Published in final edited form as:

J Sex Res. 2013 ; 50(6): 598–610. doi:10.1080/00224499.2012.666816.

Predictors of Extradyadic Sexual Involvement in Unmarried Opposite-Sex Relationships

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Abstract

Using a sample of unmarried individuals in opposite-sex romantic relationships that was representative of the United States (N = 933), the current study prospectively evaluated predictors of extradyadic sexual involvement (ESI) over 20-months. Data were collected with self-report questionnaires via U.S. mail. Participants were 18–35 years old and were 34.9% male. Variables tested as predictors included involved-partner factors such as demographic characteristics, sexual history, and mental health, as well as relationship-related factors including communication, sexual dynamics, and aspects of commitment. Future ESI was significantly predicted by lower baseline relationship satisfaction, negative communication, aggression, lower dedication, absence of plans to marry, suspicion of partner's ESI, and partner's ESI. It was not predicted by sexual frequency, sexual dissatisfaction, or cohabitation status. Although more problems with alcohol use, more previous sex partners, and having parents who never married one another predicted future ESI, there were many involved-partner demographic factors that did not predict later ESI (e.g., gender, age, education, religiosity, having divorced parents, and having children). None of the results were moderated by gender. These results suggest that compared to demographic characteristics, relationship dynamics and negative interactions are more strongly predictive of future ESI. Implications for future research are discussed.

Keywords

extradyadic sexual involvement; unmarried; cohabitation; relationship quality; infidelity

Although there is much research on correlates of extradyadic sexual involvement (ESI) in marriage and on the negative impacts of this behavior (see Allen et al., 2005; Whisman, Gordon, & Chatav, 2007), there is virtually no information on factors associated with ESI in unmarried, adult dating relationships and few data that come from prospective samples. The research that does exist about ESI in unmarried relationships indicates that, for U.S. samples, it is more common and accepted in dating relationships than in marriage (Sheppard, Nelson, & Andreoli-Mathie, 1995; Wiederman, 1997; Wiederman & Hurd, 1999), but is not the norm and is widely met with disapproval (Regnerus & Uecker, 2011). For example, English-speaking Americans ages 18–59 who were either married or cohabiting were interviewed about their sexual attitudes and behavior in the 1992 National Health and Social Life Survey (NHSLS), and on a 7 point scale in which 7 equals “completely unacceptable,” individuals rated marital ESI scenarios an average of 6.68, and dating ESI scenarios an average of 5.96.

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Similarly, 94% of cohabiters expect sexual exclusivity compared to 98% to 99% of married individuals (Treas & Giesen, 2000).

Examination of ESI in unmarried relationships is important due to the emotional (e.g., pain of betrayal) and physical (e.g., sexually transmitted diseases) risks. Further, researchers argue that ESI in U.S. college dating relationships may represent risks for ESI in later marital relationships (Drigotas, Safstrom, & Gentilia, 1999; Roscoe, Cavanaugh, & Kennedy, 1988). In addition, in a sample of predominantly White individuals, Allen et al. (2008) found that some factors measured premaritally (e.g., communication and sexual satisfaction) are related to the likelihood of later marital ESI for couples who go on to marry. Thus, assessing predictors of ESI in dating relationships may have implications for ESI in later married relationships, and could represent earlier opportunities to evaluate potential risk and to intervene.

Most prior studies of ESI “predictors” not only draw on married samples but are cross-sectional, making it difficult to determine whether ESI is a cause or a consequence of poor relationship quality and other factors (Previti & Amato, 2004). In addition, several “predictive” studies have assessed perceived susceptibility to future ESI rather than actual reports of later ESI (e.g., Buss & Shackelford, 1997; Lewandowski & Ackerman, 2006; Zak et al., 2002). Thus, in addition to addressing the dearth of research on unmarried ESI predictors, a primary aim of the current study was to use a longitudinal model in which actual ESI was predicted from prior levels of individual and relationship functioning. Additionally, the current study focused on predictors of ESI in unmarried, opposite-sex relationships in a nationally-representative and randomly collected sample rather than using a convenience sample as other research on unmarried ESI has done (e.g., Drigotas et al. 1999; Hall & Fincham, 2009). We assessed a wide range of possible predictors that prior research has examined related to ESI (typically using cross-sectional models and married samples), along with some lesser-studied variables that may have important implications for ESI in dating relationships.

Prior Research on Predictors and Correlates of Extradysadic Sexual Involvement

Allen et al. (2005) suggested an organizational framework to use for the conceptualization of variables related to ESI. Based on their labels and descriptions, we conceptualized our variables as representing predisposing involved-partner factors and relationship factors. We further organized our review of the literature and our results, into three types of involved-partner factors (demographics, mental health, and sexual behavior) and four types of relationship factors (sexual relationship, relationship satisfaction, commitment, and negative interactions).

Involved-partner factors

According to Allen et al. (2005), involved-partner factors are variables specific to the individual who engages in ESI, such as static demographic characteristics, sexual history, and mental health. (Although some of these factors, such as sexual history, can and will change over time, we label them as static for the organizational purposes of this paper as we see them as historical to participants' current relationships.) Regarding demographic characteristics, we assessed gender, age, education, religious service attendance, religiosity, parental marital history, and if the individual had children. Based on prior research with nationally-representative samples of married and/or cohabiting individuals (Amato & Rogers, 1997; Treas & Giesen, 2000), we hypothesized that younger age and having parents who were divorced (DeMaris, 2009) or who never married one another would predict

greater likelihood of ESI. For other demographic involved-partner factors, we did not make specific predictions because findings in the literature are mixed. Some research with nationally-representative samples shows that men, those with a college education, and those with lower attendance at religious services are more likely to engage in ESI within marriage (Atkins, Baucom, & Jacobson, 2001; Amato & Rogers, 1997; Atkins & Kessel, 2008; Choi, Catania, & Dolcini, 1994). However, for dating individuals, Drigotas et al. (1999) found that college men were less likely to engage in ESI than women, and Treas and Giesen (2000) found a weak effect of education and no effect of religious service attendance in their random-sample of cohabiting and married individuals.

