Do Men and Women Perceive Sexual Relationships Differently?: Data From Matched Couples on Likoma Island, Malawi

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Abstract
In sub-Saharan Africa, the vast majority of HIV transmissions occur within heterosexual couples, yet population-based couple-level studies are extremely rare. One exception is the Likoma Network Study (LNS), which gathered data from both men and women in 244 married and unmarried matched couples living on Likoma island in Malawi. Using these unique data, we compare men's and women's descriptions of their relationship characteristics as well as their reports about their sexual behaviors. Our (very) preliminary results suggest that men and women, by and large, agree with each other regarding their objective relationship characteristics, but they provide quite divergent reports with respect to sexual behaviors occurring within these relationships. These differences, however, do not conform to gender stereotypes. These findings lend insight into different gender perceptions within couples, while also highlighting the limitations of relying on individual, rather than couple, reports of sexual behaviors.

Introduction
Despite growing recognition that effective HIV prevention programs need to focus on couples rather than individuals, our understanding of couple dynamics and perceptions remains quite limited. In the U.S., studies like Add Health and the Bayview Network Study have started to gather data on population-based, matched, non-marital couples, but such studies are virtually non-existent in Africa (Seal 1997; Yamazaki and Ellen 2007). Instead, along with their expanded inclusion in Demographic and Health Surveys, population-based surveys which interview both husbands and wives in matched married couples are becoming more common. Results from these studies demonstrate the importance of recording both husbands' and wives' perspectives with respect to family planning issues as well as ownership of common household goods (Becker 1996; Miller, Watkins and Zulu 2001; Oheneba-Sakyi and K.Takyi 1997). A small literature has also begun to address married couple's joint reactions to and perceptions of HIV risks (Anglewicz et al. 2006; Lagarde, Enel and Pison 1995; Zulu and Chepngeno 2003). These population-based studies, however, do not include matched unmarried couples. Ethical concerns about the need to respect confidentiality prohibit researchers from directly contacting non-martial sexual partners in population-based surveys. As a result, most couple-level studies of "stable partnerships", which may include some non-marital cohabiting or steady partnerships, typically draw their samples from couples attending STI or VCT clinics (Allen et al. 2003; Hugonnet et al. 2002; van der Straten et al. 2000). While such studies are important, the couples in these studies are often among those at

the highest risk of HIV and do not necessarily represent the full spectrum of unmarried couples.

By conducting a survey of complete sexual networks on one island in Lake Malawi, the Likoma Network Study is among the first studies in Africa to interview both men and women in marital and non-marital unions in the general population. This study provides a rare glimpse into the perception of these relationship characteristics and sexual behaviors by gender. In a context like Malawi where "relationship status" is rarely ever explicitly defined, men and women may perceive their relationship as entailing different levels of commitment. For example, a man may consider a woman with whom he has had long-term, but sporadic, sexual contact to be a "casual partner," while the woman in this same relationship may consider him to be her "steady boyfriend," or *vice versa*. Indeed, even the relationship category, "marriage," may be ambiguous in the Malawian context where many marriages are "unofficial" and rates of marital dissolution and reconstitution are high. We would expect, however, that men and women would give similar reports with respect to more "objective" measures such as when they began having sexual intercourse, how often they have sex, and whether they ever used a condom. The extent to which men and women disagree about their sexual behavior within relationships can lend valuable insight into the magnitude and direction of the reporting bias by both men and women with respect to sexual behaviors.

Data

Data for this study was collected between October 2005 and March 2006 on Likoma island, Malawi. All inhabitants aged 18 to 35 living in seven contiguous villages were asked about all of their romantic and sexual partners in the last three years. Saturation sampling and full census rosters allowed for the anonymous identification and linking of all young adults in this sample. Details of sample collection and matching methods can be found elsewhere (Helleringer and Kohler 2007; Helleringer et al. 2007). A total of 923 participants (501 women and 422 men) were interviewed. Among these respondents 244 matched sexual partnerships (244 men and 244 women) were identified, where both male and female respondents reciprocally identified each other as romantic or sexual partners. If the respondent identified his or her partner as a spouse, questions about this relationship were elicited during a short face-to-face (paper and pencil) interview. Questions about non-marital sexual relationships were asked using an audio and computer assisted program (ACASI) to ensure higher levels of privacy and confidentiality.

