HHS Public Access

Author manuscript

AIDS Behav. Author manuscript; available in PMC 2016 June 01.

Published in final edited form as:

AIDS Behav. 2015 June ; 19(6): 963–969. doi:10.1007/s10461-014-0962-1.

Correlates of individual versus joint participation in online survey research with same-sex male couples

Tyrel S. Starks, Ph.D.[1,2], **Brett M. Millar, B.A.**[1,3], and **Jeffrey T. Parsons, Ph.D.**[1,2,3]

[1]Center for HIV/AIDS Educational Studies and Training (CHEST), 142 West 36th Street, 9th Floor, New York, NY, 10018, USA

[2]Department of Psychology, Hunter College of the City University of New York (CUNY), New York, NY, USA

[3]Doctoral Program in Health Psychology and Clinical Science, The Graduate Center of CUNY, New York, NY, USA

Abstract

Internet-based surveys are commonly utilized as a cost effective mechanism for data collection in social and health psychology research. Little is known about the differences between partnered gay men who participate alone compared to those with partners who also agree to participate. A sample of 260 partnered gay/bisexual men from New York City completed an online survey covering demographic characteristics, sexual behavior, substance use, and relationship satisfaction. Upon completion, they had the option to send the study link to their partner. In total, 104 (40%) participants successfully recruited their partners, 90 (34.6%) were unsuccessful, and 66 (25.4%) declined the option to refer their partners. Men who did not refer their partners were significantly older, in relationships longer, and reported higher personal income. Participants who successfully recruited partners reported significantly higher relationship satisfaction. While generalizability is limited given the diversity of methodological factors that influence research participation, these data provide an initial insight into the effects on sample composition imposed by the implementation of dyadic (vs. unpaired) designs in online studies.

Throughout the HIV/AIDS epidemic, risk behaviour and prevention research on men who have sex with men (MSM) has largely focused on sexual risk-taking with casual male partners. Recent findings however, have indicated that a substantial proportion of HIV transmission occurs between main partners in same-sex male couples, with estimates in the USA ranging from 39% (1) to 68% (2). These findings have highlighted the need to better understand the relationship characteristics, dynamics, and risk-taking behaviours of coupled gay and bisexual men.

The study of couples can be undertaken through either single-sided or two-sided/dyadic designs (3,4). In single-sided designs, the participating partner is the only source of data regarding himself, his partner, and the relationship as a unit. Analytically, responses in

*Corresponding author: Jeffrey T. Parsons, Ph.D., Professor, Department of Psychology, Hunter College of the City University of New York, 695 Park Avenue, New York, New York 10065, jeffrey.parsons@hunter.cuny.edu, tel: +1 212 772 5533; fax: +1 212 206 7994;.

single-sided designs can be treated independently. This generally permits for relatively straightforward applications of single-level general linear modelling procedures. Methodologically, single-sided designs have the advantage of logistical efficiency – only one partner in the couple needs to be recruited and retained in the study.

In two-sided or dyadic designs, data are gathered from both members of the couple. Such designs allow for a more comprehensive examination of concordance of responses between partners, and perhaps more interestingly, discordance or discrepancies in responses. This is particularly important in studies of sexual risk given that a substantial proportion of gay male couples – estimates range from 8%(8) to 19%(10) – have been shown to report discrepant sexual arrangements – for example, one partner is under the impression that they are monogamous, while the other partner reports a non-monogamous arrangement. They also permit an exploration of associations among variables within and between partners (5). Dyadic designs inherently have a hierarchical structure; individuals are nested within couples. The result is that data analysis often involves multi-level modelling (see Kenny et al., 2006, and Mustanski et al., 2014, for a review of considerations). The Actor-Partner Interaction Model (APIM) is frequently employed in analysing data gathered in dyadic designs (3). The APIM is an analytic framework which distinguishes between actor effects (the relationship between a participant's predictor and outcome values) and partner effects (the relationship between a participant's outcome value and his partner's predictor value) (3).

