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Parental Bonding and Its Effect on Adolescent Substance Use and Sexual Debut

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The purpose of this study was to examine associations among parental bonding factors and the early onset of sexual behaviors and substance use. Significant differences were found in the levels of care among the parental status groups and among the ages of onset for alcohol use.

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The combination of at-risk behaviors, such as drug use and sexual activity among adolescents, continues to be a pervasive issue in the United States. According to a survey conducted by the Centers for Disease Control and Prevention (CDC) between 2006 and 2010, 43% of teenage girls and 42% of teenage boys were sexually active (Martinez, Copen, & Abma, 2011). Furthermore, the CDC reported that more than 400,000 teen girls, ages 15–19 years, give birth each year in the United States. Approximately half of sexually active individuals ages 15 to 24 acquire sexually transmitted infections (STIs). Twenty-three percent of the high school students who had sex drank alcohol or used drugs before their last sexual encounter. Bryan, Schmiege, and Magnan (2012) found that greater marijuana use was associated with decreased condom use in at-risk teens. Alcohol use was associated with greater changes in the number of sexual partners (Dogan, Stockdale, Widaman, & Conger, 2010). Lowered inhibitions resulting from drug or alcohol use led to decreased condom use, which may have long-term implications, such as unplanned pregnancies and STIs (Roche et al., 2005).

Unplanned pregnancies and STIs in adolescents result in costly ramifications for both individual families and society. On a micro level, unplanned pregnancies can result in limited future employment opportunities, economic dependence due to high percentages of adolescent mothers not completing high school, and poverty (Domenico & Jones, 2007), whereas having an STI

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can result in increased medical costs for the adolescent and his or her family. On a societal level, the National Center for Health Statistics (2010) reported that teen pregnancy costs the United States $9 billion annually. Nonetheless, adolescent at-risk behaviors do not occur in a vacuum. External variables, such as parental divorce, parenting style, parenting structure, and parental bonding may be contributing factors to increased occurrences of pregnancies and STIs in adolescents.

A number of researchers found a link between parental divorce and adolescent behavior. Moore and Buehler (2011) found that adolescent problem behavior was linked to parental divorce proneness due to decreased parental efficacy. Longmore, Manning, and Giordano (2001) found that both divorce and remarriage disrupts primary bonds between parents and children. For example, single parents exerted less influence over their children and found it more difficult to manage and discipline their children (Longmore et al., 2001). Dittus, Jaccard, and Gordon (1997) reported that adolescents were older at sexual debut when coming from a two-parent household with both biological parents. Adolescents from nontraditional families were more likely to report using drugs and alcohol, compared with adolescents from traditional family households with both biological parents (Eitle, 2005). Consequently, these researchers found that family structure influenced both sexual debut and the onset of drug use in adolescents.

As previously mentioned, research has suggested that parenting style and support also play a role in adolescent behaviors (Longmore et al., 2001; Upchurch, Aneshensel, Sucoff, & Levy-Storms, 1999). Parental control, such as setting firm rules and monitoring activities, contributed to a foundation that proved important in protecting adolescents from sexually risky behaviors (Roche et al., 2005). However, adolescents who perceived their parents as overly controlling were more likely to be sexually active at an early age (Upchurch et al., 1999). Recent research also suggested that a positive relationship with both parents might delay or discourage adolescent sexual debut. Deptula, Henry, and Schoeny (2010) found that a higher quality parent–adolescent relationship was associated with lower levels of adolescent unprotected intercourse and intercourse initiation. Furthermore, stronger relationship quality was associated with lower levels of STIs in young adults. Parent and family connectedness contributed positive influences on adolescent sexual behavior (Markham et al., 2010). Regnerus and Luchies (2006) found that girls delayed sexual debut and reported fewer sexual partners when they possessed high-quality relationships with their fathers. One aspect not thoroughly addressed in these aforementioned studies was what "high-quality" or "positive" meant with respect to parent–adolescent relationships.