Others have called for research on how having children is related to ESI because it has rarely been studied (Blow & Hartnett, 2005b; also see Allen et al., 2005). The sparse literature in married samples indicates no association between number of children and ESI (Buunk, 1980; Edwards & Booth, 1976; Liu, 2000); however, we found no prior literature specifically assessing the association between ESI and having children in unmarried relationships or on the role of having children with previous partners. Having children, either together or from another relationship, may make the relationship feel more serious or committed, which could reduce the likelihood of ESI. Conversely, for both wives and husbands, having children is associated with declines in marital satisfaction, confidence in the ability to manage the relationship and stay together, and dedication, as well as an increase in negative communication as rated by third-party observers and in how the couple rates the intensity of their most serious relationship problem (Doss, Rhoades, Stanley, & Markman, 2009). Thus, children may make ESI more likely. Additionally, having children from a previous relationship may necessitate contact with a prior sexual partner, which could increase the likelihood of ESI. Given the lack of prior work on children and ESI in unmarried relationships, we did not make a specific prediction about whether having children would predict ESI or in which direction.

The current study also examined two indices of mental health as involved-partner factors: psychological distress (i.e., depressed mood and/or anxiety) and problematic alcohol use. Although psychological distress was elevated in some samples of persons who engaged in marital ESI (Allen et al., 2005), this elevation may be a response to ESI rather than a predictor. Some prospective research has found that psychological distress is a predictor of college dating ESI (Hall & Fincham, 2009), but other work on married couples sampled from the community suggests it is not predictive of ESI (Allen et al., 2008). As a result of these mixed findings, we tested psychological distress as a predictor of future ESI but did not make a specific hypothesis.

Excessive and problematic alcohol use among men within couples seeking marital therapy has been linked with ESI in marriage (Atkins et al., 2005). Drinking alcohol may be associated with disinhibition and poor decision making, which may place individuals at risk for ESI. In the current data set we used an item regarding problematic alcohol use, which asked participants how often they had trouble doing what was expected of them because of drinking. We hypothesized that more problematic alcohol use would predict ESI.

The last involved-partner factors we assessed relate to personal sexual behavior. We assessed the role of viewing pornography by oneself and the number of previous sex partners. Both viewing pornography and having more sex partners have been associated with more dating ESI cross-sectionally in college and nationally-representative samples (Feldman & Cauffman, 1999; Maddox, Rhoades, & Markman, 2011). Based on this work, we expected both of these involved-partner factors to predict future ESI.

Relationship factors

Allen et al. (2005) described predictors of ESI that are specific to the current relationship, such as sexual and relationship quality, commitment, and communication, as “marital” factors (which we extrapolated to unmarried relationships). One of the most widely studied correlates of ESI is the primary sexual relationship, including sexual satisfaction, sexual frequency, and, to a lesser extent, other sexual behaviors such as viewing pornography with one’s primary partner. The literature generally shows that those who reported married or dating ESI were more likely to report sexual dissatisfaction in their primary relationship prior to the ESI. This finding is especially strong for men regardless of sampling characteristics (Allen & Rhoades, 2008; Allen et al., 2008; Atkins et al., 2005; Glass & Wright, 1985; Liu, 2000; Roscoe, Cavanaugh, & Kennedy, 1988), although sexual satisfaction was not predictive of ESI in at least one randomly-sampled, longitudinal study (DeMaris, 2009). Regarding sexual frequency, Liu (2000) hypothesized that the decline in frequency of sex in marriage leads to a higher incidence of ESI later in marriage. Regarding pornography use, couples who viewed pornography together were more likely to report ESI than those who did not view pornography at all (Maddox et al., 2011). Therefore, we expected lower sexual satisfaction, lower sexual frequency in the current relationship, and viewing pornography with one’s partner to predict later ESI.

Relationship satisfaction may be the most widely studied correlate and predictor of ESI. In cross-sectional studies, lower relationship satisfaction was consistently related to a higher likelihood of ESI for men and women (see Allen et al., 2005; Atkins et al., 2001). Although some longitudinal studies found no association (DeMaris, 2009; Hall & Fincham, 2009), and others found satisfaction to be a predictor of later marital ESI for men but not women (Allen et al., 2008), most studies have found relationship dissatisfaction to be predictive of ESI in both dating and married relationships within the United States (Drigotas et al., 1999; Whisman et al., 2007). Based on this research, we expected lower relationship satisfaction to predict later ESI.

Yet another predisposing relationship factor that may predict ESI is commitment. Stanley and Markman (1992) defined interpersonal commitment or dedication as a desire to continue the relationship for the long-term. This construct is important to study because unmarried relationships represent a wider range of commitment levels than married relationships, since many unmarried couples will break up before marriage while others will progress to high levels of mutual and clear commitment as they secure their romantic attachment (Stanley, Rhoades, & Whitton, 2010). Sexual exclusivity is often considered one of the defining markers of committed relationships (e.g., Forste & Tanfer, 1996). In their longitudinal study of U.S. college students, Drigotas et al. (1999) found that individuals who were more committed to a partner in a steady relationship were less likely to engage in ESI. In fact, more committed individuals generally report less monitoring of alternate romantic partners (Johnson & Rusbult, 1989; Stanley, Markman, & Whitton, 2002), which presumably makes them less susceptible to becoming romantically involved with others. For the current study, we examined participants’ assessments of their dedication to the relationship as well as plans to marry the partner, predicting that higher levels of each indicator of commitment would be associated with a lower likelihood of future ESI.

