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Sexual activity among older Thais: The influence of age, gender and health

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Abstract. This study examines sexual activity among the population aged 50 and over in Thailand in relation to age, gender and health status. It is the first study of older persons based on a large nationally representative survey in any non-Western or developing country. The results indicate substantial proportions of older married Thais remain sexually active, but at lower levels than found in Western countries. Sexual activity and desire decline steadily with age for both married men and women but at any given age both are lower for women. Overall, the sexual desire of husbands is a far more important determinant of marital sexual activity than that of wives. Poor health depresses activity and desire but does not account for the decline of either with age. For the majority of older married Thai men and women behavior and desires are concordant. Discordance levels for married women exceed those for men, however, and arise primarily from being active but lacking desire. Possible reasons for lower sexual activity relative to Western countries are considered. Implications for the quality of life of older persons and the AIDS epidemic are discussed together with methodological lessons for research on older age sexual behavior.

Keywords: Coitus, Gender, Health, HIV/AIDS, Older persons, Sexual behavior, Sexual desire, Thailand

1. Introduction

Sexual behavior has been a neglected area of social research in general. Well designed quantitative studies of older adults (defined as aged 50 and over) are particularly uncommon (Levy & Albrecht 1989a; Levy 1994). In the case of non-western countries such studies are virtually non-existent. Formidable methodological challenges are one major reason for the dearth of accurate and unbiased data on older age sexual behavior in general (Kaye 1993; Levy 1994; Levy & Albrecht 1989a, 1989b). Untested assumptions that older persons are largely asexual, and thus that there is little to investigate, further discourage research (Hodson & Skeen 1994; Kaye 1993; Levy & Albrecht 1989b; Minichiello et al. 1996). Although still minimal, representative quantitative research on sexual activity in the West is beginning to include, and in some instances focus on, the older population (e.g. Braehler

& Unger 1994; Call, Sprecher & Schwartz 1995; Delbes & Gaymu 1997; Marsiglio & Donnelly 1991; Minichiello, Plummer & Seal 1996; National Council on the Aging 1998; Stall & Catania 1994). Such research is motivated largely from a perspective holding that sexuality and sexual activity remain important aspects of well-being throughout the life course.

Studies of heterosexual behavior of older persons in developing countries can contribute to basic sociological and gerontological research by expanding our understanding of conceptions of sexuality, aging and gender, and how they intersect in those societies. They can also provide a basis for comparative analyses, an essential approach if we are to achieve a more general understanding of the social patterning of sexuality in human society (Minichiello et al. 1996). Such studies also have programmatic implications for the current AIDS epidemic (Levy & Albrecht 1989b). The findings can alert persons involved in intervention programs to the actual levels of sexual activity and risk among older persons and counter potentially false assumptions based on preconceived notions of older age asexuality (Chiao, Ries & Sande 1999; Feldman 1994; Levy & Albrecht 1989a; Ory, Zablotsky & Crystal 1998; Riley 1989; Sankar et al. 1998).

The present study examines sexual activity among the older population in Thailand based on a large representative survey of persons aged 50 and older. These data are unique and provide information on both sexual activity and sexual desire for married men and women as well as unmarried men. As far as we are aware, this is the first such study for any non-Western or developing country. The analysis focuses on the influence of age, gender and health status, all of which have been shown for other populations to have important bearing on coital activity and sexual desire. The findings are placed in a comparative perspective, especially in terms of contrasts and similarities with what we know about conceptions of aging and sexuality in Western settings.

2. The Thai setting

Prior quantitative and qualitative studies of sexual behavior and attitudes provide relevant background information to assist in interpreting the current analysis of older Thais. The 1986 nationally representative Social and Economic Consequences of an Aging Population in Thailand (SECAPT) survey of persons aged 60 and over included several attitudinal questions regarding sexual activity.[1] Respondents were asked at what age men and women should stop having sex. Generally respondents thought women should stop at earlier ages than men. For example, 16, 57 and 71 percent respectively said men should stop by ages 50, 60 and 70. In comparison, 34, 72 and

80 percent respectively indicated women should stop by these ages. When asked if having sexual relations were appropriate for couples aged 60 and above, two thirds of respondents indicated it was not. On average, women in the sample stated earlier ages than did men for the appropriate age for either sex to cease sexual relations and women were more likely to say it was inappropriate for couples age 60 to have intercourse.