Understandably, recruitment challenges are compounded in dyadic research. Joint participation by two members of a couple requires some level of effective communication, cooperation and co-ordination between both partners. The degree of coordination required for study participation may vary across designs. For example, designs which involve simultaneous assessment require joint scheduling, while those which permit independent assessment have lower coordination demands. Despite variability in the degree of coordination required, all dyadic designs require a minimum level of joint action because both members of the couple must agree to participate in the research process.

The consideration of participation bias in single-sided studies (i.e., whether the individuals who choose to participate constitute a skewed representation of the wider population) is particularly important in sexuality research, given the highly personal and sensitive nature of such studies. For example, participants in a general health survey who then agreed to participate in a follow-up sex-focused survey showed slightly higher levels of novelty-seeking, liberal sexual, religious, and political attitudes, alcohol and tobacco use, and mental health issues, and lower harm-avoidance, than those who refused to participate (6). Also, online studies may attract a differently constituted sample than in-person or paper-and-pen studies. More recently, in relation to single-sided sexuality-based online research, Sullivan et al (7) found that White MSM were more likely to 'click-through' into a study than Black and Hispanic MSM, and were also more likely to complete the survey through to the end. Drop-out rates throughout the survey were higher for Black and Hispanic MSM, and were also higher for MSM with less than a college-level education.

In dyadic research, participation bias effects may be further compounded, as the focus is shifted from the question of 'what type of individual chooses to participate?' to 'what type of individual in what type of couple chooses to participate?' For example, Hoff and Beougher's (8) qualitative study of 39 gay male couples acknowledges the issue of self-selection which "may have produced a sample of couples who were more confident in their relationships and were therefore more willing to openly discuss sensitive issues such as sexuality" (p.785). Further, in a study of sexual satisfaction in 433 married heterosexual couples, Yucel and Gassanov (9) noted that their sample may have arguably contained disproportionately more satisfied couples. In other words, couples with lower satisfaction may be under-represented in dyadic research as they may be in the process of splitting up, or simply less likely to participate in a study requiring coordination and cooperation.

In sum, dyadic studies may contain a disproportionate number of high functioning individuals in high functioning couples. The goal of this study was to explore the potential for such participation bias in dyadic studies of gay male couples which use an index approach to recruitment in an online study. A comparison of recruitment challenges across various modes of data collection (e.g., in-person, paper-and-pen, online) is beyond the scope of the current study.

Index approaches to couple recruitment involve the recruitment and collection of data from one partner (the index member of the couple). After the index partner completes the study, they are then asked to recruit their partner. This procedure results in three groups of index participants, which are distinguished by differences in success and willingness to recruit their partners. These include: 1) index participants who were *willing* and *able* to recruit their partner into the study (paired men); 2) index participants who were *willing* but *unable* to recruit their partner into the study (unpaired men who attempted), and; 3) index participants who were *unwilling* to recruit their partner into the study (unpaired men who declined). The purpose of the current study was to explore potential differences among these three groups on demographic, relationship, sexual risk, and substance use variables.

METHODS

Participants

Eligible participants included biological men who identified as male, lived in the New York City area, were 18 or older, and reported being in a primary romantic relationship or partnership with another biological man who was 18 or older.

Measures

Demographics—Participants responded to questions about their age, sexual identity, race/ethnicity, education level, own income level, own HIV serostatus (positive, negative, unknown), partner's HIV serostatus, and relationship duration. Relationship arrangement was assessed using a single item asking participants to report how they and their partners "handled sex outside of their relationship." Participants who reported "neither of us has sex with others, we are monogamous," or "I don't have sex with others and I don't know what my partner does" were classified as monogamous. Those who reported, "only I have sex

with others," "only he has sex with others," "both of us have sex with others separately," " we both have sex with others separately and together," or "I have sex with others and I don't know what my partner does" were classified as open. Those who reported "both of us have sex with others together" only were classified as 'monogamish' (10).

Substance use—Participants reported on the use of marijuana, cocaine, crack, crystal methamphetamine, ecstasy, gamahydroxybuterate (GHB), ketamine, heroin, and poppers. Due to the low frequency of reported use for substances other than marijuana and poppers, responses to cocaine, crack, crystal methamphetamine, ecstasy, GHB, ketamine, and heroin, were aggregated into a single variable indicating the use (or non-use) of any of these substances.