Methods

Using data on these 244 matched couples, we compare men's and women's reports of their 1) type of relationship, 2) relationship characteristics, and 3) sexual behaviors. Tables 2 and 3 report the percentage of men's and women's individual responses (marginal probabilities), the percentage of both men and women agreement within a particular response category, and the percentage of "crude agreement." Crude agreement represents the overall level of agreement of men and women in response to a particular

question (the sum of the diagonal cells). Cohen-Kappa statistics are employed to determine whether the actual level of agreement between members of the dyad is significantly higher than the expected level of agreement.

Results

Biases in Traced Relationships

To determine which relationships were most likely to be traced and reciprocal, we first examine the proportion of relationships traced by type of relationship and sex of the respondent. Table 1 shows that, somewhat unsurprisingly, marital relationships were most likely to be traced with over 95% of all spouses who currently reside in Likoma being traces regardless of the sex of the respondent. One-night-stands are least likely to be found among the partners of women (only 68%), while 28.2% of infrequent partners of men are not located or interviewed. Overall, almost 20% of all nominated partners who were currently living on the island could not be traced. Although there is some variation by type of partnership, overall the non-marital partners of women appear to be slightly less likely to be traced than the partners of men.

(insert Table 1 about here)

Type of Relationship

Comparisons of the type of relationship men and women report being in provide some of the most interesting results. Table 2 shows that about the same percentage of men and women report their partner as a "spouse" (62% and 64%), but that only 56% of all men and women both reciprocally report each other as spouses. In other words, 8% of women and 6% of men stated that their partner was there spouse, while their partner did not identify the respondent as a spouse. While women were slightly more likely to call their partner a spouse, the difference between men's and women's "inconsistent' use of the term spouse is perhaps less than expected. Similarly, women do not appear to be any more or less likely than men to identify their sexual partners as "steady", "infrequent", or "one-night stands."

There are, however, relatively high levels of disagreement by gender within any particular partnership about the "type" of relationship. For example, while approximately the same proportion of men and women (27.5% women and 28.3% men) referred to their partner as their girlfriend or boyfriend, respectively, only in 16.8% of couples did both men and women identify each other as boyfriend and girlfriend.

(insert Table 2 about here)

Relationship Characteristics

Overall, men and women largely agree on basic objective relationship characteristics such as when the relationship began, whether they met within Likoma, and whether the

relationship is on-going (crude agreement greater than 80%).[1] On the more subjective measure of how well men and women knew each other before they began the relationship, men and women hold very different views (Table 2). Only 34% of men and women agreed on the definition of their prior relationship as "friend," "casual acquaintance," "unknown to each other," and "other". Misclassification was most likely to occur between the categories "friends" and "casual acquaintance" suggesting that these terms may connote similar relationship status. However, even after combining these categories, the level of agreement overly barely exceeds 60% and remains statistically significant only at the 5% level. Contrary to our expectations, however, we do not find that women are more likely to retrospectively perceive their prior relationships as "closer" than men. Women were, in fact, slightly more likely than men to report that they "didn't know each other" prior to commencing their relationship.

Table 3 compares agreement on relationship characteristics by marital and non-marital couples. The analysis on agreement is limited only to those matched married couples who reciprocally report each other to be spouses (n=136) and to those matched non-married couples where neither partner is called a spouse (n=73). Non-marital couples are equally likely as married couples to agree about whether they met in Likoma, but they are less likely to agree about when they began their relationship, their prior relationship status, or whether the relationship is on-going. Unmarried couples were also asked about where they met each other. Although both men and women are most likely to report meeting their partner at school or at a traditional dance, the level of agreement for this variable is quite low (39%).

(insert Table 3 about here)

Sexual Behaviors

Unfortunately, married couples were asked very few questions about their sexual behaviors within their marriage in the 2005 wave. However, in the second wave (2007), married and unmarried matched couples were asked identical questions about their sexual behaviors within each partnership. The only comparable measure across married and unmarried couples pertains to whether condoms were ever used within the relationship. Interestingly, we find that not only are condoms much more likely to be used within non-marital unions, but non-married couples are much more likely to agree about whether condoms were ever used. Indeed, while the level of agreement about condom use is highly significant among non-married couples, it is insignificant among married couples.

Non-married couples were also asked a series of questions about how often and why condoms were used in the relationship if they were ever used. Although our sample sizes for these questions are quite low (n = < 40), the agreement among this sample is also very low. Notably, the lowest level of agreement between men and women is with respect to the frequency of sex. Less than 20% of respondents agreed on how often they had sex.

[1] Note: in a few cases disagreement about the timing of their relationship and whether it is on-going may stem from differences in the timing that men and women were interviewed. This possible source of error will be corrected in future analyses.