A variety of parental influences, including (a) the nature of parental monitoring and discipline, (b) parent–child attachment, (c) education, and (d) parental drug use served as predictive factors for teen alcohol and drug use (Eitle, 2005). Parents who directly or indirectly suggested the permissibility of substance

use resulted in adolescents who were more likely to engage in substance use (Macaulay, Griffin, Gronewold, Williams, & Botvin, 2005). Macaulay et al. (2005) also found that poor parental monitoring and support was associated with greater adolescent substance use, along with greater delinquency and aggression. Furthermore, weak parental attachment or supervision may leave adolescents more susceptible to negative peer pressure (Eitle, 2005). Fletcher, Steinberg, and Williams-Wheeler (2004) reported lower rates of substance use in adolescents who perceived their parents as warm (i.e., loving, responsive, and involved) and whose parents actively sought information regarding their day-to-day activities. Overall, children benefited from dependable, respectful, and responsive parenting along with high-quality parental interactions (Broman, Reckase, & Freedman-Doan, 2006; Bronte-Tinkew, Moore, & Carrano, 2006).

The difference between parents setting firm rules and being controlling is a continuum of parental control that warrants additional investigation in the literature. For this reason, this study aimed to investigate the associations and differences among parental bonding and the onset of adolescent sexual behavior and substance use. Two research questions and four null hypotheses were developed. The first research question examined what associations exist between parental care and overprotection by family status. The only hypothesis examined for this research question was that no differences will exist in parental care and overprotection between three different family structures (two-biological-parent household, single mother, and two-parent household with repartnered biological mother). The second research question examined what differences exist in parental care and overprotection and age of onset for alcohol use, drug use, and coital debut. Three null hypotheses were investigated:

Hypothesis 1: The level of parental care and parental overprotection has no effect on the age of onset of alcohol use.
Hypothesis 2: The level of parental care and parental overprotection has no effect on the age of onset of drug use.
Hypothesis 3: The level of parental care and parental overprotection has no effect on the age of onset of the experience of initial intercourse.

METHOD

Participants

A total of 771 students participated in this study with a mean age of 18.76 years (*SD* = 1.15). More women, 413 (53.6%), participated in this study than men, 358 (46.4%). The ethnicity of participants in this study was not evenly distributed. There were 500 White participants (64.8%), 83 Black (non-Hispanic) participants (10.8%), 101 Hispanic participants (13.1%), 56 Asian/Pacific Islander participants (7.3%), and 31 participants classified as other (31%). Additional demographic information is presented in Table 1.

TABLE 1

Participant Demographic Information

Characteristic	%	*n*
Gender		
Men	46.4	358
Women	53.6	414
Ethnicity		
White	64.8	500
Black (non-Hispanic)	10.8	83
Hispanic	13.1	101
Asian	7.3	56
Other	4.0	31
Family income		
Less than $26,000	8.2	63
$26,001–$48,000	16.1	124
$48,001–$70,000	24.5	189
$70,001–$92,000	16.8	130
Greater than $92,000	32.7	252
Missing data	1.7	13
Family status		
Two biological parents	72.2	557
Two parents, biological mother	8.3	64
Single mother	1.6	12
Missing data	17.9	138

Instruments

The Parental Bonding Instrument (PBI; Parker, Tupling, & Brown, 1979) is a 25-item questionnaire, rated on a 4-point scale (*very like*, *moderately like*, *moderately unlike*, and *very unlike*), which asks participants to reflect on parents' behaviors and attitudes during their first 16 years. One questionnaire is completed for both the individual's mother/stepmother and father/stepfather. The scales of the questionnaire determine Parental Care (12 items) and Overprotection (13 items). According to Shifren (2008), the Care scale measures perceived emotional warmth, affection, and empathy to emotional coldness, indifference, and neglect received from a parent. The Overprotection scale measures control, intrusion, and excessive contact to items suggesting independence. Parker et al. (1979) reported moderate to strong psychometric properties for the PBI. The test–retest reliability scores were .76 for the Care scale and .63 for the Overprotection scale. The interrater reliabilities were .85 on the Care scale and .69 on the Overprotection scale, with concurrent validity scores of .77 and .78 for the Care scale and .48 and .50 for the Overprotection scale.