Focus group discussions held in 1982–1983 with younger and older generation married adults are only partially consistent with the attitudinal data from SECAPT in terms of views expressed about when couples should cease sexual relations (Knodel, Chamratrithirong & Debavalya 1987). Many participants acknowledged that the frequency of intercourse drops off with age and that some older couples abstain completely. This was explained in terms of loss of interest, however, rather than normative proscriptions. A common view was that the continuation of at least occasional sex relations was largely due to continued interest on the part of husbands. No general view emerged that sex relations are inappropriate for older persons or that intercourse should cease when reaching any particular stage in the life course.

More recent research using both focus groups and open-ended interviews documents that male and female sexuality are viewed as fundamentally different by both Thai men and women (Knodel et al. 1996). Thai conceptions of male sexuality include a recognition of a strong innate male drive with a need for frequent outlet and a preference for sexual variety. Women are seen as being far more subdued in their sexual needs and as exercising considerable self control in its expression. Views of female sexuality reflect an acceptance of the subordinate nature of a woman's sexual desires to those of a male partner. These vastly different conceptions of male and female sexuality are apparently reconciled when choosing a spouse and maintaining a satisfactory marriage by de-emphasizing the role of marital sex. Thus in discussions of what constitutes a good spouse, satisfactory sex was generally seen by both men and women as a secondary concern compared to general personal compatibility, mutual understanding, and fulfilling complementary responsibilities as defined by the culturally embedded gender system (Knodel et al. 1999).

The importance of research on sexual activity among the older population in Thailand is enhanced by the fact that the AIDS epidemic there is the most advanced and one of the most severe among Asian nations (UNAIDS/WHO 1998; MAP 1998). Approximately 2 percent of the current adult population are HIV positive (UNAIDS 2000). As in most developing countries, heterosexual intercourse is the overwhelming route of HIV transmission. Much of the epidemic has been driven by commercial sex patronage although infected

men are increasingly spreading the virus to their wives and non-commercial partners (Chitwarakorn et al. 1998). Only 4 percent of registered cases are aged 50 or older although the reported numbers may underestimate this share if AIDS is not as readily diagnosed for older as for younger adults (El-Sadr & Gettler 1995).

3. Data and methods

The present analysis is based on the Survey of the Welfare of Elderly in Thailand (SWET) conducted in 1995 (Chayovan & Knodel 1997). The survey is based on a national probability sample of approximately 7,700 persons age 50 years old and over who were usual residents of private households. The survey covered a wide range of social, economic and health issues related to older persons and questions on sexual matters constituted only a small part. Interviews were conducted face to face. Unmarried women and respondents for whom a proxy provided an answer were not asked questions on sexual activity. This reduces the sample to approximately 5100 cases. Unless otherwise stated, weights are applied to ensure the sample is nationally representative of persons aged 50 and over.

Eligible respondents were asked if they had sexual intercourse during the prior month. If they responded affirmatively, they were to say how often; if they responded negatively, they were asked when last intercourse occurred. Respondents were also asked how often they felt sexual desire. One common concern about surveys dealing with sexual matters is that respondents may find the questions too sensitive to answer or to answer truthfully (Cleland & Way 1994; Levy 1994; Levy & Albrecht 1989a). Substantial non-response can have major implications for estimates of sexual activity, especially for older respondents, as indicated by a 1988 national survey in the US (Call, Sprecher & Schwartz 1995). Results from SWET, however, reveal high response rates among the older Thai population and obviates the need to make special adjustments for non-response in our analysis.

In SWET, only 1.0 percent of the sample did not provide any information on their sexual activity and 1.3 percent did not answer the sexual desire question (thus reducing the sample suitable for analysis to approximately 5040–5050 cases). Among respondents who said they had intercourse during the prior month, only 0.4 percent did not reveal the frequency of intercourse. Among those inactive in the prior month, only 0.8 percent did not answer when they last had intercourse; however, 11.2 percent said they could not recall. It seems reasonable to assume that most who could not recall had been abstinent for quite a while. Such an assumption is consistent with the sharp rise from 7.2 percent for respondents aged 50–59 to 18.1 percent for

respondents aged 70 and over who could not recall when intercourse last occurred.

