Absttact:
We examine the association between sexual intercourse with mood and relationship quality in the past 24 hours based on daily reports collected from 90 couples using mobile phones in Cebu, Philippines. Each participant had the mobile phone and answered questions for approximately 4 weeks. We used sex stratified mutlitvariate logistic models with random effects to account for repeated measures for each person. In the preceding 24 hours, men who had sex had higher anxious mood scores, while women reported lower depressive, angry and fatigued mood scores, and a higher vigorous mood score. Both men and women reported significantly higher scores on feeling love for their partner and feeling trust and support from their partner if they had sexual intercourse in the same 24 hours. We find that sexual intercourse is related to mood and relationship quality. Next, we will examine these associations at the couple level.

Introduction
The Philippines can be characterized by a persistently slow fertility decline (1), a relatively high demand for children, and very high unwanted fertility rates (2). Policies and programs regarding reproductive health continue to be influenced by the strong presence of the Catholic Church (3;4). Sexual behavior continues to be one of the most understudied proximate determinants of fertility in the Philippines and elsewhere. The Experience Sampling Method (ESM) is a structured diary method of data collection that captures an individual's daily life experiences. ESM is ideal for answering questions about location, social context, activities, and feelings (5). While ESM has been around for at least 30 years (6) and excellent software is now available (5), nearly all ESM studies have been conducted in developed nations.

Demographic Overview: Evidence from the 2003 Demographic and Health Survey (DHS) from the Philippines suggests that relative to its level of social and economic development, current use of modern contraception is low (33%), with another 16% using traditional methods including withdrawal and rhythm (2). The total wanted fertility rate remains above replacement level at 2.5 and the current total fertility rate is 3.5 births per woman. Estimates suggest that 45% of women have unmet need for effective family planning (2). Recent evidence points to an increasing rate of abortions (despite their being illegal) (7), particularly in the Central Visayas (7), the region of study for this project. Only 39% of births are wanted (2) and rates of unwanted or mistimed births (44%) are high (2), especially compared to many other developing nations.

Among Cebu Longitudinal Health and Nutrition Survey (CLHNS) participants, initiation into sexual activity has begun for 67% of men and 48% of women by ages 20-21. Ever use of a contraception is low with almost half of men who have had sex reported ever using by ages 20-21, and just over a third of women. DHS data show even lower levels of ever use (2). Current use among sexually active individuals in the 2005 CLHNS shows that the most common method used is "no method" (49%) followed by withdrawal (23%), pills (9%) and condoms (7%).

Frequency of Sexual Activity: Surveys from the Philippines show very low reported rates of sexual activity, with less than half of all 15-49 year old women (47%-49%) and 15-55 year old men (44%) reporting sexual activity in the past four weeks (7;8). Among all 20-24 year olds, the Philippines rank in the bottom quintile of countries in terms of reported sexual activity on DHS surveys (9); however when considering frequency of marital sexual relations, the Philippines falls in the middle of the distribution of DHS countries. Data from the CLHNS show that more men than women report having had sex in the past month (among men who have ever had intercourse) compared to the DHS (46% vs. 36%). In contrast, once women have initiated sex, they have sex more often than men. The Global Study of Sexual Attitudes and Behavior reported that 42% of Filipino men and women ages 40-80 had sex more than once a week—the highest rates of any of the Asian countries

studied (10). One key difference is that this survey used self-administered questionnaires (SAQs). In comparison to other national estimates, face-to-face interviews may lead to social desirability bias in reporting of sexual behavior compared with SAQs.

Understanding the frequency of sexual activity has important health implications. From the reproductive health perspective, sexual activity continues to be one of the least frequently measured, and perhaps among the most underutilized of Bongaarts' (11) proximate determinants of fertility (12). While coital frequency is not the whole explanation for why fertility has not declined as rapidly in the Philippines as it has in neighboring countries (1), underreporting of sexual activity, particularly outside of marital unions, is likely in this Catholic nation. In addition, condom availability is sporadic in the Philippines despite increasing concern that the nation is ripe for an HIV/AIDS explosion (13). In order to effectively estimate the demand for condoms (as well as modern contraceptive methods), a greater understanding of sexual activity inside and outside of marital unions is needed. While the CLHNS and DHS have included questions on coital frequency, concerns about the quality of these data obtained in face-to-face interviews (14;15) remain. We think that appropriately applied ESM is the best approach to obtaining better estimates of sexual activity, contraceptive use and mood.