The Demographic & Behavior Questionnaire (DBQ) is a research-designed questionnaire, which captured pertinent demographic information from participants in the study. The first section of the questionnaire elicits students' age, sex, race/ethnicity, sexual orientation, family income, family orientation, and family structure. The next section elicits the age at which students' experimentation with the listed substances first began or whether they never engaged in the activity. The answer choices were scaled (n/a, before 10, 11–14, 15–17, and 18+). The

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final section of the questionnaire elicits the age at which students first engaged in the listed sexual behaviors or whether they never engaged in the activities. The answer choices were scaled (n/a, before 10, 11–14, 15–17, and 18+).

Procedure

The University of Central Florida Institutional Review Board for human subjects research approved this study. The study used a purposive sampling approach to identify undergraduate students in general education classes at a major metropolitan university in the southeastern region of the United States. The primary researchers contacted instructors that taught general education courses to obtain permission to introduce the study to students in their classes. Potential participants received the assembled research packets, which included two copies of the informed consent document, two copies of the PBI, and one copy of the DBQ. Participants consented to the study by signing one copy of the informed consent document and retaining a copy for their records. They also completed a PBI for one or both parents, depending on their family structure, and completed the DBQ. Upon completion, they returned the signed informed consent document separate from the PBI and DBQ, which were placed in sealed envelopes. Data were entered into the Statistical Package for Social Sciences and analyzed.

RESULTS

The variables of interest in this study were (a) parental care; (b) parental overprotection, (c) family structure (raised in two-biological-parent household, raised by single mother, or raised by two-parent household with biological mother only); and (d) debut ages of alcohol use, drug use, and coitus. The means and standard deviations of the variables of interest are presented in Table 2. The first research question examined what differences existed between parental care and overprotection by family status. A one-way between-groups analysis of variance (ANOVA) was conducted to investigate the only null hypothesis that no difference existed in parental care and parental overprotection between the three different family structures (two biological parents, single mother, and two parents with biological mother). There was a statistically significant difference between the groups at the $p < .05$ level in paresntal care, $F(2, 674) = 20.95$, $p < .001$. The effect size, calculated using eta squared, was .05, indicating a medium effect size. Post hoc Scheffe comparisons showed significantly higher levels of parental care in the family structure of two parents with biological mother ($M = 24.44$, $SD = 11.27$) compared to that with two biological parents ($M = 18.09$, $SD = 9.79$) and single mother ($M = 23.83$, $SD = 9.85$) compared to that with two biological parents ($M = 18.09$, $SD = 9.79$). Thus, children raised by single parents or biological mother with stepfather reported higher levels of care than those raised in a household with both biological parents.

TABLE 2

Means and Standard Deviations of Variables of Interest

Variable	*n*	*M*	*SD*
Family structure			
Parental care			
Two biological parents	530	18.09	9.79
Two parents, biological mother	59	24.44	11.27
Single mother	88	23.83	9.85
Total	677	19.39	10.22
Parental overprotection			
Two biological parents	533	53.64	12.37
Two parents, biological mother	59	50.36	12.69
Single mother	90	51.21	11.36
Total	682	53.03	12.31
Alcohol			
Parental care			
Under 15	194	21.69	10.87
Between 15 and 18	388	19.02	10.14
Over 18	21	18.48	10.35
Total	603	19.86	10.44
Parental overprotection			
Under 15	200	52.05	13.37
Between 15 and 18	391	53.46	12.03
Over 18	21	51.43	9.43
Total	612	52.93	12.41
Drugs			
Parental care			
Under 15	44	21.30	9.86
Between 15 and 18	280	21.07	11.43
Over 18	15	15.33	8.37
Total	339	20.84	11.16
Parental overprotection			
Under 15	44	51.80	14.62
Between 15 and 18	288	51.98	13.24
Over 18	16	55.63	12.30
Total	348	52.12	13.36
Coitus			
Parental care			
Under 15	33	22.70	13.00
Between 15 and 18	388	20.62	10.59
Over 18	22	20.00	9.82
Total	443	20.75	10.74
Parental overprotection			
Under 15	35	53.06	12.23
Between 15 and 18	392	52.30	12.63
Over 18	22	54.27	12.84
Total	449	52.45	12.59