Respondents were not asked with whom they had intercourse. Presumably, the vast majority of sexually active currently married respondents had intercourse with their spouse. In the case of sexually active unmarried men, however, recent intercourse would necessarily be with a non-marital partner except for those who became widowed, divorced or separated very recently. Given that non-marital sexual contacts, especially with commercial sex workers, underlie the AIDS epidemic in Thailand, information on sexual activity of unmarried older males is of particular interest. Marital sex, however, is also of interest in connection with the epidemic since coitus with a husband who had been infected through prior commercial sex patronage is the main transmission route for married women (Brown et al. 1994).

Based on the information available in SWET, it is possible to construct several measures of sexual activity. We focus on three: the proportions sexually active in the last month and the last year and coital frequency during the past month among those who were sexually active.[2] Respondents who could not remember when they last had intercourse, are considered not to have had intercourse for at least a year. Widowed men whose wives died within the year prior to the survey are excluded from measures of sexual activity during the prior year (but not during the prior month). This facilitates interpretation of results by ensuring that almost all sexually active unmarried men had intercourse with a non-marital partner.[3] As a measure of sexual desire, we use whether or not the respondent indicated they felt desire at least occasionally.

4. Results

4.1. *Declining sexual activity and desire with age*

A virtually universal finding that marital sexual activity among cohabiting couples declines with age from the mid or late twenties (Call, Sprecher & Schwartz 1995; Cleland & Ferry 1995). Since most previous studies are restricted to reproductive aged populations, the extension of the decline of sexual activity into older years of life is rarely documented. Figure 1 compares results from the nationally representative 1987 Thai Health and Demographic Survey (TDHS) for reproductive aged married Thai women (results for men are not available) and the 1995 SWET results. The percentage of reporting intercourse during the prior month declines almost linearly from the mid-30s until the late 60s at which point only about 10 percent are sexually active. The excellent fit between the two trend lines suggests considerable

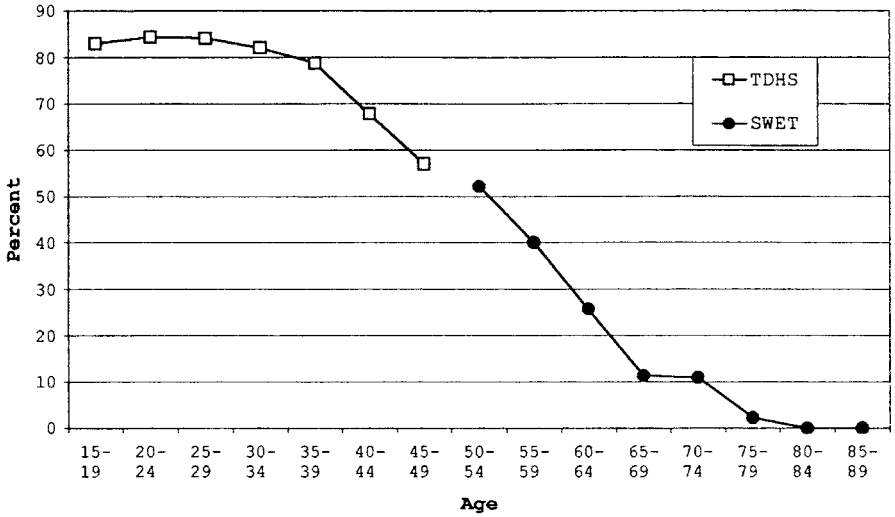

Figure 1. Percent of currently married women reporting intercourse during previous month – Comparison of 1987 TDHS and 1995 SWET.

consistency in reporting of sexual activity between the two independent surveys.

Figure 2 shows sexual activity from age 50 onwards by single years of age during the prior month and year for both married men and women based on SWET. Results are statistically smoothed to eliminate irregular variation associated with the small numbers of cases for any particular single age.[4] Both measures generally indicate a steady and relatively linear decline in the percent sexually active with age for both men and women but with consistently lower percentages of women than men reporting sexual intercourse at each age.

