PROJECT MUSE®

In the Context of Concurrency and Monogamy: Ideal Partner
Matching in Predicting Coital Behaviors among African
American Adolescents

Candace Best, Devon J. Hensel, J. Dennis Fortenberry

Journal of Black Sexuality and Relationships, Volume 1, Number 2, Fall
2014, pp. 15-31 (Article)

Published by University of Nebraska Press

DOI: <https://doi.org/10.1353/bsr.2014.0005>

➔ *For additional information about this article*

<https://muse.jhu.edu/article/565529>

In the Context of Concurrency and Monogamy

Ideal Partner Matching in Predicting Coital
Behaviors among African American Adolescents

CANDACE BEST, *Georgia Regents University*

DEVON J. HENSEL, *Indiana University School of Medicine*

J. DENNIS FORTENBERRY, *Indiana University
School of Medicine*

ABSTRACT—We examined if ideal physical and personality matching predicts coital behavior among African American young women (AAYW) and young men (AAYM) and how these associations vary by gender and relationship type (i.e., monogamous, concurrent). In all, 268 AAYW (aged 14–17 years) and 173 AAYM completed partner-specific assessments of ideal/actual partners and coital behaviors (i.e., total condom use, condom use at last coitus, coital frequency). GEE models were run separately for gender and relationship type. Personality matching increased total condom use by 83% for AAYW in monogamous relationships (odds ratio [OR] = 4.95; 95% confidence interval [CI] 1.35, 18.17) and reduced total condom use by 13% for AAYM in concurrent relationships (OR = 0.15; CI 0.03, 0.81). Physical matching increased coital frequency by 56% for AAYM in concurrent relationships (OR = 1.25; CI 1.07, 1.46). Overall, ideal partner matching selectively predicts coital behaviors across relationship types among AAYW and AAYM.

KEY WORDS—Sex partner selection; STI risk; Sexual behavior; African American; Gender

CONTACT—Correspondence for this article should be addressed to Candace Best, PhD, Georgia Regents University, Department of Psychological Sciences, 2500 Walton Way, Augusta GA 30904, cabest@gru.edu.

Introduction

AFRICAN AMERICAN ADOLESCENT/YOUNG ADULT WOMEN (AAYW) and men (AAYM) are at a disproportionate STI risk as compared to same aged peers from other ethnic/racial groups (CDC, 2012a, 2012c). These disparities persist even though AAYW and AAYM engage in similar levels of sexual behaviors and greater levels of condom use when compared to other ethnic/racial groups (Dodge et al., 2010; Herbenick et al., 2010; Reece et al., 2010). Interventions have been developed to target sexual health disparities within this population. However, most have yet to demonstrate widespread effectiveness (Sales, Brown, DiClemente, & Rose, 2012), are rarely implemented broadly in community settings (Lewis et al., 2012), and often focus exclusively on AAYW or non-representative samples of AAYM (Choi et al., 2008; DiClemente et al., 2004; Jemmott, Jemmott, Braverman, & Fong, 2005; Wolitski, The Project START Writing Group, & The Project START Study Group, 2006). A frequently neglected element in addressing sexual health disparities is consideration of how the match in characteristics between one's ideal partner and current partner may influence coital behaviors (Matson, Chung, & Ellen; Polk, Ellen, Chung, Huettner, & Jennings, 2011). Specifically, individuals may consciously or unconsciously compare potential sexual partners to their ideal partner, with the level of matching being indicative of participating in coital behaviors. Understanding the function of these elements is important because behaviors leading to STI outcomes occur within the context of romantic relationships.

Ideal Partner Characteristics

Previous research has noted that adolescents value ideal partner characteristics such as being intelligent, fidelity, having a good sense of humor, trustworthiness, social status, physical attractiveness and financial stability (Eyre & Millstein, 1999; Matson et al.; Polk et al., 2011; Regan & Joshi, 2003). These traits appear to cluster across physical ideals (e.g., physical attractiveness, financial stability, social status, etc.) and personality ideals (e.g., fidelity, trustworthiness, sense of humor, etc.) (Andrinopoulos, Kerrigan, & Ellen, 2006; Fletcher, Simpson, Thomas, & Giles, 1999). Moreover, AAYW have been found to value physical attributes, such as having a nice body, as well as personality attributes, such as being respectful and

nice (Eyre & Millstein, 1999). Research has also suggested that especially among AAYM, physical attributes may be used strategically to identify partners perceived to be free from STIs and who demonstrate the promise of having a good personality (Andrinopoulos et al., 2006).

