

ORIGINAL ARTICLE

Examining the Relationship Between Adolescent Sexual Risk-Taking and Perceptions of Monitoring, Communication, and Parenting Styles

ANGELA J. HUEBNER, Ph.D. AND LAURIE W. HOWELL, M.S.

Purpose: To examine the relationship between adolescent sexual risk-taking and perception of parental monitoring, frequency of parent–adolescent communication, and parenting style. The influences of gender, age, and ethnicity are also of interest.

Methods: Data were collected from 7th–12th grade students in six rural, ethnically diverse schools located in adjacent counties in a Southeastern state. A 174-item instrument assessed adolescent perceptions, behaviors and attitudes. Youth who had engaged in sexual intercourse ($n = 1160$) were included in the analyses. Logistic regression analyses were conducted to identify parenting practices that predicted high versus low-risk sex (defined by number of partners and use of condoms). Variables included parental monitoring, parent–adolescent communication, parenting style, parenting process interaction effects and interaction effects among these three parenting processes and gender, age and ethnicity. Analyses included frequencies, cross-tabulations and logistic regression.

Results: Parental monitoring, parental monitoring by parent–adolescent communication and parenting style by ethnicity were significant predictors of sexual risk-taking. No gender or age interactions were noted.

Conclusion: Parental monitoring, parent–adolescent communication and parenting style are all important variables to consider when examining sexual risk-taking

among adolescents. © Society for Adolescent Medicine, 2003

KEY WORDS:

Adolescents
Parental monitoring
Parenting processes
Sexual risk-taking

Adolescence is a time of increased freedom to make choices, and the ability of the adolescent to confront these choices and make healthy decisions is crucial to development [1]. Is sexual intercourse necessarily a risky behavior for adolescents? Chilman [2] counters the common notion that sexuality in adolescence is “particularly dangerous and disturbing” by suggesting sexuality should be considered a normal part of healthy adolescent development. Despite this suggestion, many researchers equate sexual intercourse with sexual risk-taking without taking into consideration the use of condoms or the number of partners [3–5].

Using a definition of sexual risk-taking based on a history of sexual intercourse involving either multiple partners and/or no condom use, this study examines the parenting processes differentiating low- and high-risk sexual activity in adolescents. This definition of sexual risk-taking is consistent with that proposed by several other researchers [6–9]. Specific parenting processes of interest include parent–adolescent communication, parental monitoring, and parenting style. Given that much research has suggested these processes are different for adolescent boys and girls [10–16], the influence of

From the Department of Human Development, Virginia Tech, Falls Church, Virginia (A.J.H.); and the Department of Human Development/Marriage & Family Therapy, Virginia Tech, Falls Church, Virginia (L.W.H.).

Address correspondence and reprint requests to: Dr. Angela J. Huebner, Virginia Tech/Northern Virginia Graduate Center, 7054 Haycock Road, Room 202G, Falls Church, VA 22043.

Manuscript accepted March 10, 2003.

The full text of this article is available via JAH Online at <http://www.elsevier.com/locate/jahonline>

gender will be considered. Because of the focus on sexual risk-taking behavior, the influence of age and ethnicity will also be considered.

Family systems theory is used to guide our examination of the influence of subsystems (i.e., the parents, their communication, monitoring, and parenting styles) on the adolescent's sexual risk-taking behaviors because it focuses on the interaction processes between adolescents and adults [17].

Parental monitoring generally refers to parents' knowledge about a child's whereabouts and activities [18–19]. Several researchers have reported that high levels of parental monitoring were associated with lower sexual risk-taking behavior [8,9,13,20–23]. In their examination of parental monitoring, Stattin and Kerr [16] point out that parents can monitor their teens effectively only if their teens freely disclose information about what they are doing. In the absence of child disclosure, monitoring is found to be ineffective. They urge researchers to reconsider monitoring by taking into account the role that adolescents contribute to this process. These findings points to the important role of parent-adolescent communication.

Studies examining the relationship between parent-adolescent communication and adolescent sexual risk-taking reveal mixed results [9,24–28]. In their review of the literature, Hutchison and Cooney [25] conclude that in general, sex education provided at home by parents was related to later age of sexual activity and more effective contraception use.