Sexual behavior—Participants reported whether they had engaged in anal intercourse (AI) with a partner other than their main partner in the past three months. Where AI was reported, participants were asked to report the number of AI acts which involved a condom (protected anal intercourse, PAI) and those which did not (condomless anal intercourse, CAI). Responses were aggregated into a trichotomous variable: no intercourse with casual partners, PAI only, and any CAI.

Relationship functioning—Relationship satisfaction was measured using the 7-item Relationship Assessment Scale (11). Responses were indicated on a 5-point Likert-type scale (e.g., 'poorly' to 'extremely well'). The scale has been found to correlate strongly with other relationship measures and displayed strong internal reliability (Cronbach's $\alpha = .86$).

Procedure

Data were collected between December 2011 and February 2013, using an internet-based survey host. Index participants were recruited through a variety of mechanisms involving in-person and online venues focused primarily on reaching men in the New York City area. In-person recruitment activities included attendance by study staff at community and social events frequented by MSM in the New York City area. A small number of participants (n = 21) were recruited in person after completing their participation in another survey research project. Online recruitment activities included the distribution of study information via listservs and websites targeting the MSM community. Online recruitment materials were also sent to partnered men who had completed or were ineligible for participation in other studies and indicated an interest in future studies. Online recruitment materials contained a direct link to the survey, as well as our contact information. No differences in partner recruitment were associated with the venue of index case recruitment ($\chi^2(4) = 5.8$, $p = .22$). Note, some components of online recruitment (social networking, website and listserv postings) reached participants living in the U.S., but outside of the NYC area. Data from these cases (n = 79) were not included in these analyses.

The online survey was designed to accommodate the joint participation of both members of the couple using an "index case" approach. Index participants are those who accessed the study link through any of the recruitment methods described above. After providing personal contact information, participants were given the option to provide their partners' contact

information and send the study link directly to their partner. If they chose to do so, the survey generated an automatic email, which the participant was allowed to modify prior to sending. This study focused only on the analysis of data from index cases. By definition, data provided by referred partners were only available for paired index cases. In order to preserve comparability across referral groups, all analyses examining partner characteristics utilized data about referred partners provided by index cases.

All participants (both index and referred partners) who completed the survey and included their mailing addresses were compensated with a free movie ticket. Couples in which both index and referred partners completed the survey were also entered into a raffle to receive additional $100 compensation. The raffle prize was given to one in every 25 completed couples. All recruitment materials and procedures were approved by the IRB at Hunter College of the City University of New York.

RESULTS

In total, the online survey was opened 682 times. Of these, 467 (68.5%) surveys were completed by unique individuals. These included 339 index participants of which 260 (76.7%) met inclusion criteria for the current study. Of these, 104 (40.0%) successfully recruited their partners (paired men). Among the 156 unpaired men, 90 (57.7%) provided contact information for their partners (indicating an unsuccessful attempt to recruit partner participation – unpaired men who attempted recruitment), and 66 (42.3%) declined to provide partner contact information (unpaired men who declined).

Comparison of demographic characteristics

Table 1 contains data related to the demographic characteristics of index cases and the results of ANOVA and χ^2 tests of independence comparing the three groups of index participants. In general, there were no significant differences with regard to race/ethnicity, education, HIV status, HIV status concordance, and relationship arrangement (roughly 60% in each group reported a monogamous relationship arrangement). Significant differences were observed in individual income, age, and relationship length. Unpaired men who declined to provide partner contact information were more likely to report earning $40,000 or more annually and reported an older average age compared with the other two groups. Index participants who did not provide partner contact information also reported longer relationship duration than paired men. Unpaired index cases who attempted recruitment did not differ from either of the other groups. Significant differences were also observed with regard to sexual identity. Bisexual identified men were as likely as gay identified men to attempt to recruit their partners; however, bisexual men who attempted recruitment were less likely to be successful.

Substance use and sexual behavior of men who did and did not recruit their partners

Table 1 contains data related to substance use and engagement in sexual risk taking with casual male partners, and the results of χ^2 tests of independence comparing the three groups. No significant differences were observed among the three groups in their rates of sex with

casual partners, or their use of marijuana and poppers, which were the most commonly reported substances, and other drugs.

