importance of trust in parent–child relationships have found that adolescents who perceive that their parents trust them are less likely to engage in risky behaviors, such as delinquency [21,22]. The current study provides further evidence for both of these findings. However, the study also clarifies some aspects of these parenting concepts and explores a different dimension of the parenting triad (i.e., negotiated unsupervised time) [1] that may have practical implications for parents of adolescents today.

First, the results of this study reveal that when other dimensions of parenting are explored together, the role of parental monitoring on behavior is not as powerful as when examined alone. For example, at the bivariate level, parental monitoring was linked to 7 of the 10 outcomes, as commonly found in previous research [2–6,10,13,15,18]. However, when considered within the multivariate model, controlling for other parental variables and covariates, parental monitoring was only associated with two behaviors, and only for males. Because the correlation among the parenting variables was small (< .30), multicolinearity does not explain this reduction in predictive value. Thus, perhaps simply knowing where one's adolescent is and with whom is not enough to protect them from engaging in high-risk behavior.

In contrast, the study identifies a parenting practice (i.e., negotiated unsupervised time) employed by some parents presumably to manage or structure their adolescent's whereabouts while granting increased freedom and independence. The effect of this practice is striking. Adolescents who report that their parents allow them to negotiate unsupervised time with peers were more likely to be sexually active and to use substances (alcohol and marijuana) than the adolescents who do not, even when comparing adolescents who are similar in parental monitoring and parental trust. However, these adolescents are also more likely to engage in sex-related protective behaviors such as consistent condom use, carrying protection, or refusing sex when protection is not available. Interestingly, these results were very similar in magnitude and direction for males and females alike. Although parents of female adolescents were less likely to negotiate unsupervised time than parents of male adolescents, when they do, the effects appear to be the same.

It can be argued that our measure of negotiated unsupervised time is an indicator of permissive parenting rather than a strategic parenting practice. Although we do not have a direct measurement of permissiveness, our analyses provide evidence that these are not

adolescents with parents who have few rules or allow their children unmonitored freedom. Rather, even among adolescents who report that their parents are highly aware of their whereabouts (i.e., highly monitoring), a significant proportion (40% to 60%) of these students also report being allowed to stay out past curfew if they call, have friends over when their parents aren't home, and have a place in their home where they can hang out unmonitored. However, even when the sample is restricted to this highly monitored group, the higher the level of negotiated unsupervised time, the increased likelihood of sexual activity, substance use (alcohol and marijuana), and responsible sexual behaviors (consistent condom use, carrying protection). Thus, although the degree to which parents use negotiated unsupervised time is much less than general monitoring practices, this parenting practice does not appear to be rare, nor found only among adolescents who are poorly monitored. These findings suggest that when parents allow negotiation to occur, adolescents may be permitted more opportunity for experimentation to occur. However, if the adolescent does engage in the behavior (particularly sexual activity), he or she may be more likely to engage in the behaviors in a more "responsible" way (e.g., using a condom, carrying protection).

A third important finding of the study is the association of perceived parental trust and behavior among adolescent females, but not males. Even though males and females do not differ with regard to perceived parental trust, it's clearly more important in the lives of young adolescent women than young adolescent men. However, a causal order between trust and behavior cannot be made, as research has shown that [21] trust between parent and adolescent was the lowest among adolescents who reported the highest levels of delinquency.

A final interesting result is the striking differences in the reporting of negotiated unsupervised time by white adolescents, when compared with their African-American or Hispanic peers. Within this urban, ethnically diverse sample of adolescents, where less than half of all students live in two-parent homes, and nearly half of students live in low-income census tracts, white students are far more likely to report that their parents allow negotiated unsupervised time than adolescents from any other group. However, similar differences have been observed in studies of global parenting styles, where white parents are much more likely to be authoritative (joint decision-making but parents have the final say), whereas African-American and Hispanic parents tend to be more autocratic (parents make all decisions) in their parenting styles [25].