In her study of adolescent sexual risk-taking, Rodgers [9] hypothesized that sexually active teens who talk with their parents about sexually-related issues would be less likely to demonstrate sexual risk-taking behavior compared to teens who do not communicate with their parents about such issues. Her finding indicated that high levels of parental monitoring (more so than high levels of communication) were associated with lower sexual risk-taking. Luster and Small [8] found sexually high-risk females were less likely to talk to their mothers about birth control. There were no differences in communication about birth control between low-risk and high-risk males.

Researchers have found that while both authoritarian and permissive/neglectful styles of parenting have negative effects on family relations [29], authoritative parenting styles that encourage autonomy and self-discovery are associated with psychological and social competence [30–31]. Flexibility and encouragement of adolescent self-expression are likely to create a collaborative environment that fosters

productive communication between parents and their adolescents [29]. This combination of close, supportive environments and encouraged independence is associated with adolescents who make successful transitions to adulthood [32]. Rodgers [9] suggests such psychological autonomy allows adolescents to develop a level of psychological and moral maturity that leads to engagement low-risk sexual behavior.

This study examines the following research questions: (a) What is the relationship between adolescent sexual risk-taking and the adolescent's perception of several parenting processes including level of parental monitoring, frequency of parent-adolescent communication, and type of parenting style?; (b) What influence, if any, does the age, gender and ethnicity of the adolescent have on the relationship?

Methods

Sample and Procedures

Data for this Institutional Review Board–approved study were gathered from students in grades 7 through 12 in six rural, ethnically diverse high schools located in adjacent counties in a Southeastern state. County populations ranged from 9,112 to 11,431. The percentage of students eligible for the free or reduced price school lunch program ranged from 23% to 47%. Because of their sparse population, each county has only one centrally located middle and high school for all its school age youth.

Data for the present study were a subset of a larger study examining attitudes, behaviors, values, worries and hopes of adolescents. Of the 3135 students enrolled in the schools, 2701 (86%) participated in the original study. A 174-item comprehensive anonymous questionnaire was administered during regular classes on one day to all students who were present, had parents' permission to participate, and chose to participate. This survey was developed as part of a community-based action research project, the details of which are reported by Huebner [33]. Teachers, who had attended a brief training session about the survey, remained in the classroom to monitor implementation and to answer questions. Students who chose not to participate spent the class period in the library. No data were collected from those students who chose not to participate.

Measures

One composite measure was used to assess the dependent variable of sexual risk-taking behavior.

Three measures of perceived parenting processes were employed as the independent variables: parent-adolescent communication, parental monitoring and parenting style.

Sexual risk-taking. Two survey items were used to determine the sexual risk-taking behaviors of the adolescent respondents. Students were asked: (a) "During your life, with how many people have you had sexual intercourse?"; and (b) "The last time you had sexual intercourse did you or your partner use a condom?" The respondents were placed in one of two categories, depending on their answers. "Low sexual risk" included those respondents who had had sex but had used a condom during their last sexual encounter and who have not had more than one sexual partner. "High sexual risk" included those who reported that they had not used a condom during the last time they had sexual intercourse and/or had more than one sexual partner during their lifetime. These definitions are based on indicators suggested by several other researchers [6-9]. Their operationalization takes into consideration the fact that consistent condom use decreases the incidence of sexually transmitted diseases and that increased numbers of partners are associated with increased risk of sexually transmitted diseases [34].

Parent-adolescent communication. Seven survey items assessed the frequency of parent-adolescent communication perceived by the teens [35]. The teens were asked how often in the past year they communicated with their parents (or the adults they live with) about each of the following topics: (a) drugs and alcohol; (b) sex and/or birth control; (c) job or education plans after high school; (d) personal problems/concerns; (e) teachers or classes in school; (f) dating; and (g) things they enjoy. Responses included "never," "rarely," "sometimes," "often" or "very often." Cronbach alpha for the seven-item scale was .81. Higher scores indicate higher perceived levels of communication with parents.