Although continued work is needed to understand the exact differences between physical and personality partner ideals among AAYW and AAYM, it is conceivable that these domains may have a unique influence on coital behaviors. For instance, individuals with physically matched partners may desire increased coital frequency as compared to those with personality matched sexual partners. Similarly, due to their appearance, physically matched partners may be viewed as a lower-risk partner (Andrinopoulos et al., 2006). Accordingly, individuals may be less likely to use condoms with physically matched partners whom they perceive to be free from STIs.

Relationship Type and Gender

One additional consideration is how partner ideals may influence sexual behaviors differently based on relationship type and gender. Monogamous relationships are more common than concurrent relationships among African American adolescents and young adults. Recent estimates suggest that only 9% of sexually active AAYM and 10% of sexually active AAYW reported engaging in concurrent relationships in the past 12 months (Aral & Leichliter, 2010). Monogamous relationships are inherently safer than concurrent relationships, due to a reduced likelihood of STI acquisition from an outside partner (Aral & Leichliter, 2010; Jennings, Glass, Parham, Adler, & Ellen, 2004b). However, condom use rapidly declines as relationship length increases (Fortenberry, Tu, Harezlak, Katz, & Orr, 2002), escalating the potential of STI acquisition in the presence of infidelity.

Concurrent relationships have been associated with both protective and adverse behaviors and outcomes. For example, individuals in concurrent relationships have demonstrated greater levels of condom use as compared to those in monogamous relationships (Fortenberry et al., 2002), despite the fact that concurrency itself increases the risk of STI acquisition (Kelley, Borawski, Flocke, & Keen, 2003; Rosenberg, Gurvey, Adler, Dunlop, & Ellen, 1999). One study found that adolescents in sequential and concurrent relationships endorsed lower levels of condom use and oral contraceptives, higher levels of sexual regret and a greater likelihood of having ever been diagnosed with an STI when compared to adolescents in monogamous re-

lationships (Kelley et al., 2003). Likewise, concurrency has been associated with less perceived relationship power among women, reduced geographic access to male partners, decreased commitment within relationships, higher interpersonal stress and lower marriage rates (Adimora et al., 2002; Jennifer L. Brown, Sales, DiClemente, Latham Davis, & Rose, 2012; Jennings, Glass, Parham, Adler, & Ellen, 2004a; Matson et al.).

Moreover, although monogamous relationships are desired and associated with both emotional and physical benefits, important relationship differences have been noted among AAYW and AAYM. One study found that AAYW prefer monogamy, but may tolerate their partners engaging in concurrent relationships for the sake of emotional closeness. AAYM revealed that engaging in monogamous relationships may be viewed negatively by their peers. However, AAYM who engage in partner concurrency appear to benefit from increased social status (Andrinopoulos et al., 2006).

Little is known about whether partner ideals guide monogamous and concurrent relationships among AAYW and AAYM. However, it is plausible that locating a matched partner may lead to an increased interest in securing that relationship through monogamy. Conversely, individuals with a less matched partner might seek out additional partners to fulfill their ideal partner desires. It is also possible that partner matching varies for males and females, with specific matches being more relevant in determining coital behaviors. For instance, physical matched partners may be significant for both AAYW and AAYM. However, AAYM may have a greater preference for romantic partners who are physically matched because they assume that these partners also have the qualities desired in a personality matched partner. AAYM may also view physically matched partners as less-risky and less likely to have acquired an STI (Andrinopoulos et al., 2006). Individuals within these relationships may engage in higher levels of coital activity, but perhaps lower levels of condom use, especially as the relationship progresses.

Accordingly, the present study examined (1) how the match between ideal and actual partners predicts coital frequency and condom use. As past research has demonstrated that condom use during last coitus can serve as a proxy of overall condom use (Younge et al., 2008), we investigated both of these variables to investigate if differences existed in our sample. We also examined (2) how coital behaviors might be influenced by the type of relationship (i.e., monogamous, concurrent) with which an adolescent engages and (3) how these relationships may differ between AAYW and AAYM.

Methods

Study Design and Data

Data were obtained from a 10-year longitudinal cohort study (initiated in 1999 and completed in 2009) exploring sexual health, romantic/sexual relationships and sexual behaviors among young women (ages 14 to 17 years at enrollment) in middle to late adolescence (Fortenberry et al., 2005). AAYW were recruited from three urban-based clinics in Indianapolis, IN. The areas served by these clinics are characterized by high rates of STIs (CDC, 2012b) and early child-bearing (Ventura, Mathews, & Hamilton, 2002) and relatively low rates of HIV (Indiana HIV/AIDS Resources & Statistics, 2008). Enrollment into the larger study required being non-pregnant, although those who became pregnant during the study were allowed to continue.

