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Abstract

According to major theories of behavioral prediction, the most proximal psychological predictor of an individual's behavior is that individual's intention. With respect to interdependent behaviors such as condom use, however, relationship dynamics influence individuals' power to make decisions and to act. **OBJECTIVE:** The current study examines how relationship dynamics impact three condom use relevant outcomes: (1) the individual forming his/her own intention to use condoms, (2) the couple forming their joint intention to use condoms, and (3) actual condom use behavior. **METHODS:** We conducted a two-wave longitudinal study of young heterosexual adult couples at high risk for HIV infection involving the collection of both individual- and couple-derived data. **RESULTS:** Results demonstrate the importance of both person (e.g., biological sex and dispositional dominance) and relational (e.g., relational power and amount of interest in the relationship, operationalized as commitment and perceived alternatives to the relationship) factors in predicting condom use intentions and behavior. Individuals who are lower in dispositional dominance are likely to incorporate their partner's intentions into their own individual intentions, the intentions of individuals who have less interest in the relationship are more highly predictive of the couple's joint intention, and the intentions of men and individuals higher in relationship power are more likely to exert a direct influence on condom use. **CONCLUSIONS:** These findings have implications for improving the health of high-risk individuals, including suggesting situations in which individuals are highly influenced by their partners' intentions.

Keywords: interdependent behavior, behavioral prediction, power, condom use

Whose Intentions Predict? Power over Condom Use within Heterosexual Dyads

Sexually transmitted infections (STIs) are a major public health challenge. CDC estimates that there are 19 million new infections in the US each year, over half of which occur in young adults aged 15-24 years, with much higher rates of reported infections among racial and ethnic minority groups (i.e., black and Hispanic) than among whites (CDC, 2008). Consistent use of condoms can prevent STI acquisition and much research has been conducted on the individual factors that influence individuals' intentions to use condoms (see Sheeran & Taylor, 1999 for a review). These factors, although influential in understanding an individual's *own intentions*, may not necessarily be helpful in predicting whether the individual will *use* a condom with his or her sexual partner.

There can be discrepancies between an individual's professed intention to perform a behavior and actual subsequent enactment of that behavior. Despite being performed by individuals, many behaviors require the cooperation or co-action of other people (Agnew, 1999). Such behaviors are characterized by outcome interdependence, in which individuals control each other's rewards and costs (Kelley, 1983; Rusbult & Van Lange, 2003). Dyadic behaviors are a function of both the characteristics of the individual partners (i.e., person factors; see Sheeran & Taylor, 1999 for a review) and emergent relationship dynamics (i.e., relationship factors; Grady, 2010; Billy, Grady, & Sill, 2009; Karney, Hops, Redding, Reis, Rothman, & Simpson, 2010). In the current study, we examined both person and relationship factors as predictors of power over condom use intentions and behavior in a longitudinal study of young heterosexual adult couples at high risk for HIV infection to understand when and which of these predictors are influential.

Behavioral Intentions and the Prediction of Behavior

Arguably the most highly utilized models in the prediction of behavior are the theory of reasoned action (Fishbein & Ajzen, 2009; Fishbein & Ajzen, 1975) and the theory of planned behavior (Ajzen, 1985). Both theories hold that an individual's intention toward a behavior is the most proximal predictor of that behavior (for reviews, see Albarracin et al., 2001; Sheeran & Taylor, 1999) and both theories have been used extensively to help understand sexual behaviors, including condom use (e.g., Agnew, 1998). However, condom use is an inherently interdependent behavior, and as such, there are two individuals' intentions to consider when predicting action. Consistent with this, past research has shown that the views of one's sexual partner are particularly influential in forming individual intentions regarding condom use (Albarracin et al., 2001; Kashima, Gallois, & McCamish, 1993; Sheeran & Taylor, 1999). In the current research we examined how the two partners influence each other with regard to condom use.

Predicting Power in Sexual Dyads

In work examining condom use, several person factors have been identified as important predictors, including biological sex. There is some evidence to suggest that men are generally more influential than women with regard to decisions regarding sexual behavior (Rosenthal & Levy, 2010). For a host of sexual behaviors, including condom use, men's intentions are typically found to be more predictive of the couple's joint intentions than are women's intentions (Agnew, 1999; Gerrard, Breda, & Gibbons, 1990). Additionally, condom use is a coitus-dependent contraceptive method that is associated with the male partner's ability and willingness to enact. In other words, for a man, condom use is a behavior that he can enact in line with his own intention, whereas for a woman, condom use is more akin to a goal. Indeed, past research

has found that men's intentions are more predictive of actual condom use than are women's (Agnew, 1999).