Limitations

The most significant limitation of the current study is its cross-sectional design. As such, we are unable to determine the underlying causal order of the parenting variables and adolescent outcomes. Clearly, for two of the variables, negotiated unsupervised time and parental trust, the causal order may be reversed [21]. That is, parents are more likely to negotiate with and trust their adolescent if he or she does not engage in risky behaviors such as sexual activity or substance use. However, this would also assume that parents are fully aware of the behaviors in which their children engage and research has revealed that this is not usually the case [8,9]. Thus, future studies of these relationships will require longitudinal perspectives to fully disentangle the underlying causality of these variables.

Another potential limitation of the study is the measurement itself. All of the parenting variables are collected from the perspective of the adolescent rather than behavior reported by the parent. The findings of this study may be strengthened if parental reports were included; however, the majority of studies of behavioral management techniques (control, discipline, limit-setting) that have considered both have found that adolescent reports, and not parent reports, are more likely to be associated with negative behavioral outcomes [26].

We also did not have complementary "responsible" behaviors associated with substances such as not drinking while driving or not driving with others when they are drinking.

Finally, our measure of negotiated unsupervised time was initially conceptualized not from theory, but from observation and through conversations with parents and adolescents. Many parents offered examples such as the ones we use in our measurement of negotiated unsupervised time as ways in which they manage their adolescent's need for independence, while at the same time maintaining a standard set of rules. Further refinement of the construct of negotiated unsupervised time is needed to capture a fuller range of practices that parents use to manage their child's growing need for independence. In addition, we are unable to empirically assess the conceptual independence of our measures with other similar constructs, such as parenting styles (i.e., authoritative, permissive, autocratic) [25].

Conclusion

Although monitoring is an important practice for parents of older adolescents, the use of negotiated unsupervised time as a parenting practice may produce mixed results. It is clear that the approach does not reduce the likelihood of experimentation with sex and substances, and may actually provide unintended opportunities for experimentation to occur. However, if parents believe that the exposure to sex and substances is high and therefore experimentation is inevitable, then the approach may be a good one, as it appears to increase the likelihood of responsible behaviors, such as engaging in safe-sex practices. In addition, trust established between an adolescent female and her parents continues to be a strong deterrent for risky behaviors but appears to have little effect on behaviors of adolescent males.

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Table 1

Characteristics of Study Participants: Demographics, Perceived Parental Practices and Behavioral Outcomes

	Total (n = 692)	Males (n = 345)	Females (n = 347)
Demographics			
Age (mean, SD)	15.7 (0.76)	15.8 (0.77)	15.6 (0.74)
Age (% ≤ 15 years)	38.3	34.2	42.4*
Gender (% female)	50.1	n/a	n/a
Race (%)			
Caucasian	40.8	42.0	39.5
African-American	36.0	33.6	38.3
Hispanic	20.5	20.3	20.7
Other	2.7	4.1	1.4
Parent's education (%)			
Both parents ≤ high school	50.0	48.1	51.9
1 or more parents > high school	40.0	39.1	40.9
Don't know	10.0	12.8	7.2
Parents/guardians in household			
Living with two parents (%)	53.5	53.0	53.9
Census tract data (%)			
In poverty census tract[a]	49.7	50.3	49.1
In high poverty census tract[b]	5.2	5.6	4.9
Parental variables			
Monitoring (0–4) (mean, SD)	3.11 (0.86)	2.77 (0.91)	3.45 (0.66)***
Range (%)			
0–1	2.9	5.0	0.9
> 1–2	12.5	20.0	5.2
> 2–3	25.8	34.7	17.0
> 3–4	58.7	40.2	76.9
Negotiated unsupervised time (mean, SD)	2.21 (1.00)	2.44 (0.98)	1.98 (0.96)***
Range (%)			
0–1	15.7	10.6	20.7
> 1–2	29.9	26.6	33.2
> 2–3	35.8	36.5	35.0
> 3–4	18.6	26.3	11.1
Parental trust (mean, SD)	3.09 (0.84)	3.07 (0.84)	3.11 (0.84)
Range (%)			
0–1	3.7	4.4	2.9
> 1–2	13.8	11.8	15.7
> 2–3	40.8	45.1	36.4
> 3–4	41.8	38.6	44.9
Behavioral outcomes			