Yet, the patterns of reporting do not conform to gender stereotypes, which would suggest that men would exaggerate and women would underreport sexual frequency.[2]

Conclusions

Using rare data on matched married and unmarried couples, this study examines the level of agreement between men and women with respect to relationship characteristics and sexual behaviors. Men and women, by and large, agree about objective measures of their relationship, such as when it started, where they met, and whether they are still in the relationship. There is much less agreement on subjective measures such as how well they knew each other before the relationship began. With respect to sexual behaviors, couples, particularly unmarried couples, are much less likely to agree on how often they have sex, how often condoms are used, and the reasons for using a condoms. Over 70% of unmarried couples, however, agree about whether a condom was ever used during the relationship.

These results help us better understand how men and women may perceive their relationship type and characteristics. Such perceptions are critical since other studies indicate that decisions about sexual behaviors are often strongly influenced by type of relationships. For example, as we found in this study, condom use is typically more common within non-marital and more casual sexual relationships.

Matched studies of unmarried couples can also help inform researchers about the direction of bias in reporting about sexual behaviors. Studies of individual (unmatched) men and women consistently show that men report, on average, more sexual partners and more frequent sex than women. It has been assumed, therefore, that women either under-report or men over-report sexual activity. Although these results are preliminary and based on a rather small sample size, they draw this assumption into question. The lack of agreement between men's and women's reports indicated that either men, or women, or both misreport sexual behaviors. However, we do not find that women consistently report lower levels of condom use, frequency of sex, or establishing sexual partnerships with strangers. These results may suggest that differences between men and women found in other studies may be driven more by who is included in the study (sex workers and bar girls are typically underrepresented in such studies) than by how men and women in non-martial unions report the same sexual experiences.

[2] Again, further testing will be undertaken to determine whether differences in reports are due to differences in timing of the interview for men and women.

References

Allen, Susan, Jareen Meinzen-Derr, Michele Kautzman, Isaac Zulu, Stanley Trask, Ulgen Fideli, Rosemary Musonda, Francis Kasolo, Feng Gao, and Alan Haworth. 2003. "Sexual behavior of HIV discordant couples after HIV counseling and testing," *Aids* 17:733-40.

Anglewicz, Philip, Simona Bignami-Van Assche, Shelley Clark, and James Mkandawire. 2006. "HIV risks among currently married couples in rural Malawi: What do spouses know about each other?," *in submission*.

Becker, Stan. 1996. "Couples and reproductive health: A review of couple studies," *Studies in Family Planning* 27:291-306.

Helleringer, Stephane, and Hans-Peter Kohler. 2007. "Sexual network structure and the spread of HIV in Africa: Evidence from likoma island, Malawi," *forthcoming AIDS*.

Helleringer, Stephane, Hans-Peter Kohler, Agnes Chimbiri, Praise Chatonda, and James Mkandawire. 2007. "The likoma network study: Context, data collection and survey instruments," *Working paper, Population Studies Center, University of Pennsylvania*.

Hugonnet, Stephane, Frank Mosha, James Todd, Kokugonza Mugeye, Arnold Klokke, Leonard Ndeki, David Ross, Heiner Grosskurth, and Richard Hayes. 2002. "Incidence of HIV infection in stable sexual partnerships: A retrospective cohort study of 1802 couples in mwanza region, Tanzania," *Journal of Acquired Immune Deficiency Syndromes* 30:73-80.

Lagarde, Emmanuel, Catherine Enel, and Gilles Pison. 1995. "Reliability of reports of sexual behavior: A study of married couples in rural west Africa," *American Journal of Epidemiology* 141:1194-1200.

Miller, Kate, Susan C. Watkins, and Eliya M. Zulu. 2001. "Husband-wife survey responses in Malawi," *Studies in Family Planning* 32:161-74.

Oheneba-Sakyi, Yaw, and Baffour K.Takyi. 1997. "Effects of couples characteristics on contraceptive use in sub-Saharan Africa: The ghanaian example," *Journal of Biosocial Science* 29:33-49.

Seal, David Wyatt. 1997. "Interpartner concordance of self-reported sexual behavior among college dating couples," *The Journal of Sex Research* 34:39-55.

van der Straten, A., CA Gomez, J Saul, J Quan, and N Padian. 2000. "Sexual risk behaviors among heterosexual HIV serodiscordant couples in the era of post-exposure prevention and viral suppressive therapy," *AIDS* 14:47-54.