Two constructs that relate to the need and ability to control the behavior of others are dispositional dominance and relational power. The former is a person factor related to the need to control the behavior of others (Feist, 1994). The latter refers to the extent to which one partner holds decision-making dominance over another (Emerson, 1981), and as such is a characteristic of relationships rather than of individuals (Karney et al., 2010). Logically, the partner lower in dispositional dominance or relational power should be more likely to yield to their partner's influence with regard to condom use (Karney et al., 2010). Paradoxically, however, in past research it was the partner with relatively lower dominance that was more influential in forming the couple's joint intention, and neither the higher nor lower dominance couple member's intention was clearly superior in the prediction of actual condom use (Agnew, 1999). Using a relationship-specific measure of dominance (i.e., relational power), however, past cross-sectional research has found that the partner with greater relational power impacts many aspects of sexual behavior, including safer sex negotiation (Grady, 2010; Pulerwitz, Gortmaker, & DeJong, 2000). This suggests that dominance may be important to measure with regard to the relationship specifically. Moreover, it may be the case that low dominance individuals may incorporate their partners' intention into their own.

Individuals in sexual dyads may also differ with regard to how dependent they are on that relationship to fulfill particular needs (e.g., needs for intimacy, for security, etc.; Drigotas & Rusbult, 1992). According to the principle of least interest (Waller & Hill, 1951), the relationship partner who relies more heavily on the relationship for need fulfillment is likely to yield power to the partner (Agnew, 1999; Sprecher, 1985; Sprecher, Schmeekle, & Felmlee, 2006). Two

constructs related to this principle are relationship commitment and relationship alternatives. Commitment involves the factors that cause individuals to stay in their relationships (Arriaga & Agnew, 2001; Rusbult, 1980), whereas alternatives are the perceived sources through which individuals' needs could be fulfilled outside of their current relationships (Kelley, 1983; Rusbult, Martz, & Agnew, 1998; Rusbult, Agnew, & Arriaga, 2012). Partners with lower commitment and higher alternatives may have disproportionate influence on a couple's condom use decision because they have less to lose should the relationship end and may more readily leave their relationships if they do not "get their way."

The Current Study

We examined which predictors of power over condom use are important to three related condom use outcomes. First, we examined which predictors were influential in impacting an individual's own intention, hypothesizing that individuals low in dispositional dominance and in relationship power would incorporate their partners' intentions into their own intentions. Next, we examined which variables were associated with identifying which partner's individual intention was more predictive of the couple's jointly agreed upon intention. We hypothesized that relational factors (amount of interest in the relationship) would be associated with one partner's intention being more highly associated with the couple's intentions than the other's. Finally, we examined what variables predicted which partner's individual intention was more associated with the couple's actual subsequent condom use. Again, we hypothesized that person (biological sex) and relational factors (relationship power) would lead to one partner's intention being more predictive of the couple's condom use.

Method

Participants and Design

Participants were recruited as part of the Project on Partner Dynamics (POPD). POPD is a longitudinal study that examines relationship dynamics within the heterosexual involvements of men and women of reproductive age (between 18-30 years old) at high-risk for HIV infection.¹ The overall objective of the project is to improve understanding of the influence of relationship dynamics on sexual risk perceptions, intentions, and behaviors. Participants were recruited from clinics and community locations in East Los Angeles, California, and completed four in-person interviews at four-month intervals over the course of one year. For the third in-person interview, participants were invited to bring a current sexual partner to take part in the study. If the relationship was still intact and the partner agreed, the participant and partner returned together for the fourth in-person interview. The data used in the current study come from these sessions (referred to in the current study as Time 1 and 2, respectively) and include only those participants who brought a sexual partner to the third interview and also participated in the fourth interview (with or without their sexual partner). One hundred thirteen heterosexual dyads ($N = 226$ individuals) met these criteria.

At Time 1, we adopted a previously used method (Agnew, 1999) in which couple members come to a lab session together and are initially separated from one another to provide their own individual responses to measures of interest (see Time 1 Measures below). Then, without previous knowledge that they will be brought back together, couple members are reunited and asked to decide and report their joint intention to use condoms. Specifically they were told, “The two of you have already considered each of the following questions alone, as individuals. Now we'd like you to decide your responses working together, as a couple. Decide between the two of you what your responses will be to each question. Use whatever strategy you wish to complete the questions, as long as both of you work together to come up with a

response.” Finally, as we were also interested in actual behavior, at Time 2, couples reported on their condom use since the initial session.

Participants' and their partner's ages ranged from 18 to 51 years ($M = 23.98$, $SD = 5.12$, Median = 23), and the majority indicated that they were involved in an exclusive dating relationship (57.8%, with 10.2% dating casually, 5.3% just friends, 12.4% engaged to be married, 9.8% married, and 4.5% other). The average duration of their sexual relationship was 23.32 months at Time 1 ($SD = 24.8$, Median = 14). With regard to racial/ethnic composition, the sample was composed of roughly equivalent numbers of participants who identified as White, Black, and Hispanic (30.5%, 26.6%, and 23.9%, respectively, with 12.8% multi-racial and 6.2% other).