Relationship satisfaction

Table 1 contains mean relationship satisfaction scores for each partner recruitment group along with the results of an ANOVA analysis comparing average scores across groups. Paired men reported significantly higher levels of relationship satisfaction than both groups of unpaired men. Unpaired men who attempted recruitment did not differ significantly from those who declined to provide this information.

DISCUSSION

Overall, partnered gay men who were willing and able to recruit their primary male partner into dyadic research were demographically similar to partnered men who were willing but unable and those who were unwilling to recruit their partners. The three groups did not differ significantly with respect to race/ethnicity, education, HIV-status (of self or partner), or relationship arrangement. In addition, they did not differ significantly with respect to variables of particular interest to HIV prevention research: drug use and condom use. To the extent that such studies utilize methodologies for recruitment and assessment similar to those used in the current study, these data provide modest support that the selection of a dyadic design (versus studying men in relationships without recruiting their partners) will have a negligible effect on the at least some aspects of the demographic composition of the sample.

Significant differences were observed in age, individual income and relationship duration. Partnered men who were unwilling to recruit their partners reported significantly older age and higher individual income compared to the two groups who were willing to attempt partner recruitment. These men also reported longer relationship duration than the paired men. This pattern of differences suggests the possibility that men with more resources may be less likely to engage in research together, and may be less incentivized by modest compensation such as movie tickets.

This pattern of findings may be viewed in some respects as promising. Younger gay men are particularly vulnerable to main partner HIV transmission (2) and therefore recruitment of younger gay men and their partners may be a priority in couples-based HIV prevention research. On the other hand, longer relationship duration has also been linked to a greater risk of main partner HIV transmission risk (2). Challenges in recruiting both members of couples who have been together longer may impede HIV prevention research with this population. In addition, bisexual men were less likely to be successful when attempting to recruit their partners. While the proportion of bisexual men in this sample means results should be interpreted with caution, replication of this trend would suggest that dyadic studies of bisexual men in same-sex relationships may face particularly marked recruitment challenges.

Perhaps the most relevant concern for research on romantic relationships is that relationship satisfaction was found to differ depending on partner recruitment – partnered men who were

both willing and able to recruit their partner into the study indicated higher scores on relationship satisfaction than both of the other two groups. Consistent with concerns raised by other studies (8,9), this finding suggests that the samples used in online dyadic studies may contain an over-representation of couples with better dyadic functioning. These data go further and highlight the fact that low relationship satisfaction is associated with a lack of partner participation even when men are willing to recruit their partners.

Creative recruitment methods are needed to access couples with lower levels of dyadic functioning. These findings indicate the potential utility of distinguishing between barriers to dyadic participation that function at the level of referral (of one partner by the other) versus those that function at the level of response (the decision by the referred partner to engage in research). As described above, factors which are associated with resources (age, income, and relationship duration differences) appear to differentiate men who are motivated to recruit their partners and those who are not. Meanwhile, lower relationship satisfaction appears to be associated with lower likelihood of partner participation, even among men who are willing to refer their partners. This framework for conceptualizing barriers to referral versus engagement may provide an organization structure for future studies to examine couples recruitment. It may also be useful to couples researchers when they are formulating recruitment strategies and addressing barriers to participation.

This study utilized an index approach to recruitment, and allowed partners to complete surveys separately and at self-determined times. This methodology maximizes confidentiality and minimizes the level of coordination between partners. Couples interdependence theory asserts that coordinated completion of goals is positively associated with dyadic functioning (12). Couples with better dyadic functioning are better able to agree upon and successfully achieve a joint goal. Given that index approaches to recruitment potentially reduce the need for joint participation (because each member of the couple can choose when to complete the research activity), the use of an index approach should facilitate the participation of lower functioning couples. Despite this theoretically expected benefit, differences in relationship satisfaction were still associated with partner referral in this sample. This suggests that other methodologies that increase the amount of information shared between couple members and the degree of coordination required for study participation may potentially increase differences between paired and unpaired men.