Parental monitoring. Students completed an eight-item Parental Monitoring Scale [36]. Respondents were asked how much the six items were true for them: (a) "my parent(s) know where I am after school"; (b) "If I am going to be home late, I am expected to call my parent(s) to let them know"; (c) "I tell my parent(s) whom I'm going to be with before I go out"; (d) "When I go out at night, my parent(s) know where I am"; (e) "My parent(s) know who my friends are"; (f) "My parent(s) know the parents of

my friends; (g) "My parent(s) know what I watch on television; and (h) My parent(s) monitor my computer/internet use. Students chose from out of five possible responses: "never," "rarely," "sometimes," "often" or "very often". Cronbach alpha for the eight-item scale was .82. Higher scores indicate higher perceived levels of parental monitoring.

Parenting styles. One survey item assessed for the teen's perception of parenting styles by asking about decision-making processes in the home [37]. The question reads: "In general, how are the most important decisions made between you and your parent(s) or other adult you live with (for example, what time you need to be home at night or where you can go with friends)?" Teens chose from out of six possible choices including: (a) "No parent or guardian at home" (neglectful); (b) "They tell me exactly what to do" (authoritarian); (c) "They ask my opinion but they have the final say" (authoritative); (d) "They discuss the decision with me but then let me decide" (authoritative); (e) "They trust me to decide for myself" (permissive, indulgent); (f) "They don't care what I do, so I decide for myself" (permissive, neglectful). Adolescents were scored as having an authoritative parent if he or she responded that most important decisions were made together with the parent. Adolescents who reported authoritative parenting styles were scored as "1" non-authoritative parenting styles were scored as "0". There are obviously several distinctions that can be made within the non-authoritative parenting styles groups (e.g. permissive, neglectful, authoritarian). However, based on previous findings of the benefits of authoritative parenting [29-31] and on the findings of Gray and Steinberg [38] that "no large-scale systematic studies ever have indicated that nonauthoritative parenting has more beneficial effects on adolescent development than authoritative parenting, regardless of the population" (p. 575), for the purpose of this study, we are only interested in authoritative parenting styles versus non-authoritative styles.

Plan of Analysis

Quantitative analyses were performed using SPSS for Windows [39]. Frequencies and cross-tabulations were conducted to provide general demographic information and information about parenting processes. Parental monitoring, parent-adolescent communication, parenting styles, age, gender, and ethnicity were entered into the first block of a logistic

regression equation as predictors of sexual risk-taking. Interaction effects among these parenting variables were entered into the second block. To examine potential interactions between parenting processes and age, race and gender, interaction terms were created for these three variables and each of the parenting variables; these were entered in the third step. Logistic regression, rather than linear regression, was used as a technique because the dependent variable (sexual risk-taking) was a dichotomous variable, and because the relationship between the independent and dependent variables was assumed to be non-linear. Logistic regression permits the classification of subjects into groups such that changes in the independent variables change the probability of membership in the target group. In this case, logistic regression analysis was used to predict an outcome coded as "0" (low sexual risk-taking) or "1" (high sexual risk-taking); with predictions reported as probabilities of obtaining a "1".

Results

Sample Demographics

Because we were interested in sexual risk-taking as opposed to onset of sexual intercourse, the sample used for the present study consisted only of those 1160 students who reported ever having sex. Of these students, 578 (50%) were female and 582 (50%) were male. The majority of these students reported their ethnicity as Caucasian (non-Hispanic) (49%) or African-American (45%). Because only 6% of the students reported their ethnicity as something other than Caucasian or African-American, we combined this group with the African-American group to form a "minority" variable used in subsequent analyses involving ethnicity. About 6% of the participants reported their school grade as 7th, 10% as 8th, 17% as 9th, 22% as 10th, 21% as 11th, and 24% as 12th. The vast majority of students (82%–98%) were in the appropriate grade for their age. The mean age of participants was 15.7 years; median age was 16 years.

Forty-three percent of participants reported living with both a mother and a father (biological or adoptive). Twenty-three percent reported living in a blended family and 17% with their mother only. Just under half of the sample (48%) reported living in a non-divorced household, 33% reported their parents were divorced and 19% reported their parents had never been married. According to the respondents, 66% of participant's mothers and 71% of fathers work full-time.