Time 1 Measures

At Time 1, we collected several measures intended to tap the constructs hypothesized to influence which partner's intention is more highly related to the couple's intentions and behavior. To measure dispositional dominance, all participants individually completed the revised California Personality Inventory dominance subscale (Gough, 1986). This subscale consists of 36 true/false items such as, “I like to give orders and get things moving.” The internal consistency of this scale was acceptable ($\alpha = .70$), with higher values indicating greater dominance. To measure relational power, all participants individually completed an eight-item version of the Sexual Relationship Power Scale (Pulerwitz et al., 2000). This scale includes items such as, “Most of the time, we do what my partner wants to do.” All relational power items employed a four-point rating scale ranging from 1 (“strongly disagree”) to 4 (“strongly agree”). We reverse-coded this scale so that high values on the scale indicate having high power relative to the partner. The internal consistency of this scale was high ($\alpha = .99$). Next, to measure amount

of interest in the relationship, all participants individually completed the seven-item commitment subscale and the five-item alternatives subscale of the Investment Model Scale (IMS; Rusbult et al., 1998), which includes items such as “I am committed to maintaining my relationship with my partner,” and “My alternatives are attractive to me (dating another, spending time with friends or on my own, etc.).” All commitment and alternatives items employed a nine-point response scale ranging from 0 (“do not agree at all”) to 8 (“agree completely”). After reverse coding responses to the alternatives items, we combined the two scales to create a composite measure of amount of interest in the relationship with high values indicating greater interest in the relationship. Consistent with past findings of the two individual scales (Rusbult, Martz, & Agnew, 1998), the internal consistency of this composite was high ($\alpha = .85$).

To measure individual’s condom use intentions, we employed a four-item measure used in past research (Agnew, 1999) that contains items such as, “I intend to use a condom during sexual intercourse over the next four months,” and “I will make an effort to use a condom during sexual intercourse over the next four months.” These items were each rated on a five-point scale ranging from 1 (“definitely not”) to 5 (“definitely”), so high values on this scale indicated high intention to use condoms. The same items were used to measure couple condom use intention, with the wording of the items changed slightly to match the task. Specifically, all singular personal pronouns were changed to plural personal pronouns (e.g., “We will make an effort to use a condom during sexual intercourse over the next four months.”) Both scales evidenced high internal consistency (individual $\alpha = .89$; couple $\alpha = .88$). Finally, participants individually answered demographic questions about themselves, their partner, and the relationship, including questions about age, gender, race/ethnicity, and relationship duration.

Time 2 Measures

Approximately 4 months later, at Time 2 we assessed condom use over the previous 4 months by asking the sexual dyads to jointly report how many times they had intercourse since the previous session, and during how many of those times they used a condom. For our measure of condom use, we coded their responses as a ratio of protected acts of intercourse to total acts of intercourse, ranging from 0 – 1. In the majority of cases, both members of the sexual dyad participated at Time 2 ($n = 76$ dyads), but in some instances, only the main study participant returned for the Time 2 session ($n = 37$). When only the main study participant returned, we used that individual's report of condom use with their partner as our measure of Time 2 condom use. For the 76 dyads that did participate together at Time 2, the dyads' estimates of condom use were highly correlated with the main study participant's individual reports ($r = .86$), giving us confidence in the accuracy of the individual reports. Moreover, the 37 individuals who participated alone at Time 2 did not differ significantly on Time 1 measures from the 76 individuals who participated along with partners at both sessions.²

Results

Descriptive Analysis of the Sample

Prior to testing predictors of condom use intentions and behavior, we first examined descriptive information regarding the sample. At Time 1, participants evidenced moderate levels of both individual intention to use condoms ($M = 2.97$, $SD = 1.49$, *Scale Range*: 1-5) and couple intention to use condoms ($M = 3.02$, $SD = 1.53$, *Scale Range*: 1-5). The two partners' individually held intentions were moderately correlated with each other ($r = .56$). With regard to predictors, the mean level of dispositional dominance was low ($M = 0.29$, $SD = 0.14$, *Scale Range*: 0-1), whereas the levels of both relational power ($M = 2.01$, $SD = 0.42$, *Scale Range*: 1-4)

and interest in the relationship ($M = 5.25$, $SD = 0.91$, *Scale Range*: 0-8) were near the scalar midpoints.

At Time 2, participants reporting engaging in about 38 acts of intercourse with their partner across the previous four months ($M = 37.68$, $SD = 36.15$, *Median* = 30, *Range*: 1-200). They reported having used condoms in roughly one-third of their acts ($M = 0.37$, $SD = 0.40$, *Scale Range*: 0-1). Sixteen percent of couples reported using condoms every time they had intercourse between Time 1 and 2, whereas 36.4% reported never using condoms.