The generalizability of these findings may be limited by the use of a convenience sample of gay men collected through the use of an online survey. Based upon existing literature related to online data collection from gay male samples, this most likely resulted in an over-representation of White, well-educated participants with greater incomes than average (13). In addition, results from this New York City based sample may not generalize to the entire U.S. population. Finally, the current study assessed only one aspect of dyadic functioning, relationship satisfaction. Future studies should examine whether other aspects of relationship functioning (e.g., autonomy, commitment, intimacy) are also associated with willingness and ability to recruit one’s partner into dyadic studies.

Despite these limitations, findings from this study may inform inferences about the generalizability of relationship research and recruitment strategy selection for future online

studies involving partnered gay men. The finding that younger age was associated with partner participation is encouraging in light of the finding that young gay men are at greater risk of contracting HIV from a main partner. The association of relationship satisfaction with partner participation suggests that dyadic studies may under-represent lower-functioning couples. The findings also underscore the importance of considering new ways to reach the couples who do not typically participate in online relationship studies.

Acknowledgments

The Couples Project was supported by the Hunter College Center for HIV/AIDS Educational Studies and Training (CHEST), under the direction of Dr. Parsons. The authors acknowledge the contributions of other members of the CHEST Couples Project Team – Drew Mullane, Joshua Guthals, Catherine Jones, Joel Rowe, Anna Johnson, Ruben Jimenez, and Chris Hietikko – and thank the participants involved.

References

1. Goodreau SM, Carnegie NB, Vittinghoff E, et al. What drives the U.S. and Peruvian HIV epidemics in men who have sex with men (MSM)? PLoS ONE. 2012; 7(11):1–9.
2. Sullivan PS, Salazar L, Buchbinder S, Sanchez TH. Estimating the proportion of HIV transmissions from main sex partners among men who have sex with men in five US cities. AIDS. 2009; 23(9): 1153–1162. [PubMed: 19417579]
3. Kenny, DA.; Kashy, DA.; Cook, WL. Dyadic data analysis. New York: Guilford Press; 2006.
4. Mustanski B, Starks TJ, Newcomb ME. Methods for the design and analysis of relationship and partner effects on sexual health. Arch Sex Behav. 2014; 43(1):21–33. [PubMed: 24243003]
5. Roisman GI, Clausell E, Holland A, Fortuna K, Ellieff C. Adult romantic relationships as contexts of human development: A multimethod comparison of same-sex couples with opposite-sex dating, engaged, and married dyads. Dev Psychol. 2008; 44(1):91–101. [PubMed: 18194008]
6. Dunne MP, Martin NG, Bailey JM, et al. Participation bias in a sexuality survey: Psychological and behavioural characteristics of responders and non-responders. Int J Epidemiol. 1997; 26(4):844–854. [PubMed: 9279618]
7. Sullivan PS, Khosropour CM, Luisi N, et al. Bias in online recruitment and retention of racial and ethnic minority men who have sex with men. J Med Internet Res. 2011; 13(2):e38. [PubMed: 21571632]
8. Hoff CC, Beougher SC. Sexual agreements among gay male couples. Arch Sex Behav. 2010; 39:774–787. [PubMed: 18686027]
9. Yucel D, Gassanov MA. Exploring actor and partner correlates of sexual satisfaction among married couples. Soc Sci Res. 2010; 39(5):725–738.
10. Parsons JT, Starks TJ, Gamarel KE, Grov C. Non-monogamy and sexual relationship quality among same-sex male couples. J Fam Psychol. 2012; 26(5):669–677. [PubMed: 22906124]
11. Hendrick SS. A generic measure of relationship satisfaction. J Marriage Fam. 1988; 50(1):93–98.
12. Rusbult CE, Van Lange PA. Interdependence, interaction, and relationships. Annu Rev Psychol. 2003; 54:351–375. [PubMed: 12415073]
13. Meezan W, Rauch J. Gay marriage, same-sex parenting, and America's children. Future Child. 2005; 15(2):97–115. [PubMed: 16158732]