Table 1 summarizes the measures of sexual activity, the percent who felt sexual desire at least occasionally, and a measure of concordance between desire and activity by age for married respondents of each gender and unmarried men aged 50 or above. For both married men and women, age and either sexual activity or sexual desire show a clear inverse association. A less pronounced decline with age is evident in mean coital frequency among the sexually active in the prior month. For each age group, married men consistently report higher levels of sexual activity and coital frequency than married women. An even more pronounced gender difference is evident with respect to sexual desire. In general, the percentage of married men in an age group who expressed at least occasional sexual desire is fairly similar to the percentages who indicated activity during the prior year but for married women, the percentages expressing sexual desire are noticeably below the percentages

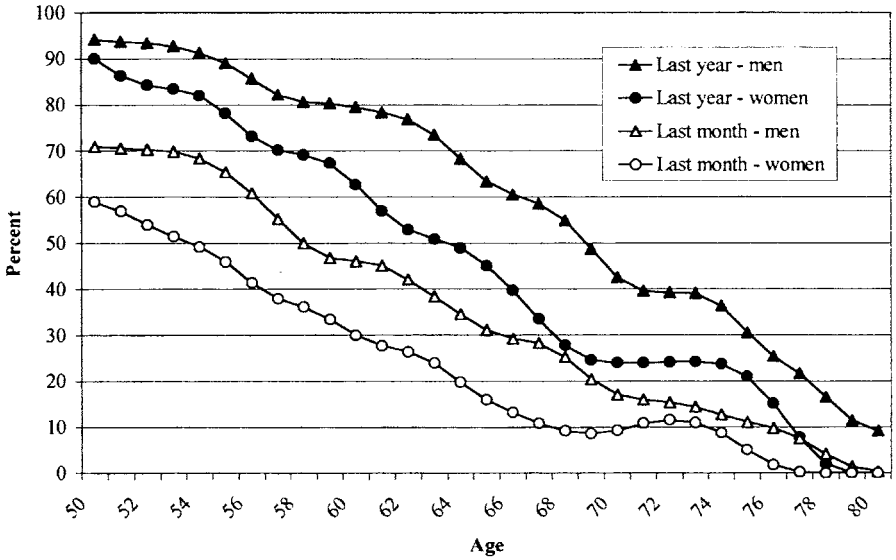

Figure 2. Percent of married persons sexually active within specific periods, by age and gender (smoothed average).

who were sexually active. Apparently among older Thais, the sexual desire of husbands is a more important determinant of marital sexual activity than that of wives. Direct cross-tabulations between sexual activity status and sexual desire confirm this. For example, among those sexually active during the prior year, 90 percent of married men compared to only 57 percent of married women admitted to feeling sexual desire at least occasionally (results not shown). Part of this difference could reflect a greater reluctance among older women than men to admit in an interview to having sexual feelings. However, without supporting evidence, this suggestion remains speculative.

The percentage of non-married men who were sexually active also declines with age, although the pattern is rather erratic reflecting much smaller sample sizes. (Indeed, the number of cases is insufficient to show mean coital frequency among sexually active non-married men). The percentages reporting intercourse in either time frame are well below those for married men of equivalent age. Nevertheless, close to half of non-married men in their early 50s indicated at least some activity in the prior year. In contrast to their married counterparts, the percentage of non-married men who expressed sexual desire is substantially higher than the percentage sexually active during the prior year. At the same time, lower percentages of unmarried than married men reported sexual desire, suggesting that the expression of desire among men is in part a function of opportunity for fulfilling it (i.e. accessibility to a sexual partner). A self-selection process

Table 1. Indicators of sexual activity and desire by age and sex, among married persons aged 50 and above, Thailand 1995