	Total (n = 692)	Males (n = 345)	Females (n = 347)
Sexual behavior (%)			
Ever had sex	51.2	51.9	50.4
Recent sexual activity	35.1	34.2	36.0
Consistent condom use[c]	49.8	53.9	46.0
Carry protection	50.1	57.0	43.0***
No condom, no sex	33.9	36.0	32.0
Had STD[d]	19.9	23.1	16.6
Intentions to have sex in next 3 months	45.8	54.0	37.9***
Substance use (%)			
Use alcohol[e]	17.2	20.0	13.8*
Use tobacco[f]	26.2	24.1	27.7
Use marijuana[g]	25.6	26.7	23.6

* $p < .05$;

** $p < .01$;

*** $p < .001$.

[a] Defined as a census tract where 20% or more households live under the poverty line (2000 Census).

[b] Defined as a census tract where 40% or more households live under the poverty line (2000 Census).

[c] Among students reporting sexual activity in the past 4 months.

[d] Among students who report to have “ever” had sex.

[e] Reported drinking at least once a month or more.

[f] Reported tobacco consumption of occasional use or more.

[g] Reported marijuana consumption of occasional use or more.

SD = standard deviation; STD = sexually transmitted disease.

Table 2

Bivariate Association Between Parental Variables and Sexual-related Behavior Outcomes of Adolescent

	Parental Monitoring[a]	Negotiated Unsupervised Time	Parental Trust
Ever had sex			
No	3.24 (0.78)***	2.04 (0.94)***	3.18 (0.79)**
Yes	2.99 (0.92)	2.36 (1.02)	3.00 (0.88)
Recent sexual activity			
No	3.21 (0.82)***	2.07 (0.96)***	3.15 (0.82)*
Yes	2.93 (0.92)	2.46 (1.01)	2.98 (0.86)
Carry protection (i.e., condoms)			
No	3.17 (0.83)	2.07 (0.97)***	3.10 (0.82)
Yes	3.05 (0.89)	2.34 (1.01)	3.08 (0.86)
Intention to have sex			
No	3.28 (0.76)***	1.96 (0.94)***	3.18 (0.78)**
Yes	2.91 (0.93)	2.51 (0.98)	2.98 (0.89)
Had STD[b]			
No	3.04 (0.90)	2.38 (1.05)	3.05 (0.86)*
Yes	2.81 (0.94)	2.32 (0.92)	2.81 (0.93)
Consistent condom use[c]			
No	2.82 (0.95)*	2.41 (1.00)	2.84 (0.86)**
Yes	3.06 (0.87)	2.52 (1.00)	3.13 (0.84)
No condom, no sex[c]			
No	3.00 (0.95)	2.29 (1.09)*	2.98 (0.88)
Yes	2.95 (0.85)	2.50 (0.87)	3.02 (0.87)
Use alcohol			
No	3.20 (0.83)***	2.11 (0.98)***	3.13 (0.82)**
Yes	2.73 (0.90)	2.67 (0.92)	2.90 (0.86)
Use tobacco			
No	3.16 (0.86)*	2.14 (1.00)**	3.16 (0.81)***
Yes	3.00 (0.84)	2.40 (0.96)	2.92 (0.88)
Use marijuana			
No	3.22 (0.82)***	2.08 (0.99)***	3.16 (0.82)***
Yes	2.81 (0.90)	2.58 (0.92)	2.90 (0.86)

*$p < .05$;

**$p < .01$;

***$p < .001$.

[a]Mean (standard deviation).

[b]Among students who report to have “ever” had sex.

[c] Among students reporting sexual activity in the past 4 months.