For some unmarried couples, cohabiting may be an indicator of increased commitment to the relationship (Rhoades, Stanley, & Markman, 2009), and we might therefore expect that living together would be associated with a lower likelihood of ESI. However, one prior study compared ESI rates of cohabiting and dating women in a nationally-representative sample and found no differences between these groups (Forste & Tanfer, 1996). Further, cohabiting with a future spouse before marriage has been found to be unrelated to marital

ESI in another national survey (DeMaris, 2009). Given the paucity of research on this topic, we made no predictions about the relationship between cohabiting and future ESI.

We also considered trust and partner fidelity to be aspects of commitment that are important relationship factors to consider. Specifically, we assessed a history of the primary partner being unfaithful and/or being suspicious of the other partner as possible predictors of future ESI. In one longitudinal study of married individuals, suspicion of partner ESI was predictive of one's own ESI (Whisman et al., 2007). The thoughts and emotions that accompany actual or suspected partner ESI may be relationally or personally disruptive and increase motivation for reciprocal ESI (e.g., a "revenge affair"; Lusteran, 1998). Alternatively, suspected or actual partner ESI may reflect pre-existing relationship problems (e.g., distress, weakened commitment) that increase motivation for ESI. We were able to measure suspicion of partner's ESI and actual knowledge of partner ESI and we expected both to be predictive of one's own future ESI.

In addition to commitment and satisfaction, indicators of the quality of interactions between partners may be important relationship factors in predicting ESI. The quality of communication between partners, even when measured before marriage, is a salient predictor of general marital distress, divorce (Markman, Rhoades, Stanley, Ragan, & Whitton, 2010), and later marital ESI (Allen et al., 2008). Based on these findings, we expected that more negative communication would be associated with higher risk for future ESI in dating relationships.

Lastly, two other aspects of relationship interactions may be important: physical and psychological aggression. DeMaris (2009) found that violence in marriage resulted in higher risk of ESI. Other research has found that men from college and community samples in the United States who were in unmarried relationships and who perceived a greater risk of ESI by their partners committed more partner-directed violence (Cousins & Gangestad, 2007; Kaighobadi et al., 2009), but the direction of these effects is unclear. Physical and psychological aggression may happen in the aftermath of ESI, but the extent to which it precedes ESI may motivate partners to engage in ESI out of unhappiness, alternative partner seeking, or revenge. With these possibilities in mind, we expected that higher levels of physical and psychological aggression in the relationship would predict future ESI.

Present Study

The present study sought to extend the literature on ESI to unmarried relationships using a prospective design. The cross-sectional nature of much of the earlier research, the lack of prior research on some variables, and mixed or significantly dated prior findings necessitated the current study. We used a large, randomly sampled and representative group of participants, which is an important strength of this study relative to prior work on unmarried ESI which has typically relied on convenience samples, and often only on college students (e.g., Hall & Fincham, 2009). We examined our predictors individually, rather than as part of a multivariate model, to establish basic predictive value for the factors we included. We believe this approach is an important first step for the field to develop more comprehensive models and theories about ESI in dating and cohabiting relationships. We also tested whether gender moderated the findings.

Method

Participants

Participants were 993 unmarried individuals who were taking part in a larger study of unmarried relationships in the United States (author citation). The current sample included

347 men (34.9%) and 646 women. Participants ranged in age from 18 to 35 years ($M = 25.51$ $SD = 4.79$), had a median of 14 years of education, and made \$15,000 to \$19,999 annually on average. In terms of ethnicity, the sample was 7.7% Hispanic or Latino and 92.3% not Hispanic or Latino. In terms of race, the sample was 79.7% White, 12.1% Black or African American, 3.4% Asian, 0.9% American Indian/Alaska Native, and 0.2% Native Hawaiian or Other Pacific Islander; 2.8% reported being of more than one race and 0.9% did not report a race. The racial and ethnic make-up of this sample as well as the median income level are similar to 2000 Census data for the unmarried, same-aged English speaking population of the U.S.

Procedure

The sample for the larger project was recruited by a calling center using a targeted-listing sampling strategy. Targeted-listing sampling was selected for this project over a random-digit dialing approach because cell phones cannot legally be called through random-digit dialing and being able to contact cell phones and not only land lines seemed imperative for the age range of interest (see Guterbock, Diop, Ellis, Holmes, & Le, 2011 for a related discussion). Recruitment for this study began in July of 2007 and was completed in March 2008 by a private phone survey firm, Cole, Hargrave, Snodgrass, and Associates. For recruitment, the survey firm began with a targeted (by age) list of 325,273 names that was purchased from Scientific Telephone Samples. These names and their contact information came from many different sources, such as the telephone white pages, warranty card information, public records, Department of Motor Vehicle records, voter registration records, and magazine subscriptions. All households that were called were in the contiguous United States. Of this list, 73,508 (23%) were disconnected numbers, 186,647 were never answered live (57%), and 65,118 (20%) were answered. Of these who answered, 3,570 (5%) were ineligible for this research because the answerer did not speak English, 22,375 (34%) refused to answer any screening questions, 37,468 (56%) answered screening questions but were ineligible due to age or relationship status, and 2,658 (5%) were eligible. (Eligibility requirements included an age range of 18 to 34 and for the individuals to be in unmarried relationship with a member of the opposite sex that had lasted two months or longer. The criterion for length of the relationship was established so that we obtained data on relatively stable dating relationships, which was a necessity for the aims of the larger project.) Of those who were eligible, 2,327 (88%) completed the phone survey and provided their contact information for the longitudinal study. Of those who provided their contact information, 2,213 (95%) provided complete and usable mailing addresses and were mailed forms within two weeks of their phone screening. Of those who were mailed forms, 1,447 individuals returned them (65.4% response rate); however, 154 of these survey participants indicated on their forms that they did not meet requirements for participation, either because of age, language, or relationship status, leaving a sample of 1293. Of those 1293 participants, 229 were excluded from the current study's analyses because they had already engaged in ESI at the first assessment. Our ESI question (see Measures) focused on ever engaging in ESI during the relationship, so for individuals reporting ESI at the first assessment we would not have been able to isolate new later instances of ESI. Eight individuals were missing data on the ESI question at the initial assessment, and 63 of them did not provide follow-up data on ESI over the following 20 month period, leaving a final total of 993 participants. Participants completed questionnaires by mail every four months for a total of six waves of data collection, and were paid \$40 for each completed wave. The present study received ethics approval from the University of Denver's Institutional Review Board.