AAYM included in the study were identified by the AAYW as the most recent coital partner from the previous quarter (2–3 months). AAYM were contacted by the research staff, provided information about the study and enrolled into the study. Participant age was not obtained for AAYM. However, only AAYM who confirmed they were 14 years-old or older (the age of legal coital consent in Indiana) were enrolled.

The present study includes data from independently collected, face-to-face structured interviews. Interviews were collected quarterly and lasted approximately 25 minutes. Interviews included questions about individual demographics, sexual behaviors, sexual attitudes and beliefs. The number of quarterly visits for each participant varied depending on the length of time that they were enrolled in the study. The larger study was approved by the Institutional Review Board of Indiana University School of Medicine.

Participants

Participants included 268 heterosexual AAYW with an average age of 17.6 years and 173 heterosexual AAYM. The racial breakdown for the AAYW and AAYM samples was identical with 98% participants identifying as African American and 2% as biracial. Table 1 provides additional details about the study participants.

Predictor Variables

PARTNER MATCH

Partner match was developed using discrepancy analysis of two 24-item measures included in the larger study. The first measure asked participants to rate the importance of different ideal partner characteristics on a 4-point

Table 1. Demographic characteristics

	African American adolescent/ young adult women (YW)		African American adolescent/ young adult men (YM)	
	<i>N</i>	%	<i>N</i>	%
Race				
African American	263	98	169	98
Biracial	5	2	4	2
Total	268	100	173	100
Relationship Type (all partner quarters)				
None	583	15.1	8	1.6
Monogamous	2344	60.9	272	53.5
Concurrent	923	24	228	44.9
Total	3850	100	508	100
Condom use last coitus (all partner quarters)				
Yes	1374	35.7	179	35.2
No	1640	42.6	315	62.0
Missing	836	21.7	14	2.8
Total	3850	100	508	100
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age	17.6	1.9	—	—
Age at first coitus	14.4	1.6	14	2.4
Number of completed quarterly interviews	16.4	6.5	3	2.4
Number of coital partners past 2–3 months	1.2	0.8	1	1.3
Lifetime number of coital partners	5.7	5.2	12	7.5
Coital frequency past 2–3 months	13.3	22.4	14.7	27.3
Percentage of condom use past 2–3 months	50.0	44.1	40.3	43.4

scale ranging from 1 (not at all important) to 4 (very important). Given the strong theoretical indication that ideal partner beliefs consisted of underlying domains (Fletcher et al., 1999), principal component factor analysis was conducted using the AAYW sample as the template. Criteria were set so items that loaded poorly on any factor (below .46) or loaded on multiple factors (above .4) were excluded. Likewise, factors had to demonstrate excellent reliability (above .8) to be included in further analyses. This criteria yielded seven physical factor items and eleven personality factor items.

The second measure asked participants to rate their actual partner(s) using items identical to the first measure. This measure was also scored using a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). Actual partner items were then subtracted from corresponding ideal partner items for both physical and personality factors to assess partner match. Obtained scores were recoded for ease of interpretation. Mean composite scales were then developed for physical matching and personality matching. All procedures were then replicated for the AAYM sample. Items included in each scale for both samples are located in Table 2.

Table 2. Items included in physical and personality matching scales

Physical Items	Personality Items
A cute face	Treats me with respect
A nice body	Wants to get somewhere in life
Dresses well	Easy to talk to
Has a nice car	Always nice to me
Has money	Able to take care of himself/herself
Good at sports	Able to express his/her feelings
Popular with other people	Smells nice
	Intelligent
	Cares for others
	Has a good sense of humor
	Likes to have fun

Outcome Variables

TOTAL CONDOM USE

Total condom use was assessed at each quarterly visit through the development of a proportion of partner-specific coitus events to partner-specific

condom use events. Specifically, participants were asked how many times they engaged in partner-specific coitus during the previous quarter and the number of those coital events in which condoms were utilized. Reported condom use was divided into total coital activity and then multiplied by 100 to represent a continuous percentage of partner-specific total condom use.

CONDOM USE DURING LAST COITUS

For every quarterly interview, participants were asked if condoms were used (no/yes) during last coitus with each sexual partner. Across all quarterly visits, participants endorsing condom use during last coitus were denoted as 1 while those denying condom use were labeled as 0.