Description of Sexual Risk-Takers

Based on our definition of sexual risk-taking, 23% of the sample was classified in the high sexual risk group and 77% was classified in the low sexual risk group. Fifty-one percent of the sexual low risk-takers were male and 49% were female. Fifty-six percent of the sexually high risk-takers were female and 44% were male. Student's *t*-test analysis revealed that those in the high sexual risk group were slightly older ($m = 16.1$ years) than those in the low sexual risk group ($m = 15.6$ years) $t(1109) = -5.04, p < .001$. While this difference is statistically significant, it is important to note that these groups only differ in age by about 5 months. Given that we included only those adolescents who reported ever having had sex, it is not surprising that the analyzed sample consists of slightly older youth.

Frequencies of Parenting Processes

Twenty percent of respondents reported their parent "never" or "rarely" monitored their whereabouts; 46% said they were monitored "sometimes," and 34% reported experiencing parental monitoring "a lot" or "always." Forty-seven percent of respondents reported they "never" or "rarely" communicated with their parents; 37% reported communicating "sometimes;" and 16% reported communicating with parents "often" or "very often." Fifty-eight percent of respondents were classified as experiencing authoritative parenting; 42% as experiencing non-authoritative parenting.

Logistic Regression Analyses

Logistic regression analyses revealed a relationship between parental monitoring and sexual risk-taking $\beta = -.89$, Wald statistic = 3.91, $p < .05$. Adolescents who were closely monitored by their parents were more likely than their peers who were not well-monitored by their parents to demonstrate low sexual risk-taking behaviors (to have had only one sexual partner and to use a condom). A one-unit decrease in parental monitoring multiplied the odds of being classified in the high-risk group by .41. Neither parent-adolescent communication nor parenting style demonstrated a direct relationship with sexual risk-taking indicating that neither the perceived frequency of communication with parents nor having authoritative parents influenced whether an adolescent was classified as a low or high sexual risk-taker. Gender, age and race also demonstrated no direct relationship with sexual risk-taking.

The interaction effect for parental monitoring and parent adolescent communication was significant $\beta = .21$, Wald statistic = 4.37, $p < .05$. To further examine this interaction, we created four categories of parental monitoring and parent-adolescent communication based on median splits: (a) high monitoring-high communication; (b) high monitoring-low communication; (c) low monitoring-high communication; and (d) low monitoring-low communication. Frequencies revealed that 19% of those adolescents who reported both high monitoring and frequent communication were in the high risk category; 20% of those who reported high monitoring and less frequent communication were in the high risk category; 17% of those who reported low monitoring and frequent communication were in the high risk category; and 30% of those reporting both low monitoring and infrequent communication were in the high risk category. No other interaction among the parenting variables demonstrated significance.

The interaction effect for parent communication and race was significant $\beta = -.42$, Wald statistic = 4.51. To further examine this relationship we created four categories based on median splits: (a) high communication-Caucasian (non-Hispanic); (b) low communication-Caucasian (non-Hispanic); (c) high communication-minority; and (d) low communication-minority. Frequencies revealed that 19% of those adolescents who reported high communication and being Caucasian were in the high risk category; 18% of those who reported low communication and being Caucasian were in the high risk category; 34% of those who reported low communication and being a minority were in the high risk category; and 18% of those who reported high communication and being a minority were in the high risk category. None of the gender by parenting variable interactions or age by parenting interactions demonstrated significant effects (Table 1).

Discussion

The purpose of this study was to explore the relationship between adolescent sexual risk-taking and the adolescent's perception of several parenting processes including level of parental monitoring, frequency of parent-adolescent communication, and type of parenting style. The influences of gender, age, and ethnicity were also examined. This study adds to the existing literature on parenting processes and adolescent sexuality by conceptualizing the problem of adolescent sexual behavior as associated

Table 1. Logistic Regression Model of the Probability of Adolescent Risk-taking (N = 1018)

Variable	β	SE	Exp (β)
Monitoring	-.89*	.45	.41
Communication	-.38	.45	.69
Parenting style	-1.10	.86	.33
Gender	-.04	.61	.96
Age	.09	.22	1.10
Ethnicity	.32	.60	1.37
Monitoring \times communication	.21*	.10	1.23
Monitoring \times parenting style	-.02	.24	.98
Communication \times parenting style	.19	.20	1.21
Gender \times parental monitoring	.12	.23	1.13
Gender \times communication	-.24	.20	.79
Gender \times parenting style	-.49	.35	.62
Ethnicity \times parenting style	.40	.34	1.48
Ethnicity \times communication	-.42*	.20	.66
Ethnicity \times monitoring	.30	.24	1.35
Age \times monitoring	.01	.08	1.01
Age \times communication	.01	.07	1.01
Age \times parenting style	.20	.12	1.22
-2 log likelihood	1014.29		
Logistic regression X^2	58.60		

* $p < .05$

with sexual risk-taking, rather than initiation only and by focusing on a rural population.