Measures

Extradysadic sexual involvement—Across the 20-month follow-up period, at assessment points where the respondent was still in the primary relationship, we assessed ESI with the question, “Have you had sexual relations with someone other than your partner since you began seriously dating?” If the respondent had broken up with the primary partner at a given assessment point, we instead asked, “Did you have sexual relations with someone other than your ex-partner while you were together?” Answer choices for both items were “No,” “Yes, with one person,” and “Yes, with more than one person.” We collapsed answer choices so that a 0 represented those who had not engaged in an ESI during the follow-up period in the target relationship, and a 1 represented those who had.

Demographics—We assessed gender, age, and education with applicable single item questions. Religious service attendance was measured by a question asking “How often do you attend religious services,” with answer choices ranging from 1 (*never*) to 7 (*more than once a week*) ($M = 2.95$, $SD = 2.31$). This item has demonstrated convergent validity (Johnson et al., 2002). We assessed religiosity with the item “All things considered, how religious would you say that you are?” This item was rated on a 1 (*not at all*) to 7 (*very religious*) scale ($M = 4.00$, $SD = 1.74$). It has been used in previous research in which it demonstrated convergent validity (Rhoades, Stanley, & Markman, 2009). To assess parents’ marital status, we used the items “Did your parents get married?” and “Have your biological parents ever been divorced from each other?” In this sample, 89% of the sample had parents who married one another, and 25% of respondents had parents who divorced each other. Having children by previous partners was assessed with the item “How many biological children do you have from other relationships?” Having children by the current partner was assessed with the item “How many biological children do you have from your current relationship (that is, both you and your partner are the biological parents)?” We dichotomized the answers to these two questions so that a 1 indicated that the participant had 1 or more children by the current or previous partner(s), and a 0 indicated that the participant had no children from the current or previous partner(s). In this sample, 16% had children with prior partners and 12% had children with the current partner.

Mental health

Psychological distress: We used 12 items from the longer Mood and Anxiety Symptom Questionnaire (Clark & Watson, 1991) to assess general psychological distress. We chose these 12 items based on factor analyses that indicate they measure general psychological distress rather than symptoms specific to anxiety or depressive disorders (see Keogh & Reidy, 2000). Example items are “During the last week, I felt dissatisfied with everything” and “During the last week, I felt tense or ‘high strung’.” Other work has further validated the use of these items in measuring psychological distress and has shown the 12-item measure to be reliable (α in prior work = .94; Wortel & Rogge, 2010). Each item was rated on a 1 (*not at all*) to 5 (*extremely*) scale. This measure was scored by averaging the items. Higher scores indicated more distress ($M = 2.28$, $SD = 0.97$, $Range = 1$ to 5, $\alpha = .93$).

Problematic alcohol use: We used one item from the Alcohol Use Disorders Identification Test (AUDIT) questionnaire (Saunders, Aasland, Babor, De La Fuente, & Grant, 1993) to assess problematic alcohol abuse. Participants were asked “How often during the last year have you failed to do what was normally expected from you because of drinking?” Answer choices ranged from 0 (*never*) to 4 (*daily or almost daily*). Because no one chose 4 as an answer choice and very few chose 2 or 3, we dichotomized this variable so that a 0 represented those who had never failed to do what was normally expected from them because of drinking, and a 1 represented those who had failed to do what was normally

expected of them less than monthly or more often; 16% reported problematic alcohol use in this sample.

Sexual behavior—Number of prior sex partners was assessed with the item “How many sexual partners have you had (not including your current partner)?” ($M = 6.00$, $SD = 10.32$). To assess personal pornography use, we asked “Do you look at erotic websites, magazines, or movies by yourself?” The answer choices were “No,” “Yes, sometimes,” and “Yes, often.” For the analyses presented here, those who answered “No” were coded as 0, and those who answered “Yes, sometimes” or “Yes, often” were coded as 1. In this sample, 45% reported viewing pornography alone.

Sexual relationship—If participants indicated that they had had sexual intercourse with their current partner, they rated “If yes, about how frequently do you and your partner have sexual intercourse?” on a 1 (*once a day*) to 7 (*less than once in 6 months*) scale ($M = 2.72$, $SD = 1.36$). Finally, the item “We have a satisfying sensual or sexual relationship” assessed sexual satisfaction on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale ($M = 5.98$, $SD = 1.49$). This item has demonstrated validity in previous research (Rhoades et al., 2009; Stanley, Amato, Johnson, & Markman, 2006). To assess dyadic pornography use we asked “Do you and your partner look at erotic websites, magazines, or movies together?” The answer choices were “No,” “Yes, sometimes,” and “Yes, often.” Again, the two “yes” answer choices were collapsed. In this sample, 42% reported viewing pornography together.

Relationship satisfaction—We used one item from the Dyadic Adjustment Scale (DAS; Spanier, 1976) to measure relationship satisfaction: “Please indicate the degree of happiness, all things considered, of your relationship.” We chose to use only this single item because we wanted a pure measure of satisfaction rather than a general measure of relationship adjustment (the full DAS includes items related to communication and commitment, but we are measuring these constructs with separate measures). The item was scored on a 0 (*extremely unhappy*) to 6 (*perfectly happy*) scale ($M = 4.31$, $SD = 1.31$).