Mental Health and Mood Depressive symptoms in Cebu, Philippines are common with 14% of adolescents, ages 17-19, reporting that they wished they were dead some or most of the time in the past four weeks (16). Nationally 12% of 15-24 year olds ever considered suicide (17). In addition to depressive symptoms, mood is useful to measure since mood captures 'transient episodes of feeling or affect" that are readily changed by social, psychological and environmental context (18). ESM has been used to better understand mood and other psychological phenomena (e.g. (19-20)) and recent evidence suggests that mood and social context are highly related (21) as are mood and psychological maltreatment in young adult relationships (22).

Mood and Sexual Activity*:* A recent diary method study of middle aged American women found that sexual activity predicted mood and that mood predicted sexual activity (21). Similar results were found in a study of adolescent women (22). A study of heterosexual men in the US found that while most men who experienced depressive symptoms had decreased sexual interest, 21% of men with anxiety (considered a "negative mood") reported increased interest in sex compared to 28% who reported decreased interest (23). Similar results were found for women with anxiety being an "enhancer" for some and an "inhibitor" for others in terms of sexual interest (24).

Nearly all surveys on sexual health of Filipinos have been done with face-to-face interviews, despite growing evidence from other developing countries that shows that other survey modalities may elicit more responses about sensitive behaviors (14,15 25-27). Computerized surveys to report sensitive behaviors may be an alternative for young adults in a developing country that is technologically advanced—Filipinos send over 200 million cell phone text messages a day (28).

Methods

This study is part of a larger project to assess preferences on survey type (face to face interviews vs. mobile phone) as well as to determine whether sexual intercourse, mood and contraceptive use are interrelated. As a first phase of this study, we conducted a pilot study with 32 participants to learn what worked and what did not work. Results from the pilot are reported elsewhere (see 29). Based on the pilot, we determined that we would like to recruit couples for a month rather than unpartnered individuals. Our final sample included 90 couples, with one member as part of the ongoing Cebu Longitudinal Health and Nutrition survey.

The current analysis focuses on the data from the men and women in the survey. We analyzed men and women separately based on known differences in mental health measures as well as sexual activity. Future analyses will link the partner data.

Our analysis was conducted in three parts. First, we report on the sample characteristics at baseline including gender differences (Table1) and then differences between baseline and follow surveys by gender (Table 2). Next, we report on the univariate statistics using the daily diary data. To account for the non-independence of reports on the same individual, we use the xt series of commands in Stata 12. These routines provide both the between individual and within individual over time standard errors. Finally, we conducted analyses (unadjusted and adjusted) on the association between reports of sexual intercourse in the last 24 hours as well as reports on mood and relationship quality in the past 24 hours using xtlogit—logistic regression with a random effects term to account for the intra-person dependence of observations with daily reports (Tables 3 & 4).

Results

The sample characteristics are included in Table 1. Men in the sample were significantly older by over a year than women, and much more often employed (83.3 % vs. 47.8%, $p<0.001$). Men were slightly more educated. Men reported being in marital union as often as the women (as these are couples, we'd imagine high correspondence) and interview reports of sexual activity in the past month were nearly identical with men having a slightly lower mean but a higher standard deviation.