To test our hypotheses, we examined models predicting three outcomes: individual condom use intention at Time 1, couple condom use intention at Time 1, and condom use at Time 2. In the case of individual condom use intention, we were interested in moderators of the association between an individual's own intention to use condoms and his or her partner's intention to use condoms (i.e., under which conditions the association is particularly strong versus weak), whereas for couple condom use intention and condom use, we were interested in what predicts which of the partners' individually held condom use intentions explains more variance in the outcome.³ Please note that throughout the results, b refers to an unstandardized coefficient, whereas β refers to a standardized coefficient.

Predictors of Individual Condom Use Intention at Time 1

Data Analysis Strategy. To predict individual condom use intention, both the predictor and outcome variables were collected from the two partners individually. As such, these data have two levels; the individual partners are at level 1, nested within the dyads at level 2. We analyzed these data using multilevel modeling to avoid overestimating the shared variance of the individual reports. In all models, an individual's own intention to use condoms was predicted by his or her partner's intention to use condoms, both partners' predictors of interest (i.e., biological

sex, relational power, dispositional dominance, or amount of interest), and the interaction of his or her partner's intention and the predictors. A significant interaction in these models would indicate that the predictor influenced how influential the partner's intention was in the individual's own intention.

With regard to the predictors of interest, we are concerned with the two partner's relative levels (e.g., whether one partner is high or low on dominance or relational power *relative* to his or her partner). Biological sex and relational power are measured in such a way that they tap the partners' relative levels directly (i.e., biological sex is necessarily the opposite of the partner's as ours is an exclusively heterosexual sample; relational power is reported *relative to the partner*). As such, including the relative level of the predictor in a model involves including only one partner's estimation of the predictor. Concretely, let *AIntent* be an individual's own intention to use condoms, *BIntent* be his or her partner's intention to use condoms, and *APower* be the individual's perception of his or her power relative to his or her partner's. The multilevel model tested to examine whether relative power affects how influential the partner's intention is in the individual's own intention is:

$$AIntent = b_0 + b_1(BIntent) + b_2(APower) + b_3(BIntent * APower)$$

In such cases, a significant *b3* coefficient indicates that the association between an individual's own intention to use condoms and his or her partner's intention to use condoms is moderated by relative levels of power.

Dispositional dominance and amount of interest are measured in such a way that they tap an individual's level independent of his or her partner (i.e., both are individual-level variables that do not require individual's to reflect on their level relative to their partner's). In these cases, including the relative level of the predictor in a model involves including an interaction term

between the two partners' levels. Concretely, let $AIntent$ be an individual's own intention to use condoms, $BIntent$ be his or her partner's intention to use condoms, $ADom$ be the individual's own level of dominance, and $BDom$ be his or her partner's level of dominance. The multilevel model tested to examine whether relative dominance affects how influential the partner's intention is in the individual's own intention is:

$$AIntent = b_0 + b_1(BIntent) + b_2(BDom) + b_3(ADom) + b_4(BIntent * BDom) + b_5(BIntent * ADom) + b_6(BDom * ADom) + b_7(BIntent * BDom * ADom)$$

In this case, a significant coefficient for b_7 indicates that the association between an individual's own intention to use condoms and his or her partner's intention to use condoms is moderated by the relative levels of dominance.

Hypothesis testing. We began hypothesis testing by examining which of our predictors were influential in impacting an individual's own Time 1 intention, hypothesizing that individuals low in dispositional dominance and in relationship power would incorporate their partners' intentions into their own intentions. We began by examining the variables in which the interaction of note is a two-way interaction. First, we examined the influence of biological sex, and found there was no significant interaction between sex and partner's intention when predicting the individual's intention ($t = -0.48, ns$). There was, however, a significant two-way interaction between relative relationship power and partner's intention when predicting the individual's intention ($t = -2.33, p < .05$). To probe this interaction, we tested the simple slopes of the individual's relative power at one standard deviation above and one standard deviation below the mean (Aiken & West, 1991). As expected, the slope for participants with high power relative to their partner was not significant ($b = 0.24, t = 1.48, ns$), whereas the slope for participants with low power relative to their partners was ($b = 0.52, t = 7.55, p < .001$). This

indicates that partner's intention was most predictive of the individual's own intention when the individual had low power relative to his or her partner.

Next, we examined the influence of the variables in which the interaction of note is a three-way interaction. We began by examining the impact of dispositional dominance. This three-way interaction was significant ($t = -3.11, p < .01$). To probe this interaction, we tested the simple slopes of partner's dominance at one standard deviation above and one standard deviation below the mean for participants one standard deviation above and one standard deviation below the mean on own dominance using procedures recommended by Aiken and West (1991) and elaborated by Preacher and colleagues (2006). As expected, the strongest slope (i.e., the conditions under which partner's intention was most predictive of the individual's own intention) was evidenced when partner's dominance was high and the individual's dominance was low ($b = .85, t = 7.41, p < .001$). The second strongest slope was evidenced when both partners' dominance was low ($b = .69, t = 6.20, p < .001$), followed by when the partner's dominance was low and the individual's dominance was high ($b = .63, t = 6.21, p < .001$). Interestingly, the slope was not significant when both partners' dominance was high ($b = .15, t = 1.29, ns$).