COITAL FREQUENCY

Coital frequency was a continuous measure of participant's reports of the number of times they engaged in coitus with each partner. Because this variable was positively skewed for both samples, a log transformation was completed prior to conducting formal data analysis.

RELATIONSHIP STATUS

AAYW and AAYM could report up to five coital partners at each quarterly visit. Participants were asked in-depth questions about their coital behaviors for each reported partner. Monogamy was defined as endorsement of only one coital partner from the previous quarterly visit while concurrency was defined as endorsement of two to five sexual partners during the past quarter. Accordingly, relationship status was classified as monogamous or concurrent across all quarterly interviews for each participant.

Covariates

Control variables included sexual satisfaction and relationship satisfaction. Both variables consisted of 5-items using a 7-point Likert type valence scales (e.g., very unsatisfying to very satisfying; very bad to very good). Mean composite scales were developed for both variables.

Data Analyses

Generalized estimating equations (GEE) were used to analyze the data using SPSS 20 (IBM SPSS Statistics, 2011). GEE is a form of regression that incorporates robust variance estimation methods to calculate regression parameters, while adjusting standard errors for repeated within-subject

observations. Our basic unit of analysis was quarterly visit, rather than participant. Estimates were considered statistically significant at $p < .05$ if the 95% confidence intervals did not contain 1.0. All outcomes were modeled separately for AAYW and AAYM samples, as well as for monogamous and concurrent relationships to investigate potential differences in predictor and outcomes based on coital relationship status.

Results

Participant Characteristics

AAYW engaged in up to 30 quarterly visits for a maximum of eight years in the study ($M = 16.4$ visits, 5 years) and contributed a total of 3,850 partner quarters, or quarterly interviews by which coitus was endorsed with a coital partner. AAYM participated in up to 12 quarterly visits for a maximum of three years ($M = 2.9$ visits, 9 months) and contributed 508 partner quarters. Age at first coitus was similar for both AAYW ($M = 14.4$ years) and AAYM ($M = 14.0$ years). AAYW and AAYM endorsed having a similar number of coital partners in the past two to three months, AAYW ($M = 1.2$) and AAYM ($M = 1.90$) respectively. However, AAYM reported twice as many lifetime coital partners ($M = 11.7$) as AAYW ($M = 5.7$).

Across all partner quarters, monogamous relationships were more common among AAYW (60.9%) as compared to AAYM (53.5%) and concurrent sexual relationships were more common among AAYM (44.9%) as compared to AAYW (24%). AAYW and AAYM reported similar levels of coital frequency during the last 2–3 months ($M = 13.3$) and ($M = 14.7$) respectively. AAYW endorsed a higher frequency of overall condom use ($M = 50.0$) as compared to AAYM ($M = 40.3$). However, AAYW and AAYM had nearly identical levels of condom use during last coitus (AAYW, $M = 35.7\%$; AAYM, $M = 35.2\%$).

Predictors of Total Condom Use

Physical matching was not significantly associated with total condom use for AAYW or AAYM regardless of partnership status. Personality matching significantly predicted greater levels of total condom use for AAYW in monogamous relationships (odds ratio [OR] = 4.95; 95% confidence interval [CI] 1.35, 18.17, $p < .05$) but not in concurrent relationships. AAYW within monogamous relationships who endorsed personality matching used condoms 83% more frequently than AAYW who were unmatched. However, for

AAYM, personality matching reduced total condom use by 13% for those within concurrent relationships (OR = 0.15; CI 0.03, 0.81, $p < .05$). Personality matching did not have a significant influence on total condom use for AAYM in monogamous relationships.

Predictors of Condom Use during Last Coitus

Physical matching did not predict condom use during last coitus for AAYW or AAYM in either monogamous or concurrent relationships. Similarly, personality matching did not significantly predict condom use during last coitus for AAYW or AAYM regardless of relationship type.

Predictors of Coital Frequency

Physical matching was not associated with coital frequency for AAYW participating in either monogamous or concurrent relationships. Likewise, physical matching did not predict coital frequency for AAYM within monogamous relationships. However, greater levels of physical matching increased coital frequency by 56% for AAYM in concurrent relationships (OR = 1.25; CI 1.07, 1.46). Personality matching was not significantly related to sexual frequency for AAYW or AAYM within monogamous or concurrent relationships.