TABLE 1. Gender Differences in Demographic Characteristics from Baseline Interviews

	BASELINE		
	Male	**Female**	**Total**
Age			
Mean (std. dev.)	27.5 (2.3)***	26.2 (1.8)	26.8 (2.1)
Median	27	27	27
Range	22-35	21-33	21-35
Highest Number of Years of Schooling Completed			
Mean (std.dev.)	12.7 (2.7)	12.1 (2.5)	12.4 (2.6)
Median	13	12	12
Range	6-20	4-18	4-20
Marital Status (vs. Cohabiting)			
Legally married	64.4	65.6	65.0
Currently Employed	83.3***	47.8	65.6
Number of days had sexual intercourse in the past 4 weeks			
Mean (std. dev.)	5.7 (4.8)	5.8 (3.8)	5.7 (4.3)
Median	4	4	4
Range	0-25	1-20	0-25

Table 2 provides the differences by gender on the key variables of interest at the baseline and exit survey. Our dependent variable for the ESM analysis, sexual intercourse, does not vary by gender when respondents were asked to recall how many days in the last week they had sexual intercourse. In terms of the mood scores, we see some gender differences. Men report lower anxious mood at both baseline and exit interviews, while women report

significantly higher on the depressed mood scale, the anger mood scale, the fatigue mood scale at the exit interview, and significantly lower on the vigor mood scale. For these measures, the respondents were asked about the past four weeks before either the baseline or exit interview. In terms of relationship quality, we looked at whether the respondent reported feeling love for their partner and whether the respondent reported feeling trust and support from the partner in the past four weeks. There were no significant differences in terms of love for the partner, but men reported high support and trust from their partner at the baseline.

TABLE 2. Gender Differences in Mood and Sexual Behavior at Baseline and Exit Interviews

	BASELINE		EXIT	
	Male	**Female**	**Male**	**Female**
Number of days had sexual intercourse in last 7 days				
Mean (std.dev.)	1.5 (1.2)	1.3 (1.2)	1.4 (1.4)	1.4 (1.2)
Median	1	1	1	1
Range	0-7	0-5	0-7	0-5
Mood score[1] over last 4 weeks:				
Anxious Mood Score				
Mean (std.dev.)	2.12 (1.66)***	3.19 (1.79)	1.70 (1.38)***	2.56 (1.74)
Median	2	3	2	2
Range	0 - 7	1 - 9	0 - 6	0 - 9
Depressed Mood Score				
Mean (std. dev.)	1.57 (1.22)*	2.04 (1.70)	1.18 (1.47)*	1.63 (1.50)
Median	1.5	2	1	1
Range	0 - 5	0 - 12	0 - 7	0 - 7
Anger Mood Score				
Mean (std.dev.)	1.98 (1.44)***	2.69 (1.41)	1.19 (1.31)***	2.24 (1.70)
Median	2	2	1	2
Range	0 - 9	1 - 8	0 - 5	0 - 8
Fatigue Mood Score				
Mean (std. dev.)	3.46 (2.16)	3.52 (2.00)	3.04 (2.01)*	3.84 (2.36)
Median	3	3	3	4
Range	0 - 11	0 - 9	0 - 10	0 - 10
Vigor Mood Score				
Mean (std. dev.)	8.11 (2.69)*	7.31 (2.78)	6.81 (3.05)	6.94 (2.56)
Median	8	6	6	6
Range	3 - 12	3 - 12	3 - 12	2 - 12
Relationship Quality[2] in Past 4 weeks				
How often did you feel love for your partner?	3.41 (0.90)	3.66 (0.69)	3.56 (0.86)	3.50 (0.81)
How often feel trust and support from your partner?	3.81 (0.54)***	3.37 (0.85)	3.49 (0.95)	3.33 (0.95)

* p<0.05, **p<0.01, ***p<0.001 (Difference between male and female)

[1] Each score is based on three items, scored 0-4 , each with a maximum of 4 points (score maximum score=12).

[2] Each measure is a five point scale, 0-4, maximum score is 4.

Tables 3 and 4 show preliminary results from the daily ESM data. Except for the time invariant independent variables, all measures are for the past 24 hours. The number of observation periods (or daily diary entries) was 2405 for the men and 2407 for the women.—both averaging to 26.7 days of observation per person. Our dependent variable shows large gender differences. Men reported having sexual intercourse on 58.7% of the days (over half) while women reported having sexual intercourse on 38.8% of the days. These differences varied more between people than within a given person for both genders.