Commitment

Dedication: We used the 14-item Dedication Scale from the Revised Commitment Inventory (Stanley & Markman, 1992) to assess dedication (also called interpersonal commitment). The measure includes items such as “I want this relationship to stay strong no matter what rough times we encounter” and “I like to think of my partner and me more in terms of ‘us’ and ‘we’ than ‘me’ and ‘him/her.’” Each item was rated on a 1 (*strongly disagree*) to 7 (*strongly agree*) scale ($M = 5.50$, $SD = 0.95$). Many studies have demonstrated this measure’s reliability and validity (e.g., Kline et al., 2004; Stanley & Markman, 1992; Owen, Rhoades, Stanley, & Markman, 2011). In this sample, (α) = .87.

Plans for marriage: We measured plans for marriage with the item “Have the two of you together made a specific commitment to marry?” The two answer choices of “Yes, we are engaged” and “Yes, we are planning marriage but we are not engaged” were collapsed into one “yes” answer choice for analyses; 57% reported having plans for marriage.

Knowledge of partner ESI: We assessed knowledge of partner’s ESI for those who were still together with the item “Has your partner had sexual relations with someone other than you since you began seriously dating?” For those who had ended their relationship between waves, we used the item “Did your ex-partner have sexual relations with someone other than you while you were together?” The answer choices were “No,” “Probably not,” “Probably so,” and “Yes, I know for sure.” For the analyses presented here, those who answered “No,” “Probably not,” and “Probably so” were coded as 0 and those who answered “Yes, I know

for sure” were coded as 1. In this sample, 8% reported that they knew their partner had engaged in ESI.

Suspicion of partner’s ESI: We used the 5-item cognitive jealousy subscale of the Multidimensional Jealousy Scale (Pfeiffer & Wong, 1989) to measure suspicion of one’s current partner in regards to other potential romantic partners. This measure has shown acceptable reliability and validity in prior research (Pfeiffer & Wong, 1989). Example items are “I suspect that my partner is secretly seeing someone else” and “I think that someone else may be romantically interested in my partner.” The measure was scored on a 1 (*never*) to 7 (*all the time*) scale. In this sample, $M = 2.06$, $SD = 1.18$, $\alpha = .88$.

Cohabitation: To measure whether the participants were cohabiting with their current partners we asked “Are you and your partner living together? That is, do you share a single address without either of you having a separate place?” In this sample, 31% of the sample was cohabiting.

Negative interactions

Negative communication: We used a 7-item version of the Communication Danger Signs Scale (Stanley & Markman, 1997) to measure negative communication. The measure assesses different aspects of communication with items such as “Little arguments escalate into ugly fights with accusations, criticisms, name-calling, or bringing up past hurts” and “I hold back from telling my partner what I really think and feel.” The measure is rated on a 1 (*never or almost never*) to 3 (*frequently*) scale. This scale has demonstrated adequate reliability and validity in previous work (Johnson et al., 2002; Kline et al., 2004; Stanley et al., 2002). In this sample, $M = 1.60$, $SD = 0.48$, $\alpha = .80$.

Physical and psychological aggression: We used the 5-item minor physical aggression and 4-item minor psychological aggression subscales from the Revised Conflict Tactics Scale (Straus, Hamby, Boney-McCoy, & Sugarman, 1996) to measure violence and psychological aggression in the relationship. These subscales have demonstrated adequate validity and reliability in prior research and have been widely used (Straus et al., 1996). Example items for psychological aggression include “I insulted or swore at my partner” and “I did something to spite my partner.” Example items for physical aggression include “I threw something at my partner that could hurt” and “I twisted my partner’s arm or hair.” For each partner-directed item, there is a “My partner did this to me” item that follows. Each item was rated on a 0 (*this has never happened*) to 7 (*more than 20 times in the past year*) scale. In this sample, $M = 0.37$, $SD = 0.82$, $\alpha = .81$ for physical aggression, and $M = 2.18$, $SD = 1.68$, $\alpha = .80$ for psychological aggression.

Results

Descriptive Results

Of the 993 individuals in the current study who had not previously engaged in ESI in their current relationship, 141 (14.2%) of them engaged in ESI during the next 20 months. Nearly equal percentages of men (15.0%) and women (13.8%) engaged in ESI. Of those 141 who engaged in ESI, 7 of them did so after marrying their Time 1 partner, but all other reports represent ESI in unmarried relationships. Of the 141, 61 (43.3%) broke up after the ESI occurred and 80 (56.3%) stayed in the Time 1 relationship over the 20-month period.

We tested associations between the predictors before running the main analyses (Table 1). The predictor variables were relatively uncorrelated; the average correlation among the predictors was .11. The highest correlation was .67 and was between religious service

attendance and self-reported level of religiosity. The lowest correlation was $<.01$ and was between viewing pornography alone and sexual satisfaction.

Main Analyses

Twenty-five separate logistic regressions were used to predict future ESI over a 20-month period (see Table 2). All of the predictors were measured at the initial assessment. For variables that we had clear predictions about, we set alpha at .05 but used a two-tailed test. For variables we did not make specific predictions about, we used a Bonferroni correction, which set alpha at .006. We tested for gender moderation for all of the predictors by adding gender and an interaction term (gender X predictor) to each logistic regression. None of the main findings were significantly moderated by gender; therefore, the results presented below collapse across men and women.

Demographics—Individuals whose parents had never married one another had a significantly higher likelihood of future ESI, which supported our hypothesis, but our hypothesis that parental divorce would predict ESI was not supported. Gender, age, education, religious service attendance, religiosity, and having children (either together or with a previous partner) were also not significant predictors of ESI. We had not made hypotheses about these variables.

Mental health—In support of our hypothesis, those who reported more problematic alcohol use had a higher likelihood of engaging in ESI. We had not made a specific hypothesis about psychological distress, and results revealed it was not a significant predictor of ESI.

Sexual behavior—Having more prior sex partners predicted a higher likelihood of future ESI, but viewing pornography alone did not. Thus, our hypotheses were partially supported.