Finally, we examined the influence of interest in the relationship. The three-way interaction for amount of interest was not significant ($t = 0.13, ns$).

Predictors of Couple Condom Use Intention at Time 1 and Condom Use at Time 2

Data Analysis Strategy. Both couple condom use intention and condom use were measured at the couple level, so multilevel modeling is not necessary for these outcomes. Prior to analyses, we created the variables necessary to enter into general linear models to determine which of the two partners' intentions to use condoms was a stronger predictor of the outcome. We used an identical procedure for the four predictors, but for clarity, we will describe the

procedure specifically with regard to dominance. Please see Table 1 for the results of all analyses conducted using this procedure. To begin, we structured the dataset such that there was one row of data for each dyad that included the individual data for both partners and the outcomes. Using the two partners' individual reports of their own level of dominance, we determined which of the two partners in each dyad was higher in dominance and which one was lower in dominance. We then created two new variables, one for the high dominance partner's intention and one for the low dominance partner's intention, into which we recoded the partners' individually held intentions to use condoms. Concretely, the intention to use condoms of the partner with higher dominance relative to his or her partner was recoded into a variable called "hidomintent," or 'high dominance condom use intention', whereas his or her partner's intention was recoded into a variable called "lodomintent," or 'low dominance condom use intention'. We then simultaneously entered these two variables into general linear models predicting either the couple's joint condom use intention or actual condom use behavior. The model tested in these analyses is as follows:

$$\text{Outcome} = \beta_0 + \beta_1(\text{hidomintent}) + \beta_2(\text{lodomintent})$$

To determine the relative contribution of each member toward the couple's jointly-expressed intention, we conducted a relative weight analysis, a procedure for estimating the relative importance of correlated predictors in a regression equation (Johnson, 2000; Tonidandel, LeBreton, & Johnson, 2009). Relative weights express "the proportionate contribution each predictor makes to the squared multiple correlation coefficient when that coefficient is expressed as the sum of contributions from the separate predictors," (p. 2; Johnson, 2000). Importantly, this approach yields a statistic that can be used in comparisons even when the predictors share some

degree of correlation, whereas the comparison of standardized regression coefficients is biased in the presence of correlated predictors (Tonidandel, LeBreton, & Johnson, 2009).

Hypothesis Testing. We began by examining which variables were associated with the partner's individual intention that more predictive of the couple's jointly agreed upon intention. We hypothesized that relational factors (those tapping the interest in the relationship) would be associated with one partner's intention being more highly associated with the couple's intentions than the other's.

First, when tested in the same model, we found that the individual intention of both the male partner ($\beta = .48, t = 9.38, p < .001$) and the female partner ($\beta = .52, t = 10.12, p < .001$) were associated with the couple's joint condom use intention. Results from relative weight analysis indicated that males' intentions contribute 45.6% of the variance, whereas females' intentions contribute 54.4%. We computed 95% confidence intervals around these point estimates using 5000 Bootstrapping resamples to determine whether these relative weights differed significantly from each other (Johnson, 2004; Lorenzo-Seva, Ferrando, & Chico, 2010). Results revealed that the prediction afforded by the intention of the males (95% CI: $37.1 \leq x \leq 60.8$) and the females (95% CI: $39.2 \leq x \leq 62.9$) did not significantly differ (see Table 1).

Next, when tested in the same model, results from multiple regression analyses indicated that the intentions of both the partner higher in dominance ($\beta = .55, t = 10.47, p < .001$) and the partner lower in dominance ($\beta = .46, t = 8.72, p < .001$) were associated with the couple's joint condom use intention. Results from the relative weight analysis indicated that the condom use intention of the partner higher in dominance contributed 58.9% to the variance in couple intention (95% CI: $42.0 \leq x \leq 67.0$), whereas the intention of the partner lower in dominance

contributed 41.1% (95% CI: $33.0 \leq x \leq 58.0$). As the confidence intervals around these estimates partially overlapped, these two relative weights did not significantly differ (see Table 1).

When the intentions of the partner higher in relational power and the intentions of the partner lower in relational power were tested in the same model, results from multiple regression analyses indicated that the intentions of both the partner higher in power ($\beta = .66, t = 12.80, p < .001$) and the partner lower in power ($\beta = .34, t = 6.49, p < .001$) were associated with the couple's joint condom use intention. Results from the relative weight analysis indicated that the condom use intention of the partner higher in power was more highly associated with the couple's intention, contributing 62.7% to the R^2 statistic (95% CI: $52.4 \leq x \leq 74.6$), whereas the intention of the partner lower in power contributed 37.3% (95% CI: $25.4 \leq x \leq 47.6$). These two confidence intervals did not overlap, and as such, the intention of the partner higher in power contributed significantly more to the jointly held intention than did the partner lower in power.