Previous research on adolescent sexuality has focused overwhelmingly on the initiation of sexual intercourse [9]. This study confirms the need for researchers to look beyond abstinence toward seeking factors that encourage sexual responsibility. The findings of this study confirm that teens are likely to engage in sexual intercourse before finishing high school. It is clear from this study that sexual risk-taking, (i.e., a history of either not using a condom or having had multiple partners) is a significant problem among 7th-12th grade males and females in this sample. About two out of five of the 43% of students who reported engaging in sexual intercourse reported engaging in sexual high risk-taking behaviors.

Results of the logistic regression analyses provide some support for the importance of parenting processes in relation to adolescent sexual risk-taking. Consistent with the findings of Rodgers [9], Metzler et al [23], and Stanton et al [40], this study further emphasizes that parental monitoring can be a positive force within the lives of adolescents. This finding is consistent with that of Rodgers [9] in indicating a need for further investigation into what degree, type, and frequency of monitoring is effective in reducing sexual risk-taking in adolescents.

No direct effect for the frequency of parent-adolescent communication was found. It is impor-

tant to note that our measure of communication was designed to examine frequency of parent–adolescent communication in general. To this end, the measure included a wider variety of topics (including sex) than would have been included if we were interested in only parent–adolescent sex communication. This being said, the lack of direct finding may support several researchers' contention that mixed findings about the relationship between parent–adolescent communication and risky sexual behavior are owing to the fact that researchers are typically not asking enough sex-specific questions about parent–adolescent communication [28,41]. As these researchers suggest, it could be that this study would have indicated significant relationships related to parent–adolescent communication (in addition to the interaction effects) if the parent–adolescent communication measure had also assessed for more about the content, timing, and style of the communication about sex and/or birth control.

We found no direct effect for parenting style on level of sexual risk-taking. We had anticipated that authoritative parenting would be associated with lower levels of sexual risk-taking because it creates a collaborative environment that promotes communication [29]. The lack of relationship found in this study may reflect that parenting style is the least influential of the three parenting processes studies. It may also be that our single-item measure was not sufficient.

Our findings of an interaction between parental monitoring and parent–adolescent communication support the suggestion by Stattin and Kerr [16] that monitoring is actually more a function of adolescent disclosure than of actual parental knowledge. The relationship between parental monitoring and communication as it related to adolescent disclosure should continue to be explored.

Our finding of an interaction effect between ethnicity and parenting style is consistent with previous research that suggests African-American parents tend to employ less authoritative parenting styles than do non-Hispanic Caucasian parents [42]. This finding points to the importance of recognizing that parenting processes are influenced by a range of social factors including cultural values, access to resources, education, socioeconomic status and neighborhood safety. Given this, the effects of ethnicity should not be interpreted in isolation.

The finding of no gender by parenting process interactions is surprising. Other researchers have found that girls tend to communicate more with parents than do boys [15–16] and that girls tend to be more highly monitored than boys [13]. We have no

explanation as to why these differences were not found in the present study.

The finding of no parenting process by age interaction effect was not surprising given that low sexual-risk takers were on average only five months younger than their high sexual risk-taking counterparts.

Although it is consistent with other definitions of sexual risk-taking [6–9], our definition of sexual risk-taking is subject to criticism. Rather than conceptualizing sexual risk-taking as continuous variable, our's forced respondents into one of only two predefined categories based strictly on number of partners and condom use. For example, this definition ranks those youth who have had only one sexual partner but did not use a condom as equal to those youth have had multiple partners but used condoms. Some would argue that monogamy coupled with other forms of birth control put youth at lower sexual risk. While this may be the case, we defend our categorization by suggesting that even though the respondent may have had only one partner, we cannot assume that *their* partner had only one sexual partner, thus potentially allowing for the introduction of disease. Nevertheless, future studies should include more questions to further differentiate the sexual risk-taking categories.