Discussion

The present study investigated (1) how the match between ideal and actual partners predicts coital frequency and (2) how coital behaviors might be influenced by relationship type and (3) gender. Our data demonstrate that physical and personality matching have a selective influence on coital behaviors. We found unique differences when accounting for gender and relationship type. Physical matching appears to vary between AAYW and AAYM. Physical matching was not related to coital behaviors among AAYW, regardless of relationship type. This suggests that although physical attributes are particularly important qualities in an ideal partner (Regan & Joshi, 2003), they appear less relevant in shaping actual coital behaviors among AAYW. Among AAYM, physical matching increased coital frequency by 56%. However, this was only among those in concurrent relationships. Perhaps these AAYM participated in concurrent relationships in an attempt to locate a partner who also matched their personality ideals. Coitus may have been used to improve the connection with such partners (Markham et al., 2010). AAYM may have also engaged in higher levels of coitus with phys-

Table 3. General estimating equation odds ratios (OR) with 95% confidence intervals (CI) of physical and personality match predicting sexual behaviors within monogamous and concurrent partnerships

Variable	Physical Match OR (95% CI)		Personality Match OR (95% CI)	
	Partner = 1	Partner = 2-5	Partner = 1	Partner = 2-5
Condom use frequency				
Young women	0.21 (.03, 1.52)	1.75 (0.89, 3.47)	4.95 (1.35, 18.17)*	1.86 (0.73, 4.71)
Young men	0.69 (.05, 9.15)	1.42 (0.23, 8.89)	0.16 (0.00, 7.68)	0.15 (0.03, 0.81)*
Condom use last coital event				
Young women	1.32 (.93, 1.88)	.94 (.64, 1.39)	.81 (.58, 1.13)	.82 (.50, 1.35)
Young men	2.00 (.82, 4.88)	1.30 (.54, 3.14)	.92 (.40, 2.11)	1.01 (.35, 2.93)
Coital frequency				
Young women	1.03 (.92, 1.16)	.97 (0.90, 1.05)	1.02 (0.92, 1.13)	0.92 (0.83, 1.02)
Young men	1.02 (.83, 1.25)	1.25 (1.07, 1.46)**	0.82 (0.66, 1.01)	0.91 (0.70, 1.19)

Note. All models adjusted estimates for relationship quality and sexual satisfaction.

* $p < .05$, ** $p < .01$

ically matched partners to assimilate with perceived social norms among their peer groups (Sieving, Eisenberg, Pettingell, & Skay, 2006).

AAYM who placed a lower value on physical matching may have been more interested in pursuing monogamous relationships (i.e., greater relationship commitment). These individuals may be similar to AAYW in several ways. First, these AAYM may value personality attributes more than physical attributes. Second, physical matching may be relevant in the partner selection phase, but have little to do with coitus. Third, AAYM many have already located their physically and personality matched partner. Taken as a whole, physical matching may be an integral element to sexual desire and coital activity among AAYM participating in concurrent relationships, but less relevant for AAYW, regardless of relationship type.

Personality matching influenced coital behavior in a much more complex way than anticipated. AAYW in personality matched relationships were 83% more likely to use condoms. However, this relationship was only observed among those in monogamous relationships. It is possible that AAYW who identified personality matched partners were more willing to engage in monogamous relationships. These AAYW may have been interested in using condoms more readily to protect themselves and their relationship partner against STI acquisition and unwanted pregnancy. Although research suggests that condom use declines as relationship length increases (Fortenberry et al., 2002), personality matching may be an important element to consistent condom use among AAYW. To our knowledge, research has yet to explore condom use trends for individuals who are in personality matched relationships.

We were surprised that personality matching reduced overall condom use by 13% among AAYM. Even more, this association was present only for AAYM within concurrent relationships, further increasing their likelihood of acquiring and transmitting STIs. Research has suggested that African American adolescents have beliefs that their sexual partners are using other medium to prevent unwanted pregnancy or are “safe” due to limited sexual experiences and/or negative past STI results (Brown et al., 2011). It is possible that AAYM viewed personality matched partners as safer coital partners and perhaps, even safer than other coital partners. Another possibility is that AAYM who engaged in concurrent partnerships felt that it was acceptable to have both “main” and “side” coital partners, perhaps due to messages received from peers or older family members (Reed et al., 2012). Perhaps AAYM in these types of concurrent relationships maintained their same level of condom use with “side” partners but reduced their level of condom use with their “main” coital partner. Conversely, they may have maintained their level of condom use with their “main” partner while reducing condom use with “side” partners. Moreover, AAYM may have been especially attentive to the social norms of having multiple coital partners (Andrinopoulos et al., 2006). Perhaps, AAYM who identified personality matched partners contended with the potential of a reduced social status by seeking out additional coital partners and forgoing condom use.