Focusing on interest in the relationship, when tested in the same model, the intentions of both the partner with less interest ($\beta = .63, t = 12.38, p < .001$) and the partner with greater interest ($\beta = .37, t = 7.26, p < .001$) were associated with the couple's joint condom use intention. Results from the relative weight analysis indicated that the condom use intention of the partner with less interest contributed 61.1% to the R^2 statistic (95% CI: $52.0 \leq x \leq 73.5$), whereas the intention of the partner higher in interest contributed 38.9% (95% CI: $26.5 \leq x \leq 48.0$). These two confidence intervals did not overlap, and as such, the intention of the partner with less to lose should the relationship end contributed significantly more to the couple jointly-held intention than did the partner with more to lose (see Table 1).

We next turned our focus to predicting Time 2 condom use, examining what variables predicted which partner's individual intention was more associated with the couple's actual

subsequent condom use. We employed the same procedure as before, in which we first examined whether both partners' intentions predicted the outcome when tested in the same model, then followed that with relative weight analysis to examine whether the two afforded differential prediction. Results from the relative weight analyses indicated that none of the predictors afforded statistically different contribution to the R^2 statistic (e.g., male and female intention afforded the same amount of prediction). See Table 1 for complete results.

Predictors of Condom Use at Time 2 Controlling for Couple Condom Use Intention at Time 1

Finally, as an additional test of how much individual intentions contribute to couple condom use, we ran multiple regression models in which the couple's Time 2 condom use behavior was predicted by both couple members' individual Time 1 intentions to use condoms, controlling for the couple's Time 1 jointly-derived condom use intention. If an individual's intention exerts an influence on behavior above and beyond the impact of the joint intention and his or her partner's intention, we can conclude that that partner's condom use intention is more influential in the couple's condom use behavior than is his or her partner's, and that the influence exerted at this time is unique from the influence exerted on the couple intention.

We began by examining the effect of biological sex. When tested concurrently, results from multiple regression analyses indicated that the intention of the male partner was significantly associated with condom use ($\beta = .36, t = 2.95, p < .01$), above and beyond the effects of both the female partners' intentions ($\beta = .03, t = 0.26, ns$) and the couples' joint intentions ($\beta = .42, t = 2.45, p < .05$). With regard to dominance, the intention of the partner higher in dominance was significantly associated with condom use ($\beta = .30, t = 2.17, p < .05$), above and beyond the effects of the intentions of both the partner lower in dominance ($\beta = .09, t = 0.74, ns$) and the couple collectively ($\beta = .43, t = 2.40, p < .05$).

Next, we examined the impact of relationship power. Results from multiple regression analyses indicated that the intention of the partner higher in relational power was significantly associated with condom use ($\beta = .45, t = 2.66, p < .01$), above and beyond the effects of the intentions of both the partner lower in relational power ($\beta = .09, t = 0.47, ns$) and the couple collectively ($\beta = .28, t = 1.38, ns$).

Amount of interest in the relationship did not significantly differentiate the partners' intentions. Results indicated that the intention of neither the partner with greater interest ($\beta = .21, t = 1.44, ns$), nor lesser interest ($\beta = .20, t = 1.68, ns$) was significantly associated with condom use above and beyond the effect of the couple collectively ($\beta = .41, t = 2.27, p < .05$).

Discussion

There have been numerous studies suggesting that the theories of reasoned action and planned behavior are suitable frameworks for understanding condom use. These theories and applications primarily focus on predictors within the individual of that *individuals'* condom use intentions. However, condom use is an inherently interdependent behavior requiring the coaction of two individuals (Agnew, 1999). As such, it was the goal of the current study to extend past work to determine what relationship and dyadic characteristics would predict the individual's condom use intention, as well as when and whose individuals' intentions would best predict both a couple's jointly determined condom use intentions and their subsequent actual condom use. As expected based on past work examining these predictors, all four of the predictors of condom use we examined (i.e., biological sex, dispositional dominance, relational power, amount of interest in the relationship) influenced some condom use outcome. Interestingly, though, no one predictor had the greatest influence for every outcome. Our findings highlight the importance of understanding the process a couple engages in when deciding whether to use condoms, as

interventions aimed at enhancing the benefit or downplaying the risk associated with any one predictor may not impact the entire decision-making process.

Beginning with those factors that influenced the individuals' own intentions directly, we found that both dominance and relational power impacted the association between the partner's intention and the individual's own intention. With regard to dominance, the partner's intention was most predictive of the individual's own intention when the individual's dominance was low. This association held even when the partner's dominance was also low, indicating that it is the individual's own level of dominance, rather than the partner's, that predicts how influential the partner's intention will be for the individual forming his or her own intention. This is in line with past research on subjective norms indicating that some individuals, namely those low in dispositional dominance, are normatively controlled (i.e., they are more susceptible than average to others' influences; Trafimow & Finlay, 1996). The results regarding relationship power corroborate the notion that within relationships, dynamics exist such that one individual's intention may be influenced directly by their partner's. With regard to power, we found that the association between the partner's intention and the individual's own intention was stronger when the partner's power was high relative to the individual's power.

