

We thank the panel for their constructive comments. New text is in italics and lined in the right margin.

**Peer Influences.** The panel felt we should expand our model in terms of peer influence. We have done so. For example, for each behavior we study (e.g., engaging in unprotected sex), we will assess injunctive norms and descriptive norms [92]. **Injunctive norms** are perceptions of the extent to which important referents approve/disapprove of the behavior. Referents vary in their importance, so assessments also are made of how motivated the adolescent is to comply with the referent in general [92]. **Descriptive norms** are perceived base rates of the behavior among relevant peer groups (e.g., perceptions of how many of one's circle of friends has engaged in the behavior). We will frame such norms using deviance regulation theory [93]. An intriguing facet of our design is that peer variables are assessed independently for both couple members. We can then test if peers of the male member impact couple risk taking more (or less) than the peers of the female member. A reviewer opined that peer friendships are more stable than romantic relationships; Data suggest, however, that peer relationships at this age are unstable. For example, we found that friendship nominations one year earlier had almost no overlap with current nominations in a national sample of youth [94]. The social world of teens (both friends and partners) is dynamic, with most research directed at peers but not partners. This is a huge gap. By integrating partner and peer variables, our research is unique. We thank the panel for this suggestion.

**Transactional Sex.** The panel wanted us to include transactional sex in the study. We will study 16-17 years old youth and it is unclear if transactional sex is frequent enough at this age to study. Current estimates in South Africa are that its prevalence is only 3% in girls and 2% in boys in our age range [95]. Despite these low rates, our study will allow us to study how South African youth view transactional sex, especially in the context of dating and romantic relationships. It also permits us to explore maternal views on the topic. We will add questions to our surveys and qualitative work accordingly. We will probe what youth see as advantages and disadvantages of such sex, their affective reactions to such sex, norms and peer influence surrounding such sex, stigma/image implications of such sex, and efficacy issues. We thank the panel for this suggestion.

**Drug and Alcohol Use.** The panel felt we should include alcohol and drug use constructs in the study. We will do so. We will apply the four-model couple influence framework to study if substance use on the part of the male is more influential than substance use on the part of the female (or vice versa) in determining couple risk behavior. Such dynamics have not been explored and reflect the innovativeness of studying couple members independently. We will adapt measures from Add Health. We thank the panel for this suggestion.

**Age Disparities Between Couple Members.** A reviewer stated that the risk of HIV occurs when the male is 5 years older than the female partner. Some studies find elevated risk for this age disparity, but studies also find non-trivial risk for lesser age disparities (e.g., 16% HIV infection rates in Africa with 0 to 4 yr disparities [96]). Many studies do not replicate the 5 year result [97-98]. Some research finds elevated risk beginning at 3 years [98], but again, with non-trivial risk for smaller disparities. Other studies find no link between disparities and HIV risk in unmarried youth [99]. Age disparity research is inconsistent, suggesting subpopulation differences and it accounts for small amounts of variability in HIV risk when confounds are controlled (e.g., number of partners, relationship status). In response to the reviewer, we will examine if age disparities are associated with risk behavior and document how couple dynamics differ as a function of age disparity.

**Focus on Romantic Relationships.** A reviewer felt the focus on "romantic" relationships was narrow. There is abundant research (cited in the text) that links adolescent romantic relationships to emotional health, social and academic development, future intimate partner violence, unintended pregnancy, and STIs. As noted, we now will study views on transactional sex, which broadens our relationship focus. We do not want to take on more than is reasonable in a single study, spreading our efforts too thin. Our current emphasis on romantic relationships is empirically grounded as participation in them has been shown to greatly raise risk.

**Reliance on Self Reports.** A reviewer expressed concern about use of self reports of sexual activity. The PI has an extensive research program on designing valid self reports of sexual activity. Principles from this research program will be used (see Appendix for articles by the PI). An advantage of couple research is that we obtain independent reports about couple sexual activity from each couple member. We can document disparities between member reports of couple behavior (a validity check). In our pilot work in South Africa, such disparities were minimal. We routinely include social desirability scales in our modeling (see Appendix).

**Parental Recruitment.** A panel member wondered if we can recruit parents into the study. We effectively reached out to **all** parents in our pilot work (parental consent was required). It seems unlikely parents would allow teens to participate in our research but refuse to participate themselves. We have never encountered this in our 35 years of doing this type of research and are confident we will get high parental participation rates.

**Other Matters.** A reviewer asked about community participation. We are working with an established and visible community organization, IMBEWU. Mike Pansi, a member of our team, is a respected and incredibly connected tribal elder who brings community perspectives. As suggested, we will segregate all focus groups by gender. We have added details about (a) process evaluation, (b) justification for a focus on female caregivers, (c) incorporating caregivers into the modeling, and (d) a DSMB. A reviewer felt it may take longer to adapt measures. Based on pilot work, we believe the time is adequate, but we have allocated more time. A reviewer felt studying family context is not novel. We have added text about how our approach is innovative.