These results extend previous research by demonstrating the complexity of protective and coital behaviors among AAYW and AAYM. Our results also promote recognition that targeted sexual health strategies that differ by gender and incorporate varying types of coital relationships may be es-

pecially valuable. Interventions with AAYM may benefit from emphasizing the importance of condom use with all coital partners, regardless of how closely their partners are aligned to their ideals and/or how it may be perceived by one's social network. Similarly, AAYM may benefit from messages about how increased coital frequency amplifies the risk of STI acquisition, especially when engaging in concurrent coital relationships and limited condom use. These messages may be especially relevant because a disproportionate number of AAYM reside in environments in which monogamy is devalued and sexual promiscuity is promoted (Bowleg et al., 2011; Jennings et al., 2004a; Reed et al., 2012).

Messages to AAYW regarding the physical appearance of coital partners may have little effect on coital behaviors. Accordingly, such messages might not need to be emphasized to the same degree as for AAYM. AAYW may benefit from messages that promote identification of similar personality qualities between themselves and their relationship partner, especially for those in or interested in pursuing monogamous relationships. Additionally, AAYW and AAYM within a personality matched relationship may benefit from messages that highlight other non-coital activities to increase relationship commitment and reduce the possibility of STI acquisition or transmission. Additional research will be needed to examine how these messages influence actual coital behaviors. Even so, qualitative research may be an important first step to examine coital decision-making nuances that have not been adequately captured by previous research or incorporated into current intervention studies.

Limitations

Several limitations of this study should be noted. First, the variables included were limited to those of the larger longitudinal study from which these data were derived. Second, given the homogeneity of the sample and that AAYW were recruited from health clinics, these findings may not be generalizable to other adolescent groups. Similarly, because AAYM were the identified partners of the AAYW, the males participating in this study may differ from other same-aged males. Finally, because age was not collected for AAYM it is difficult to determine an age comparison group. However, it should be noted that direct observation of the AAYM by the study authors indicates that males were of similar age or within a few years of age to the AAYW.

Conclusions

This study is the first known attempt to demonstrate that ideal partner matching predicts different coital behaviors across time for AAYW and AAYM and varies by relationship type. Additional research will be needed to assess the predictors of coital behaviors among AAYW in concurrent relationships or AAYM in monogamous relationships. The complexity of sexual health disparities among AAYW and AAYM suggests that intensive qualitative evaluations that examine ideal partner matching and sexual decision-making are the necessary next step to understand these intricate nuances. Recognition of these nuances may be very influential in refining and tailoring intervention programs to reduce the significant sexual health disparity from which these youth are burdened.

Candace Best, PhD, is an assistant professor in the Department of Psychological Sciences at Georgia Regents University. Her research interests include the sexual-health disparities of African American adolescents and young adults.

Devon J. Hensel, PhD, is an assistant research professor at Indiana University School of Medicine and Indiana University-Purdue University Indianapolis. Her research interests include adolescent sexual health and longitudinal research designs and data analysis.

J. Dennis Fortenberry, MD, MS, is a research professor at Indiana University School of Medicine. His research interests include health protective and health risk behaviors, STD's and epidemiology of risk.

ACKNOWLEDGMENTS

The present study was adapted from the primary author's dissertation and she thanks her dissertation committee members, Drs. Christopher Agnew, Judith Conger, David Rollock and Dennis Fortenberry for their feedback and guidance on her dissertation research. This study was supported by NIH awards U19AI43924-06 and R01HD044387-03. In addition, the primary author was supported by 5T32AI7637-II and R25CA117865 while completing this study.

REFERENCES

- Adimora, A. A., Schoenbach, V. J., Bonas, D. M., Martinson, F. E., Donaldson, K. H., & Stancil, T. R. (2002). Concurrent sexual partnerships among women in the United States. *Epidemiology*, 13, 320–327.
- Andrinopoulos, K., Kerrigan, D., & Ellen, J. M. (2006). Understanding sex partner selection from the perspective of inner-city black adolescents. *Perspectives on Sexual and Reproductive Health*, 38, 132–138.