We also examined factors that might influence which partners' intention was more highly associated with the couple's joint intention. As the results from our first aim emphasize, there is some degree of correlation between the two partners' condom use intentions ($r = .56$), but we believed this correlation was not so high as to preclude differential prediction of joint outcomes by the two partners' intentions. Indeed, we found evidence that there were situations where the two partners evidenced sizable discrepancies in terms of influence, with the largest discrepancies between the partners coming with regard to relationship power and our measure of interest in the

relationship, which was a combination of commitment level and perceived quality of alternatives. The intentions of the partners with less to lose if the relationship should end (i.e., the partner lower in commitment/higher in alternatives) were more predictive of couples' joint intentions than were their partners'. This is in line with the theorizing guiding the principle of least interest, which holds that it is the partner with less to lose in a negotiation that wields greater power over the negotiation (Sprecher, 1985; Waller & Hill, 1951). These individuals did not necessarily have submissive partners (i.e., these characteristics did not impact how influential their intentions were on their partners' intentions), nor did they exert a direct form of power over the behavior (i.e., these characteristics did not greatly differentiate those partners whose intention was highly correlated with behavior from those whose did not). Instead, it seems the principle of least interest holds the greatest predictive value in determining which partner will benefit most when the two partners must reconcile their potentially diverging intentions into a joint intention.

Next, we examined factors that might influence which partners' intention was more highly associated with the couple's behavior. We found that both partners' intentions were similarly influential toward the couple's behavior when tested concurrently without considering the couple condom use intention. Including couple condom use intention in a model permits greater understanding of whether there are predictors of condom use that afford prediction above and beyond what the couple has decided to do together. This is useful as it suggests there may be circumstances where, even after coming together and making a decision, one member of the dyad can control the joint outcome. Indeed, we found evidence that men, individuals higher in dispositional dominance, individuals higher in relationship power, and individuals with the least interest in the relationship exerted greater impact on behavior than did their partners after controlling for couple condom use intention. Because condom use is a male-dependent method,

it is logical that the male partner can influence the enactment of the behavior directly. Past research has also shown biological sex to be a predictor of power over condom use (Agnew, 1999; Grady, 2010). We found, however, that it does not impact how influential the individual's intention is in affecting either the partner's or the couple's intention.

Notably with regard to the predictors of behavior, we found that couple intention was also a significant predictor of the behavior even after controlling for both individual partners' intentions, with one exception. When examining relational power, we found that the couple's condom use intention failed to predict condom use after controlling for the intention of the partner with greater relational power. This finding is interesting, as it suggests that there are instances when a partner will influence the behavior directly, regardless of how they have influenced or been influenced during previous stages of the decision-making process. That this predictor is relationship power is interesting, as well, as the intentions of individuals high in relationship power were not only highly predictive of their couple's joint intention, but also their partners' individual intentions. These results suggest that relationship power is a construct of particular importance in predicting couple decision-making with regard to condom use, and that the partner with greater relationship power can influence decisions at more than one stage of the process.

Strengths and Limitations

Notable strengths of this work lie in the data collection, including the unique method and high-risk, non-exclusively college student sample. To our knowledge few studies have examined heterosexual condom use with data from both partners longitudinally (for an exception see Yamazaki, Strobino, & Ellen, 2010). Importantly, ours examines these issues in a sample that is at high risk for HIV acquisition, which is a population among which these issues are especially

important. The study design allowed us to examine three distinct outcomes that are important in the condom use decision-making process. Because we tracked each dyad through each of these outcomes, we were able to see when in the process particular attributes of the partners and relationship gained importance in prediction. Furthermore, by using a sample comprised of roughly equal numbers of White, Black, and Hispanic participants, we feel more confident regarding the generalizability of our findings across racial and ethnic groups. Whereas there is indeed work examining the condom use attitudes and intentions of members of all racial groups, there are few studies in which a sample includes sizable numbers of more than one group simultaneously (Sheeran & Taylor, 1999).

This study is not without limitations. For example, for some analyses (i.e., predicting couple intention and behavior) we dichotomized continuous predictors in order to characterize the couple members as either “higher” or “lower” on a particular attribute relative to his or her partner. Ideally, we would have conducted all analyses with continuous predictors, as we did when predicting the individuals’ intentions (i.e., in multilevel analyses with interaction terms between the two partners’ levels of the attribute and intention predicting the outcome). Statistically, however, this is currently impossible. Multilevel models require the outcome to be on the lowest level of analysis, which, in the case of dyadic data such as ours, is the individual. As such, the outcomes of couple intention and couple behavior could not be submitted to this type of analysis. Because of this, there are likely couples in the sample where the “high” partner and the “low” partner differ minimally on the attribute in question. This is a conservative bias, of course, which one might expect to limit our ability to uncover significant findings. As such, we feel confident that our significant results were not caused by this statistically-imposed limitation.