Limitations

This study has several limitations including the use of self-report measures and the lack of data from the parents' perspective. Additionally, all three of the parenting measures referred to "parents/guardians," rather than separately as mothers and fathers. While this format allowed us to be more succinct in our questions, it did not allow for an examination of potential differences between mothers' and fathers' parenting practices. Because the gender of the adolescent and the gender of the parent have been shown to effect the degree and frequency of communication and monitoring in the family [14,15,20], it would be important for future research to distinguish the gender of both the adolescent and the parent.

Finally, it must also be noted that this study was part of a larger community-oriented action research project, of which the core purpose was to provide communities with data to help them monitor the health and behavior of their adolescents. As such, an omnibus survey, rather than one rich in multi-item measures, evolved. Communities had considerable input as to what kinds of items were included based

on their perception of community needs. While we did not have as much control over measures as may be typical in other research scenarios, the high level of community involvement ensured greater context validity for the measures that were included. Communities have benefited substantially from this applied research approach [33].

References

- Beyth-Marom R, Fischhoff B. Adolescents' decisions about risks: A cognitive perspective. In: Schulenberg T, Maggs J, Hurrelmann K (eds). *Health Risks and Developmental Transitions During Adolescence*. Cambridge: Cambridge University Press, 1997:110–35.
- Chilman CS. Promoting healthy adolescent sexuality. *Fam Rel* 1990;39:23–31.
- Blum RW, Beuhring T, Shew ML, et al. The effects of race/ethnicity, income, and family structure on adolescent risk behaviors. *Am J Public Health* 2000;90:1879–84.
- Miller BC, Norton MC, Fan X, et al. Pubertal development, parental communication, and sexual values in relation to adolescent sexual behaviors. *J Early Adolesc* 1998;18:27–52.
- Valois RF, Dunham AC. Association between employment and sexual risk-taking behaviors among public high school students. *J Child Fam Stud* 1998;7:147–59.
- Guo J, Ick-Joong C, Hill K. Developmental relationship between adolescent substance use and risky sexual behavior in young adulthood. *J Adolesc Health* 2002;31:354–62.
- Kotchick B, Dorsey S, Miller K, et al. Adolescent sexual risk-taking behavior in single-parent ethnic minority families. *J Fam Psychol* 1999;13:93–102.
- Luster T, Small SA. Factors associated with sexual risk-taking behaviors among adolescents. *J Marriage Fam* 1994;56:622–32.
- Rodgers KB. Parenting processes related to sexual risk-taking behaviors of adolescent males and females. *J Marriage Fam* 1999;61:99–109.
- Conger RD, Ge X, Elder GH, et al. Economic stress, coercive family process, and developmental problems of adolescents. *Child Dev* 1994;65:541–61.
- Huston AC. Sex-typing. In: Mussen PH (series ed), Heatherington EM (vol ed). *Handbook of Child Psychology: Vol. 4. Socialization, Personality and Social Development*. New York: Wiley, 1983:387–467.
- Huston AC. The development of sex-typing. *Dev Rev* 1985;5: 1–17.
- Jacobson KC, Crockett LJ. Parental monitoring and adolescent adjustment: An ecological perspective. *J Res Adolesc* 2000;10: 65–97.
- Nolin MJ, Petersen KK. Gender differences in parent-child communication about sexuality: An exploratory study. *J Adolesc Res* 1992;7:59–79.
- Papini DR, Farmer FF, Clark SM, et al. Early adolescent age and gender differences in patterns of emotional self-disclosure to parents and friends. *Adolescence* 1990;25:959–76.
- Stattin H, Kerr M. Parental monitoring: A reinterpretation. *Child Dev* 2000;71:1072–85.