One set of key independent variables are shown next in the table—the mood scores. The mood scores come from the POMS-15, a set of measures previously validated for ESM. On all of the "negative mood" scales, women report higher levels—anxious, depressed, anger, and fatigue. On the vigor scale, women report lower. When comparing the scores between the daily reports and reports for the last four week at the exit interview (the same time periods), we see slightly lower negative mood score upon recollection for anxious and depressed, for both men and women. Men also reported lower negative mood at the exit interview for anger and fatigue, and a higher score for vigor. In contrast, women report a higher negative mood score at

Table 3: Sexual Intercourse, Mood, and Relationship Qualities in the Last 24 hours from daily ESM data, by gender

	Men (n=90) 2405 person-days Mean # of Days of observation (26.7)	**Women (n=90) 2407 person-days Mean # of Days of observation (26.7)**
Dependent Variable		
Had Sexual Intercourse in Past 24 hours		
Overall Percentage (n)	58.7 (1413)	38.8 (934)
Between Person Percentage (n)	97.8 (88)	97.8 (88)
Within Person Percentage	60.3	40.0
Mood Scores (last 24 hours)		
Anxious Mood Score		
Overall Mean (std. dev), Range	2.32 (2.09) 0-11	2.69 (2.09), 0-12
Between Person Standard Deviation (range)	1.71 (0.04-6.71)	1.62 (0.04-7.39)
Within Person Standard Deviation (range)	1.23 (-2.45-9.40)	1.32 (-1.71-10.9)
Depressed Mood Score		
Overall Mean (std. dev), Range	1.36 (1.75) 0-8	1.71 (1.95), 0-12
Between Person Standard Deviation (range)	1.30 (0.00-5.04)	1.50 (0.00-6.55)
Within Person Standard Deviation (range)	1.18 (-2.90-7.51)	1.25 (-4.85-11.32)
Anger Mood Score		
Overall Mean (std. dev), Range	1.34 (1.81) 0-11	1.85 (1.98), 0-12
Between Person Standard Deviation (range)	1.41 (0-5.48)	1.45 (0.00-5.54)
Within Person Standard Deviation (range)	1.14 (-4.14-10.45)	1.36 (-2.68-12.89)
Fatigue Mood Score		
Overall Mean (std. dev), Range	3.22 (2.31) 0-12	3.43 (2.35), 0-12
Between Person Standard Deviation (range)	1.82 (0.00-6.89)	1.86 (0.00-7.57)
Within Person Standard Deviation (range)	1.44 (2.42-12.41)	1.45 (-4.08-13.29
Vigorous Mood Score		
Overall Mean (std. dev), Range	6.24 (2.53), 0-12	5.89 (2.37), 0-12
Between Person Standard Deviation (range)	2.05 (0.32-11)	1.87 (1.48-9.71)
Within Person Standard Deviation (range)	1.51 (-0.72-11.95)	1.49 (-1.76-12.16)
Relationship Quality Variables (last 24 hours)		
How often did you feel love for your partner? (0-4, not at all to extremely)		
Overall Mean (std. dev), Range	3.48 (0.97) 0-4	3.36 (1.03), 0-4

Between Person Standard Deviation (range)	0 .73 (1.18-4)	0.81 (0.96-4)
Within Person Standard Deviation (range)	0.65 (0.37- 6.30)	0.64 (0.49-6.08)
How often did you feel trust and support from your partner? (0-4, not at all to extremely)		
Overall Mean (std. dev), Range	3.37 (1.06), 0-4	3.20 (1.17), 0- 4
Between Person Standard Deviation (range)	0.89 (0.33-4)	0.98 (0.37-4)
Within Person Standard Deviation (range)	0.59 (0.48-6.06)	0.64 (0.65-6.83)
Other Independent Variables (not time varying)		
Gender (%)	50.0	50.0
Age		
Overall Mean (std. dev), Range	27.4 (2.3) 22-35	26.2 (1.8) 21-33
Between Person Standard Deviation (range)	2.31 (22-35)	1.84 (21-33)
Within Person Standard Deviation (range)	--	--
Legally Married (vs. cohabiting)		
Overall Percentage (n)	64.2 (1544)	65.2 (1570)
Between Person Percentage (n)	64.4 (58)	65.6 (59)
Highest Grade Completed In School		
Overall Mean (std. dev), Range	12.63 (2.66), 6-20	12.11 (2.54), 4-18
Between Person Standard Deviation (range)	2.68, 6-20	2.56 , 4-18
Currently Working		
Overall Percentage (n)	83.2 (2001)	47.3 (1139)
Between Person Percentage (n)	83.3 (75)	47.8 (43)

the exit interview for anger and fatigue. They report more vigor at the exit interview. As expected, during the ESM, the within person variation is lower than the between person variation, suggesting a greater consistency for an individual than across people.