Additionally, there was a statically significant difference at the $p < .05$ level in parental overprotection, $F(2, 679) = 3.04$, $p = .05$. However, the effect size, calculated using eta squared, was .01, indicating a small effect size. Post hoc comparisons showed no significance in multiple comparisons, which can be explained by the small effect size of .01.

The second research question examined what differences exist in parental care and overprotection and age of onset for alcohol use, drug use, and coital

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debut. Three null hypotheses were investigated using one-way between-groups ANOVAs. The results indicated a statistically significant difference at the $p < .05$ level in the first null hypothesis regarding parental care and onset of alcohol use, $F(2, 600) = 4.44$, $p = .012$. Post hoc Scheffe comparisons showed that parental care was significantly higher in the under 15 ($M = 21.3$, $SD = 9.86$) group compared to the 15–18 ($M = 21.07$, $SD = 11.42$) age group. The effect size, calculated using eta squared, was only .01, indicating a small effect size. Post hoc comparisons showed no significance in multiple comparisons, which can be explained by the small effect size of .01. Thus, respondents who reported alcohol use debut before the age of 15 had a significantly higher level of parental care than those who reported onset of alcohol use after the age of 15. No significant differences were found in the second [$F(2, 336) = 1.93$, $p = .15$] and third [$F(2, 440) = .62$, $p = .54$] null hypotheses related to debut of drug use and coitus.

DISCUSSION

This study sought to investigate the associations and differences among parental bonding and the onset of adolescent sexual behavior and substance use. We found that parental care was significantly higher in households with two biological mothers or single mothers compared with two biological parents. According to the PBI (Parker et al., 1979), care was defined as emotional warmth, empathy, and closeness in a child's bond with his or her parent. However, respondents indicated their perception of the adolescent–parent relationship. Smetana (1995) reported that divorced, unremarried mothers were more permissive, less controlling, and provided less chaperonage than mothers in intact families, which could be perceived as more empathy and closeness. Higher levels of care in single mother and two-parent, biological mother households may first appear counterintuitive. However, the literature has suggested that divorce disrupts the primary bonds between parents and children, so there may be an overpermissiveness in parenting in single mother and two-parent, biological mother households, which accounts for the higher levels of care (Davis & Friel, 2001; Longmore et al., 2001). Research also found that children of intact, two-parent families were provided with more guidance and a more stable environment (Young, Jensen, Olsen, & Cundick, 1991).

In this study, levels of perceived care were higher in children raised by single mothers or their remarried mothers. One possible reason was that the parent–child relationships were less hierarchical and more permissive, contributing to adolescents experimenting with various behaviors earlier. Fauber, Forehand, Thomas, and Wierson (1990) had similar findings in that the parenting styles of divorced mothers were more permissive and less controlling than married mothers due to parental conflict, which contributed to a decrease in consistent and effective discipline for the child and increased the child's likelihood of engaging in more risky behavior.