Table 1

Demographic characteristics

			Unpaired Index Cases		
	Total	**Paired Index Cases**	**Provided Partner Contact**	**Declined Partner Contact**	**Test Statistic**
	n (%)	***n (%)***	***n (%)***	***n (%)***	
	260 (100)	104 (40.0)	90 (34.6)	66 (25.4)	
Sexual Identity					$\chi^2(6) = 8.8^{**}$
Gay	231 (88.8)	98 (94.2)[a]	73 (81.1)[b]	60 (90.9)[ab]	
Bisexual	29 (11.2)	6 (5.8)	17 (18.9)	6 (9.1)	
Race and Ethnicity					$\chi^2(6) = 8.4$
White/European	153 (58.8)	65 (62.5)	51 (52)	42 (61.8)	
Black/African American	28 (10.8)	10 (9.6)	10 (10.2)	11 (16.2)	
Latino	50 (19.2)	15 (14.4)	24 (24.5)	11 (16.2)	
Other	29 (11.2)	14 (13.5)	13 (13.3)	4 (5.9)	
Individual Income					$\chi^2(2) = 10.0^{**}$
Less than $40K	132 (50.8)	55 (52.9)[a]	54 (60.0)[b]	23 (34.8)[b]	
$40K or more	128 (49.2)	49 (47.1)	36 (40.0)	43 (65.2)	
Education					$\chi^2(2) = 0.03$
College degree or less	69 (26.5)	28 (26.9)	24 (26.7)	17 (25.8)	
Graduate degree	191 (73.5)	76 (73.5)	66 (73.3)	49 (74.2)	
HIV status					$\chi^2(2) = 0.5$
Negative/Unknown	200 (76.9)	81 (77.9)	67 (74.4)	52 (78.8)	
Positive	60 (23.1)	23 (22.1)	23 (25.6)	14 (21.2)	
HIV Partner Concordance					$\chi^2(4) = 3.3$
Concordant Negative	188 (72.3)	80 (76.9)	62 (68.9)	46 (69.7)	
Concordant Positive	33 (12.7)	12 (11.5)	14 (15.6)	7 (10.6)	
Discordant	39 (15.0)	12 (11.5)	14 (15.6)	13 (19.7)	
Relationship Arrangement					$\chi^2(3) = 2.12$
Monogamous	166 (63.8)	80 (63)	56 (62.2)	40 (60.6)	
Monogamish	18 (6.9)	10 (8)	9 (10.0)	2 (3.0)	

	Total	Paired Index Cases	Unpaired Index Cases		Test Statistic
			Provided Partner Contact	Declined Partner Contact	
	n (%)	*n (%)*	*n (%)*	*n (%)*	
Open	76 (29.2)	36 (28)	25 (27.8)	24 (36.4)	
Substance use in the past 30 days					
Marijuana	109 (41.9)	45 (43.3)	44 (48.9)	20 (30.3)	$\chi^2(2) = 5.5$
Poppers	70 (26.9)	28 (26.9)	29 (32.2)	13 (19.7)	$\chi^2(2) = 3.1$
Other Drugs	43 (16.5)	16 (15.4)	19 (21.1)	8 (12.1)	$\chi^2(2) = 2.4$
Condom Use with Casual Male Partners					$\chi^2(4) = 8.2$
No sex with casual partners	182 (70.0)	81 (77.9)	57 (63.3)	44 (66.7)	
PAI only	46 (17.7)	13 (12.5)	17 (18.9)	16 (24.2)	
Some CAI	32 (12.3)	70 (9.6)	16 (17.8)	6 (9.1)	
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	
Age	33.9 (11.1)	31.2 (9.7)[a]	33.8 (10.7)[a]	38.3 (12.3)[b]	F (2, 257) = 8.7**
Relationship Duration (months)	56.8 (76.2)	45.0 (61.8)[a]	54.6 (78.4)[ab]	78.1 (89.3)[b]	F (2, 257) = 3.9*
Relationship Satisfaction	27.9 (5.3)	29.3 (4.5)[a]	26.9 (5.5)[b]	27.0 (5.7)[b]	F (2, 257) = 6.2**

NOTE:

* p <.05;

** p <.01.

Where omnibus tests were significant, group-by-group differences were evaluated using Fisher Exact tests (for categorical variables) and Least Significant Difference or Games-Howell (where variances differed significantly) post hoc tests for continuous variables. Within rows, values having different superscripts differ significantly from one another (p < .05).