Table 3

Multivariate Results[a]: Relative Effect of Parental Measures as Predictors of Sexual Activity and Substance Use Among Adolescent Males (n = 345)

	Parental Monitoring OR (95% CI)	Negotiated Unsupervised Time OR (95% CI)	Parental Trust OR (95% CI)
Among all students (n = 345)			
Ever had sex	0.81 (0.60, 1.10)	1.71 (1.27, 2.29)***	0.86 (0.62, 1.18)
Recent sexual activity	0.74 (0.55, 1.00)	1.81 (1.32, 2.48)***	0.96 (0.69, 1.33)
Carry protection	1.27 (0.95, 1.68)	1.61 (1.22, 2.13)***	1.04 (0.76, 1.40)
Intention to have sex	0.90 (0.67, 1.20)	1.89 (1.42, 2.52)***	0.88 (0.65, 1.20)
Alcohol use	0.63 (0.44, 0.89)**	1.85 (1.26, 2.73)**	0.68 (0.47, 0.98)*
Tobacco use	0.99 (0.71, 1.37)	1.35 (0.98, 1.87)	0.78 (0.56, 1.10)
Marijuana use	0.73 (0.53, 1.00)	1.77 (1.27, 2.46)***	0.74 (0.53, 1.04)
Among students reporting sexual activity in the last 4 months (n = 117)			
Consistent condom use	2.03 (1.20, 3.42)**	1.92 (1.13, 3.26)*	1.18 (0.67, 2.08)
Among students who report to have “ever” had sex (n = 178)			
Had STD	0.84 (0.54, 1.31)	0.89 (0.58, 1.35)	0.67 (0.41, 1.09)
No condom, no sex	1.09 (0.74, 1.61)	0.94 (0.64, 1.38)	0.93 (0.60, 1.44)

* $p < .05$;

** $p < .01$;

*** $p < .001$.

[a] All models are adjusted for age, race, intervention status, proportion of days in curriculum, and neighborhood socioeconomic status (percent of households living in poverty).

STD = sexually transmitted disease.

Table 4

Multivariate Results[a]: Relative Effect of Parental Measures as Predictors of Sexual Activity and Substance Use Among Adolescent Females (n = 347)

	Parental Monitoring OR (95% CI)	Negotiated Unsupervised Time OR (95% CI)	Parental Trust OR (95% CI)
Among all students (n = 347)			
Ever had sex	1.10 (0.74, 1.64)	1.67 (1.25, 2.22)***	0.56 (0.40, 0.76)***
Recent sexual activity	0.90 (0.61, 1.32)	1.67 (1.25, 2.22)***	0.54 (0.39, 0.74)***
Carry protection	0.96 (0.67, 1.39)	1.39 (1.07, 1.82)*	0.75 (0.56, 1.01)
Intention to have sex	0.89 (0.60, 1.32)	2.11 (1.55, 2.87)***	0.47 (0.34, 0.65)***
Alcohol use	1.02 (0.59, 1.76)	1.58 (1.04, 2.41)*	0.71 (0.46, 1.11)
Tobacco use	0.85 (0.55, 1.32)	1.18 (0.85, 1.65)	0.67 (0.47, 0.97)*
Marijuana use	0.67 (0.43, 1.03)	1.66 (1.17, 2.36)**	0.54 (0.37, 0.78)***
Among students reporting sexual activity in the last 4 months (n = 125)			
Consistent condom use	1.04 (0.54, 1.98)	0.77 (0.47, 1.24)	1.51 (0.88, 2.62)
Among students who report to have “ever” had sex (n = 175)			
Had STD	1.01 (0.52, 1.97)	1.43 (0.89, 2.29)	0.69 (0.40, 1.18)
No condom, no sex	0.98 (0.56, 1.71)	1.78 (1.16, 2.73)**	0.81 (0.51, 1.28)

* $p < .05$;

** $p < .01$;

*** $p < .001$.

[a] All models are adjusted for age, race, intervention status, proportion of days in curriculum, and neighborhood socioeconomic status (percent of households living in poverty.

STD = sexually transmitted disease.