For our two measures of relationship quality, we find men report feeling more love for their partner than women and feeling more support and trust from their partners than women on average, on a daily basis. As compared to the exit interview, both men and women report better relationship quality in the exit interview compared to the ESM.

In the bivariate and multivariate models (Table 4), we use daily reports of sexual intercourse as the outcome, and look at the relationship between report of sexual activity in the past 24 hours, with mood and relationship quality. The two multivariate models are for the relation between sexual intercourse and mood, and sexual intercourse and relationship quality. For the mood model, all mood scores are included, whereas for the relationship quality model, both measures are included. Both also include controls for age, marital status, highest grade completed in school, and currently working and use logistic regression with random effects (random intercept) to control for the non-independence for the observations.

We find significant associations between sexual intercourse in the last 24 hours and mood scores, primarily among the women. Since adjustment had little to no impact in our models, we focus on the unadjusted model. Men who had sex in the last 24 hours has a significantly higher score on anxious mood during the same day after adjustment (Adjusted Odds Ratio (AOR)=1.08, 9, $p<0.05$). There were no other statistically significant association between mood and sex in the last 24 hours among men. Among women, adjustment pushed a few borderline significant associations to significant at the $p<0.05$ level. Women who reported sex in the last 24 hours were significantly less likely to report depressive, angry and fatigued mood after adjustment, while they were also more likely to report a vigorous mood. While the mood reports are for the same 24 hours as the sex, the exact temporal relationship within a single day isn't defined. All the associations point to a more positive mood when they had sexual intercourse in the last 24 hours.

In terms of relationship quality, both men and women reported significantly higher scores on feeling love for their partner and feeling trust and support from their partner if they had sexual intercourse in the same past 24 hours after adjustment. When looking at the categories of the extreme of these variables, men who rated

the love that had from their partner as "extremely" in the past 24 hours were nearly fifteen times as likely to also have had sex in the past 24 hours (AOR=14.9, p<0.0001), while for women the trend was linear and significant but the "extremely" category was not significantly different from 1 (data not shown). In terms of support and trust from the partner, women who rated this as "extremely" were over five times as likely to also have had sex in the past 24 hours (AOR=5.13, p=0.001), while for men they were 4.8 times as likely to have had sex (p=0.002) (data not shown).

Table 4: Unadjusted and adjusted[1,2] odds ratios of mood in the last 24 hours, relationship quality in the last 24 hours with sexual intercourse in the past 24 hours, by gender (mixed models with random and fixed effects)

	Men Unadjusted ORs (95% CIs)	Men Adjusted ORs (95% CIs)	Women Unadjusted ORs (95% CIs)	Women Adjusted ORs (95% CIs)
Mood in last 24 hours[1]				
Anxious Mood Score	1.08 (1.00-1.16)*	1.08 (1.00-1.16)*	0.96 (0.90-1.04)	0.96 (0.90-1.03)
Depressive Mood Score	0.99 (0.91-1.07)	0.97 (0.88-1.06)	0.87 (0.81-0.95)***	0.87 (0.81-0.94)***
Angry Mood Score	0.97 (0.90-1.05)	0.97 (0.90-1.05)	0.87 (0.81-0.94)***	0.87 (0.81-0.94)***
Fatigue Mood Score	0.99 (0.93-1.06)	0.99 (0.93-1.05)	0.94 (0.88-1.00)	0.94 (0.88-1.00)*
Vigor Mood Scale	0.99 (0.93-1.06)	1.04 (0.98-1.11)	1.06 (1.00-1.13)	1.07 (1.00-1.13)*
Relationship Quality in last 24 hours[2]				
Feel love for Partner	1.52 (1.32-1.76)***	1.53 (1.32-1.77)***	1.51 (1.28-1.77)***	1.52 (1.30-1.58)***
Support from Partner	1.31 (1.13-1.52)***	1.32 (1.14-1.54)***	1.49 (1.28-1.74)***	1.49 (1.28-1.73)***
Other Independent Variables (not time varying)				
Age (years)	1.01 (0.86-1.20)		1.04 (0.84-1.28)	
Married (vs. cohabiting)	1.44 (0.65-3.21)		2.11 (0.94-4.64)	
Highest Grade Completed	0.92 (0.80-1.05)		1.07 (0.92-1.24)	
Currently Working	0.56 (0.20-1.58)		2.25 (1.07-4.73)*	