Yamazaki, Michiyo, and Jonathan Ellen. 2007. "Concordance in perceived partner-type and adolescent couples' inconsistent condom use: Analysis of reciprocally nominated heterosexual dyads," *Working Paper*

Zulu, Eliya Msiyaphazi, and Gloria Chepngeno. 2003. "Spousal communication about the risk of contracting HIV/AIDS in rural Malawi.," *Demographic Research* Special Collection 1:Article 8.

Table 1: Characteristics of relationships reported during the sexual network survey

			Casual relations		
	Marriages	Steady non-marital	Infrequent	One-night-stand	
Partnerships reported by Women					
Proportion of traced partnerships					
if partner ever resided in Likoma	94.2	71.6	74.2	57.9	< 0.01
if partner currently resides in Likoma	95.5	76.3	79.0	68.0	< 0.01
Partnerships reported by Men					
Proportion of traced partnerships					
if partner ever resided in Likoma	94.6	76.8	67.7	68.4	< 0.01
if partner currently resides in Likoma	95.2	81.1	71.8	78.6	< 0.01

Notes: p-values are based on chi-square tests of associations. Figures in the table are column percentages.

Table 2: *Comparing Men's and Women's Reports on Relationship Characteristics and Sexual Behaviors.*

	Women % (n=244)	**Men %** (n=244)	**Both %**	**Crude Agreement %**	**Kappa Sig.**
Relationship Type				**74.2**	***
Spouse	62.3	63.5	55.7		
Steady girlfriend/boyfriend	27.5	28.3	16.8		
Infrequent partner	7.8	7.0	1.2		
One night stand	2.5	1.2	0.4		
Relationship Characteristics					
Started more than 1 year ago	82.4	78.2	72.0	**80.3**	***
Met in Likoma	88.0	88.0	83.8	**91.5**	***
Knew each other before				**34.5**	*
Friends	29.3	30.1	10.0		
Casual acquaintance	31.4	33.6	10.5		
Didn't know each other	33.2	28.8	13.1		
Other	6.1	7.4	0.9		
Still in relationship	80.8	79.9	75.3	**90.0**	***
Sexual Behaviors					
Ever use a condom	33.3	46.1	20.6	**61.8**	***

Table 3: *Comparing Men's and Women's Reports on Relationship Characteristics and Sexual Behaviors, by Marital Status*

	Married Couples					Unmarried Couples				
	Women % (n=152)	**Men % (n=155)**	**Both % (n=136)**	**Crude Agreement %**	**Kappa Sig.**	**Women % (n=92)**	**Men % (n=89)**	**Both % (n=73)**	**Crude Agreement %**	**Kappa Sig.**
Relationship Characteristics										
Started more than 1 year ago	89.6	85.9	83.0	**90.4**	***	68.6	68.6	55.7	**67.1**	**
Met in Likoma	83.3	81.8	78.0	**90.9**	***	91.3	95.7	88.4	**89.9**	+
Knew each other before				**38.9**	*				**25.8**	
Friends	21.4	29.0	9.9			43.9	33.3	12.1		
Casual acquaintance	31.3	29.0	9.2			30.3	34.9	9.1		
Didn't know each other	44.3	36.6	19.9			16.7	19.7	3.0		
Other	3.1	5.4	0.0			9.1	12.1	1.5		
Where met									**39.3**	*
In school						41.2	33.3	21.6		
At religious meeting						13.7	15.7	3.9		
At Mganda / traditional dance						29.4	29.4	11.8		
Other						15.7	21.6	2.0		
Still in relationship	96.3	98.5	96.3	**97.8**	***	42.3	46.5	33.8	**78.9**	***
Sexual Behaviors										
Frequency of sex									**19.0**	
Everyday						10.3	8.6	0.0		
Several times a week						27.6	29.3	5.2		
Once a week						24.1	25.9	6.9		
Less than once a week						20.7	12.1	1.7		
Less than once a month						17.2	24.1	5.2		
Ever use a conodom	13.7	36.6	5.3	**60.3**		70.8	61.5	52.3	**72.3**	***
If ever used condom, how often*									**33.3**	
At beginning						30.0	16.7	3.3		
Sometime						16.7	26.7	6.7		
Most of the time						20.0	10.0	0.0		
Always						33.3	46.7	23.3		
If ever used condom, reason*									**32.3**	
Pregnancy						38.2	47.1	14.7		
Lack of trust of partner						8.8	14.7	2.9		
Partner insisted						5.9	5.9	0.0		
Prevent STI						47.1	32.4	14.7		
Worry about HIV									**43.6**	
Not at all						50.9	60.0	30.9		
A little						32.7	27.3	9.1		
A lot						16.4	12.7	3.6		