- Aral, S. O., & Leichter, J. S. (2010). Non-monogamy: risk factor for STI transmission and acquisition and determinant of STI spread in populations. *Sexually Transmitted Infections*, 86(Suppl 3), iii29–iii36. DOI: 10.1136/sti.2010.044149.
- Bowleg, L., Teti, M., Massie, J. S., Patel, A., Malebranche, D. J., & Tschann, J. M. (2011). 'What does it take to be a man? What is a real man?': ideologies of masculinity and HIV sexual risk among Black heterosexual men. *Culture, Health & Sexuality*, 13, 545–559.
- Brown, J. L., Hennessy, M., Sales, J. M., DiClemente, R. J., Salazar, L. F., Vanable, P. A., . . . Brown, L. K. (2011). Multiple method contraception use among African American adolescents in four US cities. *Infectious diseases in obstetrics and gynecology*, 2011, 1–7.
- Brown, J. L., Sales, J. M., DiClemente, R. J., Latham Davis, T. P., & Rose, E. S. (2012). Characteristics of African American Adolescent Females Who Perceive Their Current Boyfriends Have Concurrent Sexual Partners. *Journal of Adolescent Health*, 50(4), 377–382. DOI: <http://dx.doi.org/10.1016/j.jadohealth.2011.07.008>.
- CDC. (2012a). Estimated HIV incidence in the United States, 2007–2010. *HIV Surveillance Supplemental Report*, 17, 1–26. Retrieved from http://www.cdc.gov/hiv/pdf/statistics_hssr_vol_17_no_24.pdf.
- CDC. (2012b). Reportable STDs in young People 15–24 years of age, by state 2010. Retrieved from <http://www.cdc.gov/std/stats/by-age/15-24-all-STDs/state/2010/IN10.pdf>.
- CDC. (2012c). Sexually transmitted disease surveillance 2011. Retrieved from <http://www.cdc.gov/std/stats11/Surv2011.pdf>.
- Choi, K.-H., Hoff, C., Gregorich, S. E., Grinstead, O., Gomez, C., & Hussey, W. (2008). The efficacy of female condom skills training in HIV risk reduction among women: a randomized controlled trial. *Journal Information*, 98, 1841–1848.
- DiClemente, R. J., Wingood, G. M., Harrington, K. F., Lang, D. L., Davies, S. L., Hook, E. W., III, Robillard, A. (2004). Efficacy of an HIV Prevention Intervention for African American Adolescent Girls: A Randomized Controlled Trial. *JAMA*, 292(2), 171–179. DOI: 10.1001/jama.292.2.171.
- Dodge, B., Reece, M., Herbenick, D., Schick, V., Sanders, S. A., & Fortenberry, J. D. (2010). Sexual Health Among U.S. Black and Hispanic Men and Women: A Nationally Representative Study. *The Journal of Sexual Medicine*, 7, 330–345. DOI: 10.1111/j.1743-6109.2010.02019.x.
- Eyre, S. L., & Millstein, S. G. (1999). What leads to sex? Adolescent preferred partners and reasons for sex. *Journal of Research on Adolescence*, 9, 277–307.
- Fletcher, G. J., Simpson, J. A., Thomas, G., & Giles, L. (1999). Ideals in intimate relationships. *Journal of Personality and Social Psychology*, 76, 72–89.
- Fortenberry, J. D., Temkit, M. H., Tu, W., Graham, C. A., Katz, B. P., & Orr, D. P. (2005). Daily Mood, Partner Support, Sexual Interest, and Sexual Activity Among Adolescent Women. *Health Psychology*, 24, 252–257.
- Fortenberry, J. D., Tu, W., Harezlak, J., Katz, B. P., & Orr, D. P. (2002). Condom use as a function of time in new and established adolescent sexual relationships. *American Journal of Public Health*, 92, 211–213.
- Herbenick, D., Reece, M., Schick, V., Sanders, S. A., Dodge, B., & Fortenberry, J. D. (2010). Sexual Behavior in the United States: Results from a National Probability Sample of Men and Women Ages 14–94. *The Journal of Sexual Medicine*, 7, 255–265. DOI: 10.1111/j.1743-6109.2010.02012.x.