[1]Logistic regression models with random effects to adjust for repeated observations per person and adjusted for other mood scores and age, marital status, grades completed in school, and currently working

[2] Logistic regression models with random effects to adjust for repeated observations per person and for the other relationship quality measure, age marital status, grades completed in school, and currently working.

Concluding Points and Limitations

There are a number of important limitations to the current study. First, even with daily data, we cannot sort out which came first—sexual intercourse or mood and relationship quality within the same day. First, we need to do more investigation into why among cohabiting couples men report more sexual intercourse than women. We have the data to compare partners by day of reporting which will help us better understand this discrepancy. We also plan to look more at other measures within couples to see, for example, whether partners' mood and relationship quality are similar by day. We can also analyze lagged data across several days to better define temporality and potential antecedents and consequences of sexual activity and mood.

Even with these limitations, we have robust findings for sexual activity and relationship quality in both men and women. Both rate their relationship to be of higher quality when they have had sexual intercourse that day. For women, their mood is better the same day they have sexual intercourse—they report less negative mood (anxious, depressive, angry and fatigue) and more positive mood (vigor). Men, in contrast, do not report a different mood on they days they had intercourse in general; however they report being more anxious. There is evidence from our study that sexual intercourse is related to mood and relationship quality. Further work into why there are such different patterns by gender will be part of our future research agenda.

References

(1) Costello MP, Casterline JB. Fertility decline in the Philippines: Current status, future prospects. Completing the Fertility Transition. New York: United Nations, Department of Economic and Social Affairs, Population Division, 2002: 529-538.

(2) National Statistics Office (NSO) Philippines, ORC Macro. National Demographic and Health Survey 2003. 2004. Calverton, Maryland, NSO and ORC Macro.

(3) Mello MM, Powlowski M, Nanagas JM, Bossert T. The role of law in public health: the case of familyplanning in the Philippines. Soc Sci Med 2006; 63(2):384-396.

(4) Ruiz Austria CS. The church, the state and women's bodies in the context of religious fundamentalism in the Philippines. Reprod Health Matters 2004; 12(24):96-103.

(5) Hektner JM, Schmidt JA, Csikszentmihalyi M. Experience Sampling Method: Measuring the Quality of Every Day Life. Thousand Oaks, CA: Sage Publications,Inc., 2007.

(6) Bolger N, Davis A, Rafaeli E. Diary Methods: Capturing Life as it is Lived. Annual Review of Psychology 2003; 54:579-616.

(7) Singh S, Juarez F, Cabigon J, Ball H, Hussain R, Nadeau J. Unintended Pregnancy and InducedAbortion in the Philippines: Causes and Consequences. 2006. New York, Guttmacher Institute.

(8) Natividad JN, Marquez MPN. Sexual Risk Behaviors. In: Raymundo CM, Cruz GT, editors. Youth Sex and Risk Behaviors in the Philippines. Quezon City: University of the Philippines Population Institute, 2004: 70-94.

(9) Stat Compiler. ORC Macro, 2007.MEASURE DHS STATcompiler.http://www.measuredhs.com . 2007. 1-7-2007.

(10) Nicolosi A, Glasser DB, Kim SC, Marumo K, Laumann EO. Sexual behaviour and dysfunction and help-seeking patterns in adults aged 40-80 years in the urban population of Asian countries. BJU International 2005; 95(4):609-614.