- Nichols M, Schwartz R. *Family Therapy: Concepts and Methods* (4th edition). Needham Heights, MA: Allyn and Bacon, 1998.
- Herman MR, Dornbusch SM, Herron MC, et al. The influence of family regulation, connection, and psychological autonomy on six measures of adolescent functioning. *J Adolesc Res* 1997;12:34–67.
- Patterson G, Stouthamer-Loeber M. The correlation of family management practices and delinquency. *Child Dev* 1984;55: 1299–1307.
- Baker JG, Rosenthal SL, Leonhardt D, et al. Relationship between perceived parental monitoring and young adolescent girls' sexual and substance abuse behaviors. *Ped Adolesc Gynecol* 1999;12:17–22.
- Li X, Fiegelman S, Stanton B. Perceived parental monitoring and health risk behaviors among urban low-income African-American children and adolescents. *J Adolesc Health* 2000;27: 43–8.
- Li X, Stanton B, Feigelman S. Impact of perceived parental monitoring on adolescent risk behavior over 4 years. *J Adolesc Health* 2000;27:49–56.
- Metzler CW, Noell J, Biglan A, et al. The social context for risky sexual behavior among adolescents. *J Behav Med* 1994; 17:419–38.
- Fisher TD. An extension of the findings of Moore, Peterson, and Furstenberg (1986) regarding family sexual communication and adolescent sexual behavior. *J Marriage Fam* 1989;51: 637–39.
- Hutchison K, Cooney T. Patterns of parent-teen sexual risk communication: Implications for intervention. *Fam Rel* 1998; 47:185–94.
- Jaccard J, Dittus P. Parent-adolescent communication about premarital pregnancy. *Fam Soc* 1993;74:29–43.
- Newcomer SF, Udry JR. Parent-child communication and adolescent sexual behavior. *Fam Plann Pers* 1985;17:169–174.
- Whitaker DJ, Miller KS. Parent-adolescent discussions about sex and condoms: Impact on peer influences of sexual risk behavior. *J Adolesc Res* 2000;15:251–73.
- Noller P, Bagi S. Parent-Adolescent communication. *J Adolesc* 1985;8:125–44.
- Baumrind D. Rearing competent children. In: Damon W (ed). *Child Development Today and Tomorrow*. San Francisco: Jossey-Bass, 1989:349–78.
- Maccoby EE, Martin J. Socialization in the context of the family: Parent-child interaction. In: Musseim PH (series ed), Heatherington EM (vol ed). *Handbook of Child Psychology* (Vol 4). New York: Wiley, 1983:1–101.
- Noller P. Parent-adolescent relationships. In: Fitzpatrick MA, Vangelisti AL (eds). *Explaining Family Interactions*. Thousand Oaks, CA: Sage, 1995:106–11.
- Huebner A. Bridging the gap between research and practice in youth development. *Natl Council Fam Rel Fam Focus Brief* 2002;15:23–24.
- Center for Disease Control and Prevention. Male latex condoms and sexually transmitted diseases. Fact Sheet for Public Health Personnel. CDC Division of HIV/AIDS Prevention: 2000. Available at: <http://www.cdc.gov/hiv/PUBS/facts/condoms.htm>. Accessed May 7, 2002.
- Small S, Rodgers K. Teen Assessment Project. Madison, WI: Department of Child & Family Studies, University of Wisconsin-Madison 1995.
- Small SA, Kerns D. Unwanted sexual activity during early and middle adolescence: Incidence and risk factors. *J Marriage Fam* 1993;55:941–52.
- Kandel D, Lessor G. Independence Training Index. In: Kandel D, Lessor G (eds). *Youth in Two Worlds*. San Francisco: Jossey-Bass, 1972:67–82.
- Gray MR, Steinberg L. Unpacking authoritative parenting: Reassessing a multidimensional construct. *J Marriage and Fam* 1999;61:574–87.

39. Norusis MJ. SPSS for Windows (Version 10.0). Chicago, IL: SPSS Incorporated, 1999.
40. Stanton BF, Li X, Galbraith J, et al. Parental underestimates of adolescent risk behavior: A randomized, controlled trial of a parental monitoring intervention. *J Adolesc Health* 2000;26: 18–26.
41. Jaccard J, Dittus PJ, Gordon VV. Parent–adolescent congruency in reports of adolescent sexual behavior and in communications about sexual behavior. *Child Dev* 1998;69:247–61.
42. Kelley M, Power T, Wimbush D. Determinants of disciplinary practices in lower-income black mothers. *Child Dev* 1992;63: 573–82.