Sexual relationship—Contrary to our hypotheses, sexual frequency and sexual satisfaction did not significantly predict ESI. However, viewing pornography with the primary partner predicted a higher likelihood of future ESI, as predicted.

Relationship satisfaction—In support of our hypothesis, lower relationship satisfaction significantly predicted future ESI.

Commitment—For all of the commitment variables except cohabitation, lower commitment significantly predicted future ESI, which was in line with our hypotheses. Specifically, lower dedication, not having plans to marry the primary partner, partner ESI, and higher suspicion of partner ESI each significantly predicted one's own future ESI.

Negative interactions—In support of our hypothesis, each of the communication and aggression variables significantly predicted future ESI. Higher levels of negative communication, psychological aggression, and more physical aggression were associated with a higher likelihood of engaging in ESI during the next 20 months.

Discussion

The findings of the current study provide insight into a wide range of factors that predict the first incident of ESI in unmarried relationships. By including a range of variables, we were better able to evaluate which individual or relationship-specific factors were particularly salient for later ESI. Relationship factors (e.g., commitment and interaction quality) were more consistent predictors of future ESI than static factors specific to the involved-partner

(e.g., demographics). Nine out of thirteen of the relationship-specific factors were predictive of ESI, whereas only three of the twelve involved-partner factors were predictive. The overall results are similar to those of DeMaris (2009) who also found that factors pertaining to the quality of the relationship itself, like marital violence, were more consistent predictors of ESI compared to static factors such as age and having children in the household.

The pattern of findings regarding relationship factors could be explained by Thompson's (1983, p. 10) "deficit model" in which marital deficits are hypothesized to be what promote extramarital sex. Consistent with this model, the relationship factors that emerged as predictors of ESI in the current study seem to represent a sense of deficit in the relationship, as they tended to be factors that related to appraisals of relationship quality. More concrete or structural relationship factors (e.g., cohabitation, sexual frequency, children together) tended not to be significantly predictive of ESI.

Regarding specific relationship factors, commitment-related variables consistently predicted a lower likelihood of future ESI. These results are consistent with prior work showing that more committed individuals are less likely to engage in dating ESI (Drigotas et al., 1999). Feeling dedicated predicted a lower likelihood of future ESI, as did having plans for marriage. Clinically, such findings indicate that relationship clinicians should seek to help couples boost dedication within relationships to serve as a buffer against negative relationship-harming behaviors like ESI and/or to help repair the relationship once ESI has occurred.

Additionally, we found that cohabitation status was unrelated to future ESI, as suggested by earlier work (Forste & Tanfer, 1996). It is surprising that couples living together did not have a reduced risk for ESI compared to dating couples because the opportunity for ESI should be lower in these relationships and because partners themselves often see cohabitation as a step up in commitment (Rhoades et al., 2009). This finding warrants future attention, as there may be differences in what partners expect from one another while living together and what actually happens. Additionally, we must make the point that plans to marry may be a more appropriate indicator for commitment for relationships within the United States but not for other areas of the world. For instance, in some northern European countries, individuals in long-term romantic relationships may intend to stay together for the long term, but not intend to marry, so decisions about childbearing or house ownership may be better proxies for the same sense of commitment to the relationship in these types of relationships. In this way, some of the variables we used in the current study may function differently for individuals outside the United States. Additionally, our sample does not contain couples in same-sex relationships for whom plans to marry may not be as salient as they are for those in opposite-sex relationships, due to variations in the ability to pursue legal marriage.

We also considered suspicion of partner's ESI and partner's actual ESI, finding that those who either suspected or knew their partners had engaged in ESI were more likely to engage in ESI themselves. Both clinical and research literatures suggest that having an unfaithful partner (Lusterman, 1998) or being suspicious (Whisman et al., 2007) may result in a "revenge affair." In the context of unmarried relationships, it is interesting to consider why individuals might engage in a revenge affair rather than terminating the relationship. It could be that such individuals are using infidelity as a way to test alternatives to the relationship prior to making any decisions regarding termination of the relationship. We should also note that ESI may not always be considered infidelity and perceived as a violation of trust. For some unmarried individuals, the association between partner's ESI and one's own may merely reflect a mutual understanding between partners about having sexual relations with

other people. Future research could examine different motivations for ESI in unmarried relationships.

Other relationship factors were also important in predicting ESI. Similar to research that has shown more negative communication predicts wives' ESI (Allen et al., 2008), we found that higher negative communication, higher psychological aggression, and more physical aggression predicted both men's and women's ESI. Negative patterns of interaction may be related to a desire to find positive connection in other relationships, as they suggest that the primary relationship is unsafe physically or emotionally. They may also be indicative of lower functioning relationships and ESI could be a mechanism for escaping such negativity.

As mentioned earlier, relationship satisfaction has received much attention in the literature on ESI. Our results extend prior work by showing that lower relationship satisfaction is a predictor of ESI rather than merely a correlate or a consequence. Other research has shown that one motivation for unmarried and married ESI is to fulfill unmet intimacy needs (Allen & Rhoades, 2008), and this finding suggests that those who are dissatisfied or in lower quality relationships may use ESI as a way to escape or seek more satisfying relationships.

Prior research suggests that lower sexual satisfaction and less frequent sex in the primary relationship are related to marital ESI (Allen & Rhoades, 2008; Allen et al., 2008; Atkins et al., 2005; Glass & Wright, 1985; Liu, 2000; Roscoe et al., 1988). Surprisingly, we did not find either of these variables to be related to future ESI in these, mostly unmarried, relationships. Given that unmarried relationships are likely easier to terminate than marriages, unmarried individuals who are unsatisfied sexually may end their relationships instead of using ESI to fill a sexual void. More research needs to examine how these dynamics might differ for married and unmarried relationships. Additionally, future research should assess not only current frequency of sex, but also changes in the frequency of sex, changes in satisfaction with the frequency of sex, and changes in sexual satisfaction as predecessors of ESI (see Lui, 2000).