The second finding indicated a significant relationship between higher levels of care and the earlier onset of alcohol use. This suggests that single and remarried mothers should consider greater caution with how they navigate parental permissiveness because adolescents from divorced parents enjoy more independence, power, and responsibility in decision making than do adolescents from married families (Gray & Steinberg, 1999; Hetherington, 1989). Earlier research (Meschke & Silbereisen, 1997; Miller & Moore, 1990; White & DeBlassie, 1992) found a relationship between a lack of parental control and an increase in adolescent risky behavior. Previous research also supported the suggestion that permissiveness might be an explanation for the significant finding related to high levels of perceived parental care and earlier onset of alcohol use. Davis and Friel (2001) suggested that relationships exist between permissiveness and early onset of risky adolescent behavior. Eitle (2005) found that family structure influenced alcohol use in adolescents, and children from nontraditional families were more likely to start using alcohol at an earlier age. Miller and Moore (1990) and Thorton (1991) also indicated that mothers from single-parent households and two-parent, biological mother households and their children have more permissive attitudes regarding sexual behavior due to divorce and the mother's courtship process. Future research should evaluate if a relationship exists among parental control, permissiveness, and perceived levels of care.

These findings on parental care, early onset of alcohol use, and sexual debut represent a growing phenomenon of which school personnel (e.g., principals, school counselors, teachers) and mental health counselors must be aware. School professionals are in a unique position (Brener, Weist, Adelman, Taylor, & Vernon-Smiley, 2007) in that they are in contact with adolescents throughout the school day and can identify at-risk behaviors. As a result, school personnel's heightened awareness of adolescent behaviors (e.g., alcohol use and early onset of sexual activity) can increase support to the student. Therefore, individual and group intervention programs, like student assistance programs and psychoeducation support groups, respectively, can provide an extra layer of support to adolescents with at-risk behaviors (Burrow-Sanchez, Jenson, & Clark, 2009). Furthermore, school zero-tolerance policies may be modified to allow for graduated discipline (e.g., early response system) and to provide students with an opportunity to utilize services to improve their behavior before expulsion or suspension (Burrow-Sanchez et al., 2009; Skiba & Knesting, 2000).

Although the findings of the study add to the body of literature on parental bonding and substance use and sexual debut of adolescents, limitations exist. For example, the sample of participants was not representative of the population. Approximately 72.2% of the study participants came from households with two biological parents, whereas the national average of divorce is approximately 50%. Additionally, the sample population comprised college students, whereas examination of data from high school students would afford greater

generalizability. Although significance was found in this study, findings may have been even stronger with a more heterogeneous population. Also, the sample was not diverse. Approximately 64.8% of the participants were White, 13.1% were Hispanic, and 10.8% were Black. An ethnically heterogeneous sample of participants could have yielded different results. Also, this study was based on cross-sectional data on association. Thus, it would be difficult to tell if certain risky behaviors led to participants' recollection of their responses to the PBI. However, it does shed light on possible causal influences to be examined in future research. Lastly, this study was retrospective in that participants were asked to remember past experiences. Consequently, there is a possibility for error in participants' memory recollection.

Those challenges to this study provide areas of opportunity for future studies as researchers continue to explore the relationship between parental bonding and adolescent risk behaviors. Further research implications can include the examination of whether greater permissiveness exists with more parental care, possibly contributing to earlier onset of alcohol use. Additionally, further research should explore the courtship process of single mothers and its effect on alcohol and the experience of initial intercourse. Finally, future studies should explore whether more parental care is related to lower parental overprotection.

CONCLUSION

Research indicated that half of all children in the United States live with a single parent, usually with their mothers, after divorce (Amato, 2000). In this study sample, children from fragmented families residing with their single or repartnered mothers reported greater levels of parental care than those raised with both biological parents. Additionally, higher levels of care were correlated with earlier onset of alcohol use. Future research needs to examine the effect of permissive parenting behavior and parental control on the perceptions of children along with their resulting behaviors. This study contributes to a missing area of the research and helps to further explore the effect of family dynamics and understand risky behaviors in adolescents from traditional and nontraditional households. The results of this study enhance a better understanding of parenting behaviors' effect on high-risk adolescent behaviors, such as alcohol use and sexual debut, and can have far-reaching individual, familial, and societal implications for those working with adolescents and families.

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