- IBM SPSS Statistics. (2011). IBM SPSS Statistics for Windows, Version 20.0. Armonk NY: IBM Corp.
- Indiana HIV/AIDS Resources & Statistics. (2008). Retrieved from <http://aids.about.com/od/statebystateresources/qt/indiana.htm>.
- Jemmott, J. B. I., Jemmott, L., Braverman, P. K., & Fong, G. T. (2005). HIV/STD risk reduction interventions for african american and latino adolescent girls at an adolescent medicine clinic: A randomized controlled trial. *Archives of Pediatrics & Adolescent Medicine*, 159, 440–449.
- Jennings, J., Glass, B., Parham, P., Adler, N., & Ellen, J. M. (2004a). Sex partner concurrency, geographic context, and adolescent sexually transmitted infections. *Sexually Transmitted Diseases*, 31, 734–739.
- Jennings, J., Glass, B., Parham, P., Adler, N., & Ellen, J. M. (2004b). Sex partner concurrency, geographic context, and adolescent sexually transmitted infections. *Sexually Transmitted Diseases*, 31(12), 734–739.
- Kelley, S. S., Borawski, E. A., Flocke, S. A., & Keen, K. J. (2003). The role of sequential and concurrent sexual relationships in the risk of sexually transmitted diseases among adolescents. *Journal of Adolescent Health*, 32, 296–305.
- Lewis, K. M., Lesesne, C. A., Zahniser, S. C., Wilson, M. M., Desiderio, G., Wandersman, A., & Green, D. C. (2012). Developing a prevention synthesis and translation system to promote science-based approaches to teen pregnancy, HIV and STI prevention. *American Journal of Community Psychology*, 50, 553–571.
- Markham, C. M., Lormand, D., Gloppen, K. M., Peskin, M. F., Flores, B., Low, B., & House, L. D. (2010). Connectedness as a Predictor of Sexual and Reproductive Health Outcomes for Youth. *Journal of Adolescent Health*, 46(3, Supplement), s23–s41. DOI: <http://dx.doi.org/10.1016/j.jadohealth.2009.11.214>.
- Matson, P. A., Chung, S.-e., & Ellen, J. M. Perceived Neighborhood Partner Availability, Partner Selection, and Risk for Sexually Transmitted Infections Within a Cohort of Adolescent Females. *Journal of Adolescent Health*(0). DOI: <http://dx.doi.org/10.1016/j.jadohealth.2013.11.007>.
- Polk, S., Ellen, J. M., Chung, S.-e., Huettnner, S., & Jennings, J. M. (2011). Discordance Between Adolescent Real and Ideal Sex Partners and Association With Sexually Transmitted Infection Risk Behaviors. *Journal of Adolescent Health*, 48, 604–609.
- Reece, M., Herbenick, D., Schick, V., Sanders, S. A., Dodge, B., & Fortenberry, J. D. (2010). Condom Use Rates in a National Probability Sample of Males and Females Ages 14 to 94 in the United States. *The Journal of Sexual Medicine*, 7, 266–276. DOI: [10.1111/j.1743-6109.2010.02017.x](https://doi.org/10.1111/j.1743-6109.2010.02017.x).
- Reed, S. J., Bangi, A., Sheon, N., Harper, G. W., Catania, J. A., Richards, K. A., Boyer, C. B. (2012). Influences on Sexual Partnering Among African American Adolescents With Concurrent Sexual Relationships. *Research in Human Development*, 9, 78–101.
- Regan, P. C., & Joshi, A. (2003). Ideal partner preferences among adolescents. *Social Behavior and Personality: an international journal*, 31, 13–20.
- Rosenberg, M. D., Gurvey, J. E., Adler, N., Dunlop, M. B., & Ellen, J. M. (1999). Concurrent sex partners and risk for sexually transmitted diseases among adolescents. *Sexually Transmitted Diseases*, 26, 208–212.
- Sales, J. M., Brown, J. L., DiClemente, R. J., & Rose, E. (2012). Exploring factors associated

- with nonchange in condom use behavior following participation in an STI/HIV prevention intervention for African-American adolescent females. *AIDS Research and Treatment*, 2012, 1–9.
- Sieving, R. E., Eisenberg, M. E., Pettingell, S., & Skay, C. (2006). Friends' Influence on Adolescents' First Sexual Intercourse. *Perspectives on Sexual and Reproductive Health*, 38(1), 13–19.
- Ventura, S. J., Mathews, T., & Hamilton, B. E. (2002). *Teenage births in the United States: State trends, 1991–2000, an update*: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
- Wolitski, R. J., The Project START Writing Group, & The Project START Study Group. (2006). Relative Efficacy of a Multisession Sexual Risk—Reduction Intervention for Young Men Released From Prisons in 4 States. *Journal Information*, 96, 1854–1861.
- Younge, S. N., Salazar, L. E., Crosby, R. F., DiClemente, R. J., Wingood, G. M., & Rose, E. (2008). Condom use at last sex as a proxy for other measures of condom use: is it good enough? *Adolescence*, 43(172), 927.