Regarding other sexual behaviors, we examined whether number of prior sex partners and viewing pornography predicted ESI. As has been found in prior research (Feldman & Cauffman, 1999; Treas & Giesen, 2000), having had more prior sex partners predicted future ESI, possibly suggesting that a higher interest in or acceptance of unmarried sexual activity may be related to ESI. Extending previous cross sectional correlational research (Maddox et al., 2011), we found that viewing pornography together with one's partner predicted future ESI, although viewing pornography alone only did not. This finding suggests the need to better understand possible moderators of an association between pornography use and ESI. In light of our findings, we suggest that couple therapists may wish to inquire about couples' use of pornography as a way to help couples isolate the reasons why they use it and whether it could make them more susceptible to ESI in some way.

Findings regarding involved-partner factors related to mental health were mixed. We found that problematic alcohol use significantly predicted later ESI, but psychological distress was not associated with future ESI. It may be that alcohol use, especially when it is social, increases opportunities for ESI and also lowers inhibitions for engaging in it (Owen, Rhoades, Stanley, & Fincham, 2010). Clinicians often assess alcohol use as an indication of risk-taking behavior, and our findings on this matter indicate that relationship clinicians should pay special attention to this behavior as a possible risk factor for ESI.

The findings regarding psychological distress are in line with null findings on mental health and marital ESI (Allen et al., 2008), but contrary to prior work with college students (Hall & Fincham, 2009). Thus, general distress is either unrelated to ESI or related in a nonlinear

way. For example, some level of distress may motivate ESI, but especially high levels may be so debilitating that they make ESI less likely. Further, other types of specific mental health problems may be important to examine in future work. For instance, Perugi et al. (1998) found that impulse control disorders and mania were related to high rates of sexual behavior and therefore might also predict ESI.

Few involved-partner factors were predictive of ESI. Gender, age, education, religiosity, parental divorce, and having children did not predict ESI. Although many studies have found some of these factors to be related to marital ESI (e.g., Atkins et al., 2001; Treas & Giesen, 2000), our results are similar to Previti and Amato's (2004) work on marital ESI that showed gender, age, and education were not predictive. The fact that gender did not predict ESI in our sample of 18–35 year olds may be related to other findings that show the gender gap narrowing within younger cohorts (see Atkins et al., 2001; Laumann, 1994; Wiederman, 1997). The only demographic involved-partner factor that predicted ESI was having parents who never married one another. Amato and Rogers (1997) found parental divorce to be related to marital ESI, at least for women, and theorized that having poor role models for marriage might explain the association. Even though our results, using a more contemporary sample, did not support their finding about parental divorce, having parents who never married one another may function in the same way, as a factor influencing the development of attitudes about commitment and exclusivity. Such findings indicate that clinicians, especially those who specialize in relationship education and premarital interventions, may wish to consider paying special attention to couples in which one or both partners had parents who never married and include specific information for them about models for a healthy relationship.

Although the longitudinal approach in the current study is a strength, this does not mean that the predictors we examined necessarily cause ESI. Future research could examine processes and moderators that might further explain the links between these predictors and later ESI. For example, neuroticism, low self-esteem, high rejection sensitivity, and an anxious attachment style may serve as moderators of the relationships among some predictors and ESI. More specifically, some individuals would not be spurred to have an affair after simply learning or suspecting that their partners were having affairs, but those with a tendency toward high negative affect may think that an “eye-for-an-eye” approach is a better way to respond to the betrayal than using positive coping strategies. Similarly, those who experience low relationship satisfaction and who have an anxious attachment style may hold the maladaptive belief that having an affair will alert their primary partner to their dissatisfaction in the relationship in an attempt to repair the relationship. Alternately, they may desire connection and love so much they seek to enhance their relationship satisfaction by having an affair with someone else, while still staying in the primary relationship to maximize their chances of receiving love and attention from either the affair partner or the primary partner (for further discussion of attachment and ESI see Allen & Baucom, 2004). Relatedly, those who experience high levels of negative communication, psychological aggression, and physical aggression and who also have low self-esteem may feel as though the aggression from their partners traps them in the relationship, and rather than having the confidence to leave the relationship and seek out a healthier romantic attachment, they engage in ESI to get their sexual and/or emotional needs met, even though such behavior does not fully remove them from the primary aggressive relationship.

Taken altogether, there appears to be accumulating evidence that proximal, relationship factors are what matter most in predicting ESI and that involved-partner factors, particularly demographic characteristics are less important. This being said, we did not assess all possible demographic factors that may be relevant to ESI such as partner's ESI, which may serve as a role model for the child's future romantic relationships, or libido, which may

influence overall sexual experience including such experience outside of the committed relationship. Including such variables may provide a clearer picture of the individual factors that contribute to ESI.

Limitations and Future Research

There were several strengths to the current study. First, its longitudinal, prospective design stands out in this literature, which is weighted heavily toward cross-sectional or retrospective studies (see critique by Blow & Hartnett, 2005a). In addition, the sample is strong in terms of representativeness, as comparisons with U.S. Census data indicate that this sample is generally representative of similarly-aged English-speaking individuals in the United States. The study was also able to examine a range of variables, more than any other study of unmarried individuals. These findings are generalizable to similarly-aged, unmarried individuals who are or have been in romantic relationships with members of the opposite sex.

As with any research, the current study also had several limitations. First, we were unable to assess the impact of prior ESI on future behavior because of the way ESI was measured in the current study. Second, our ESI item asked about “sexual relations,” which could be interpreted as a range of sexual acts from kissing to intercourse. For researchers who need to know about acts specific to issues such as disease transmission, this item may not have the level of specificity needed. The item also asks about ESI since the couple has been “seriously dating,” which may allow respondents who had engaged in ESI before they considered their relationship to be “serious” to deny the behavior, which may have led to underreporting of ESI. Additionally, although we used several validated measures, particularly to assess relationship factors, we also used some single-item variables which may have low reliability and may have limited statistical power to find effects. Some constructs, such as plans for marriage, may be adequately measured with a single item but others, such as sexual satisfaction, could be better measured with scales. Additionally, while we found fairly consistent associations between relationship factors and ESI, the effect sizes were generally small, suggesting that other proximal variables (e.g., opportunity) should also be measured as potential predictors of ESI in future work. Also, despite our efforts to recruit individuals fluent and literate in English via the phone survey, the written questionnaires may have discouraged participation by less literate individuals.