Additionally, as we recruited partners through the index participant enrolled in our longitudinal study, participants had to convince their partners to participate in the study. Several eligible partners did not participate, which suggests that some men and women would not or could not encourage their partners to join the study. Alternatively, individuals in new or less stable relationships may have been more hesitant to talk to their partners about the study. Thus, our results may be limited to more stable couples in which both members have some commitment to the continuation of the relationship.

Conclusion

Examining how person and relationship factors influence power over three important condom use outcomes (i.e., individuals' intentions, couple's intention, behavior), we found that different attributes impact different parts of the decision to use or not use condoms. This work has several important implications for improving the health of high-risk individuals, including suggesting what relationship dynamics give rise to individuals failing to have influence over their own safer sex behaviors. Individuals who are low in dispositional dominance are likely to incorporate their partner's intentions into their own individual intentions, the intentions of individuals who are less dependent on the relationship for need fulfillment are more highly predictive of the couple's joint intention, and finally, the intentions of men and individuals high in relationship power are more likely to exert a direct influence on condom use behavior. Future work aimed at increasing condom use would benefit from considering that different influencing factors arise at each stage of the decision-making process, and that individuals' intentions vary in their predictive validity as a function of these factors.

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Notes

¹ Eligibility criteria included the following: 1) 18 to 30 years old; 2) engaged in unprotected vaginal or anal sex within the past three months; and 3) reported at least one of the following: (a) more than one sexual partner in the past year; (b) treatment for an STI during the past 2 years; (c) ever used injection drugs; (d) for women only, ever had sex with a man who had sex with men; (e) ever had sex with someone who used injection drugs; (f) ever had sex with someone who was HIV+; (g) had sex during the past year with someone who had an STI; (h) had or have a partner who has had sex with someone else during the past year; and (i) had or have a partner who they suspected or suspect may have sex with someone else in the next year while they were or are still together. We selected these criteria because they identified individuals who were currently at increased risk of HIV/STIs, those whose prior behavior put them at increased risk, and those who may be at increased risk in future. These and similar criteria have been used in other studies to enlist men and women at increased risk for HIV.

² By Time 2, 11 of the 113 couples had dissolved their relationships. Data regarding condom use at Time 2 for the dissolved relationships was still collected from the participant. Regardless of Time 2 status, the data from all 113 couples are included in all analyses. Removing those participants whose relationships dissolved between Time 1 and Time 2 from analyses does not change the overall pattern of results or levels of significance of the reported tests.

³ All results presented in this paper were derived from models that did not include covariates. When controlling for the effects of condom use at Time 1, relationship status at Time 1 (exclusive vs. casual), and relationship duration at Time 1, the patterns of results and significance levels remained consistent with those presented throughout this paper. Complete results can be obtained from the first author.

Table 1

Predictors of Couple Condom Use Intention at Time 1 and Condom Use at Time 2

	Outcome: Couple Condom Use Intention at Time 1			Outcome: Condom Use at Time 2		
	β	Relative Weight	Relative Weight 95% C. I.	β	Relative Weight	Relative Weight 95% C. I.
Model 1: Sex						
Male Partner	.48***	45.6%	37.1 - 60.8	.58***	59.3%	35.9 - 78.4
Female Partner	.52***	54.4%	39.2 - 62.9	.25**	40.7%	21.6 - 64.1
Model 2: Dominance						
High Dominant Partner	.55***	58.9%	42.0 - 67.0	.56***	60.9%	37.7 - 80.0
Low Dominant Partner	.46***	41.1%	33.0 - 58.0	.27**	39.1%	20.0 - 62.3
Model 3: Power						
High Power Partner	.66***	62.7%	52.4 - 74.6*	.63***	67.0%	40.7 - 85.5
Low Power Partner	.34***	37.3%	25.4 - 47.6*	.18	33.0%	14.2 - 59.3
Model 4: Interest in Relationship						
Low Interest Partner	.63***	61.1%	52.0 - 73.5*	.46***	52.6%	30.2 - 73.2
High Interest Partner	.37***	38.9%	26.5 - 48.0*	.36**	47.4%	26.8 - 69.8

Note. With regard to β : Standardized coefficients derived from multiple regression analyses with both predictors in each model entered simultaneously; *** $p < .001$, ** $p < .01$, * $p < .05$. With regard to Relative Weight: Statistics derived from Johnson's Relative Weight Analysis procedure; * indicates the two predictors evidenced non-overlapping 95% Confidence Intervals (i.e., were statistically different from each other in the amount they contributed to R^2).