(11) Bongaarts J. Framework for Analyzing Proximate Determinants of Fertility. Population and Development Review 1978; 4(1):105-132.

(12) Brown MS. Coitus, the proximate determinant of conception: inter-country variance in sub-Saharan Africa. J Biosoc Sci 2000; 32(2):145-159.

(13) Mateo J, Sarol J, Poblete R. HIV/AIDS in the Philippines. AIDS Education and Prevention 2004; 16(3 SUPPL.):43-52.

(14) Jaya, Hindin MJ, Ahmed S. Adolescent Reporting of Sexual Behaviors in a Randomized Trial in Urban India: Differential Reporting by Interview Methods. American Journal of Public Health. In press.

(15) Potdar R, Koenig MA. Does audio-CASI improve reports of risky behavior? Evidence from a randomized field trial among young urban men in India. Studies in Family Planning 2005; 36(2):107-116.

(16) Hindin MJ, Gultiano S. Witnessing parental domestic violence and depressive symptoms in Filipino adolescents. American Journal of Public Health 2006; 95(4):660-663.

(17) Cruz GT, Berja CL. Non-sexual risk behaviors. In: Raymundo CM, Cruz GT, editors. Youth Sex and Risk Behaviors in the Philippines. Quezon City: Demographic Research and Development Foundation, Inc., University of the Philippines Population Institute, 2004: 50-69.

(18) Cranford JA, Shrout PE, Iida M, Rafaeli E, Yip T, Bolger N. A procedure for evaluating sensitivity to within-person change: Can mood measures in diary studies detect change reliably? Pers Soc Psychol Bull 2006; 32(7):917-929.

(19) Shrier LA, Shih MC, Beardslee WR. Affect and sexual behavior in adolescents: A review of the literature and comparison of momentary sampling with diary and retrospective self-report methods of measurement. Pediatrics 2005; 115(5).

(20) Conner T, Barrett LF. Implicit self-attitudes predict spontaneous affect in daily life. Emotion 2005;5(4):476-488.

(21) Bancroft J, Janssen E, Strong D, Carnes L, Vukadinovic Z, Long JS. The Relation Between Mood and Sexuality in Heterosexual Men. Archives of Sexual Behavior 2003; 32(3):217-230.

(22) Graham CA, Sanders SA, Milhausen RR, McBride KR. Turning on and turning off: A focus group study of the factors that affect women's sexual arousal. Archives of Sexual Behavior 2004; 33(6):527-538.

(23) Brown LK, Tolou-Shams M, Lescano C et al. Depressive Symptoms as a Predictor of Sexual Risk among African American Adolescents and Young Adults. Journal of Adolescent Health 2006; 39(3).

(24) Lehrer JA, Buka S, Gortmaker S, Shrier LA. Depressive symptomatology as a predictor of exposure to intimate partner violence among US female adolescents and young adults. Archives of Pediatrics and Adolescent Medicine 2006; 160(3):270-276.

(25) Des Jarlais DC, Paone D, Milliken J et al. Audio-computer interviewing to measure risk behaviour for
HIV among injecting drug users: A quasi-randomised trial. Lancet 1999; 353(9165):1657-1661.
(26) Jaspan HB, Flisher AJ, Myer L et al. Brief report: Methods for collecting sexual behaviour information from South African adolescents-a comparison of paper versus personal digital assistant questionnaires. Journal of Adolescence 2007; 30(2):353-359.

(27) Minnis AM, Muchini A, Shiboski S et al. Audio computer-assisted self-interviewing in reproductivehealth research: reliability assessment among women in Harare, Zimbabwe. Contraception 2007;75(1):59-65.
(28) Pertierra R. Moblile phones, identity and discursive intimacy. Human Technology: An interdisciplinary journal on humans in ICT environments 2005; 1(1):23-44.

(29) Hindin, M.J., Thakor, M. and Gultiano, S.A. Using Mobile Phones to Collect Daily Diary Data on Sexual Activity among Young People in the Philippines: Acceptability and Consistency of Reporting . Paper presented at the 2011 Population Association of America Meeting.