In conclusion, the current study examined several predictors of ESI in unmarried relationships. The findings suggest that it is not the demographics of the involved partner that are most consistently associated with future ESI. Instead, dynamic, relationship-specific factors such as commitment, satisfaction, and negative interactions seem to be important in understanding who will engage in ESI in the future. These findings suggest that clinicians can strive to help couples strengthen the relationship as a primary means to reduce risk of future ESI.

Acknowledgments

The project described was supported by Award Number R01HD047564 from the Eunice Kennedy Shriver National Institute of Child Health and Human Development. The content is solely the responsibility of the authors and does not necessarily represent the official views of the Eunice Kennedy Shriver National Institute of Child Health and Human Development or the National Institutes of Health.

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Table 1

Single Logistic Regressions for Predictors of Extradysadic Sexual Involvement

	β	SE	Wald	Odds Ratio	Cohen's <i>d</i>
<i>Demographics</i>					
Gender	-.098	.189	.270	.906	-.04
Age	.008	.019	.171	1.008	0.04
Education	-.049	.042	1.366	.952	-.11
Religious service attendance	-.059	.041	2.075	.943	-.13
Religiosity	-.054	.053	1.048	.948	-.10
Parents divorced	.327	.222	2.170	1.387	0.13
Parents married	-1.078***	.237	20.731	.340	-.37
Children by current partner	.240	.264	.828	1.272	0.08
Children by previous partner	.121	.243	.248	1.129	0.04
<i>Mental Health</i>					
Psychological distress	.126	.098	1.634	1.134	0.12
Problematic alcohol use	.626**	.220	8.097	1.870	0.25
<i>Sexual Behavior</i>					
Pornography alone	.198	.182	1.183	1.219	0.10
Number of prior sex partners	.027***	.007	14.280	1.027	0.37
<i>Sexual Relationship</i>					
Pornography together	.524**	.183	8.211	1.688	0.26
Sexual frequency	-.039	.071	.308	.961	-.06
Sexual satisfaction	.041	.064	.419	1.042	0.06
<i>Relationship Satisfaction</i>					
Satisfaction	-.198**	.069	8.214	.820	-.29
<i>Commitment</i>					
Dedication	-.189*	.093	4.151	.828	-.19
Plans for marriage	-.371*	.182	4.141	.690	-.18
Partner ESI	.611*	.292	4.390	1.843	0.18
Suspicion of ESI	.229***	.068	11.423	1.257	0.30
Cohabitation	.283	.191	2.200	1.327	0.13
<i>Negative Interactions</i>					
Negative communication	.467**	.182	6.556	1.595	0.23
Psychological aggression	.108*	.053	4.082	1.114	0.18
Physical aggression	.234*	.091	6.535	1.263	0.23

Note:

* $p < .05$, two-tailed,

** $p < .01$, two-tailed,

*** $p < .001$, two-tailed. Cohen's d values compared those who experienced infidelity to (minus) those who did not during the course of the study.

Table 2

Correlations among Predictors

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1 Gender	04	04	03	06	00	-04	09	14	09	-08	-44	04	-01	-02	05	-04	06	07	07	-04	06	01	12	08
2 Age		19	-13	-06	24	-03	20	39	02	-08	00	-00	34	07	-06	-21	-01	-00	03	-00	30	02	-04	-08
3 Educ			10	03	-07	15	-23	-16	-10	-07	00	-06	00	01	05	05	02	-01	-07	-12	-14	-12	-10	-12
4 Church				67	-20	02	-12	-06	-08	-08	-15	-14	-12	00	04	08	14	07	02	-07	-25	-14	-17	-07
5 Relig					-12	00	-02	-05	-03	-07	-15	-12	-10	01	02	03	12	08	04	-03	-20	-04	-08	-03
6 Par div						06	10	19	06	-03	04	02	22	02	-06	-10	00	01	-01	04	27	05	05	-05
7 Par marr							-17	-06	02	05	01	-08	-07	02	-01	08	06	05	-02	-13	-04	-07	-02	-08
8 Chld curr								22	03	05	-04	08	12	-02	-09	-25	-03	03	16	20	35	27	23	14
9 Chld prev									07	-04	-12	01	23	00	-02	-13	-02	-03	11	14	16	07	05	-00
10 Distress										12	05	01	01	05	-19	-31	-22	-14	08	32	06	37	21	17
11 Alcohol											07	03	10	-08	01	-02	-07	-05	03	09	05	09	15	11
12 Porn al												30	08	-01	0	-02	-07	-02	06	10	00	07	02	05
13 Porn tog													08	-12	14	05	04	03	06	05	11	06	16	10
14 Sex part														-08	02	-13	-05	-04	05	08	15	03	07	-03
15 Sex freq															-39	-10	-04	02	00	00	-03	05	-00	-05
16 Sex satis																40	32	09	-11	-17	-08	-32	-16	-05
17 Rel satis																	53	24	-20	-40	-10	-50	-24	-11
18 Dedie																		43	-07	-25	11	-27	-07	-08
19 Mar pln																			-02	-19	24	-08	12	07
20 Part ESI																				36	05	25	19	07
21 Suspicion																					00	47	22	12
22 Cohab																						19	27	11
23 Comm																							55	31
24 Psy agg																								45
25 Phy agg																								

Notes. Decimals have been removed. Correlations .07 or above are significant ($p < .05$).