Gender and age	Percent sexually active during prior: Month	Percent sexually active during prior: Year	Coital frequency for those active in prior month	Percent feeling some sexual desire	Percent whose desire and activity are concordant[a]	Unweighted number of cases[b]
Married men						
50–54	68.7	93.7	2.6	93.1	92.5	720/498
55–59	55.1	83.3	2.7	81.6	88.6	672/377
60–64	40.2	73.4	2.1	73.3	83.4	541/213
65–69	29.2	60.4	2.0	58.7	84.3	384/110
70–74	15.0	35.3	2.0	32.6	83.4	224/39
75+	6.0	22.2	*	21.6	82.3	181/16
Total	43.2	70.6	2.4	70.0	86.6	2722/1253
Married women						
50–54	52.2	84.4	2.1	53.0	66.5	488/261
55–59	40.0	71.8	1.9	43.3	67.8	499/188
60–64	25.8	53.2	1.8	28.5	71.7	349/88
65–69	11.4	35.3	1.6	22.9	85.5	264/36
70–74	10.9	23.7	*	8.5	84.6	122/9
75+	1.8	12.4	*	1.8	89.5	68/1
Total	32.3	59.8	1.9	35.5	73.0	1790/583
Unmarried men						
50–54	14.9	45.9	–	86.5	51.4	40/44
55–59	5.9	21.4	–	71.1	47.6	58/66
60–64	2.7	9.6	–	36.3	71.2	82/90
65–69	2.4	19.7	–	45.7	71.3	79/86
70–74	0.0	9.5	–	24.1	82.9	72/76
75+	2.6	5.0	–	13.2	90.0	145/156
Total	3.5	13.6	–	36.3	74.8	476/518

Notes: Results for unmarried men exclude men widowed within last year for measures referring to sexual activity during last year and the measure of consistency between desire and activity.

*Result not shown as based less than 20 cases.

[a]Desire and activity are concordant if either the respondent expressed at least occasional desire and was active in prior year or the respondent expressed no desire and was not active in prior year.

[b]For married persons, the first number represents the lowest number of cases with non-missing values for each age group for the various measures excluding coital frequency; the second number represents the number of cases with non-missing values for coital frequency (conditioned on being sexually active in prior month). For unmarried men, mean coital frequency is not shown since the number of cases of sexually active in the prior month is very small. Thus for unmarried men, the two numbers represent the range in number of cases with non-missing values for each age group for the various measures shown excluding coital frequency.

may influence these differences if, among men who lose a spouse, those with stronger sexual desires are more likely to remarry than others. Still, even unmarried men are much more likely than married women in each age group to say they felt occasional desire.

Table 1 also shows the percentage of respondents for whom reported sexual desire and activity are concordant (i.e. either a respondent expressed at least occasional desire and was active in the prior year or expressed a lack of desire and was inactive in the prior year). Based on this definition, expressed desire for sex and stated activity are concordant for a substantial majority of older Thais. This is particularly true for married men, but also holds for most married women and unmarried men. For married men, the percentages experiencing concordance declines somewhat with age while for married women, and even more so for unmarried men, concordance increases with age.

As Figure 3 shows, the components of concordance between desire and activity shift sharply with age and, in some respects, with gender. For all three groups, the combination of feeling desire and being sexually active decreases with age while the combination of no desire and inactivity increases in importance. At all ages, however, the combination of feeling desire and being active contributes more to concordance for married men than for either married women or unmarried men. The reverse is true with respect to the combination of lacking desire and inactivity, which at all ages contributes more to concordance for married women and unmarried men than for married men. For all but the oldest age group, the combination of lacking desire but being active is noticeably higher for married women than for either group of men. Among women in their 50s, almost 30 percent had intercourse in the prior year despite a reported lack of sexual desire. As sexual activity decreases with age, however, so does the percentage of women who feel no desire but remain sexually active, falling below 10 percent for those ages 75 and above. Unmarried men stand out with respect to their high percentages (relative to married men and women) who feel desire but are inactive.

4.2. *The gender gap in marital sexual activity and desire*

Given that marital coitus necessarily involves both husband and wife, the ages of both spouses are likely to jointly influence its probability. Thus interpretations of gender difference in marital sexual activity need to take into account that wives are typically younger than their husbands. In the SWET sample of persons aged 50 and over, currently married women were almost 3 years younger on average than their husbands while married men were 5 years older on average than their wives. Since for both men and women, sexual activity and desire decline with age, having an older spouse likely decreases activity

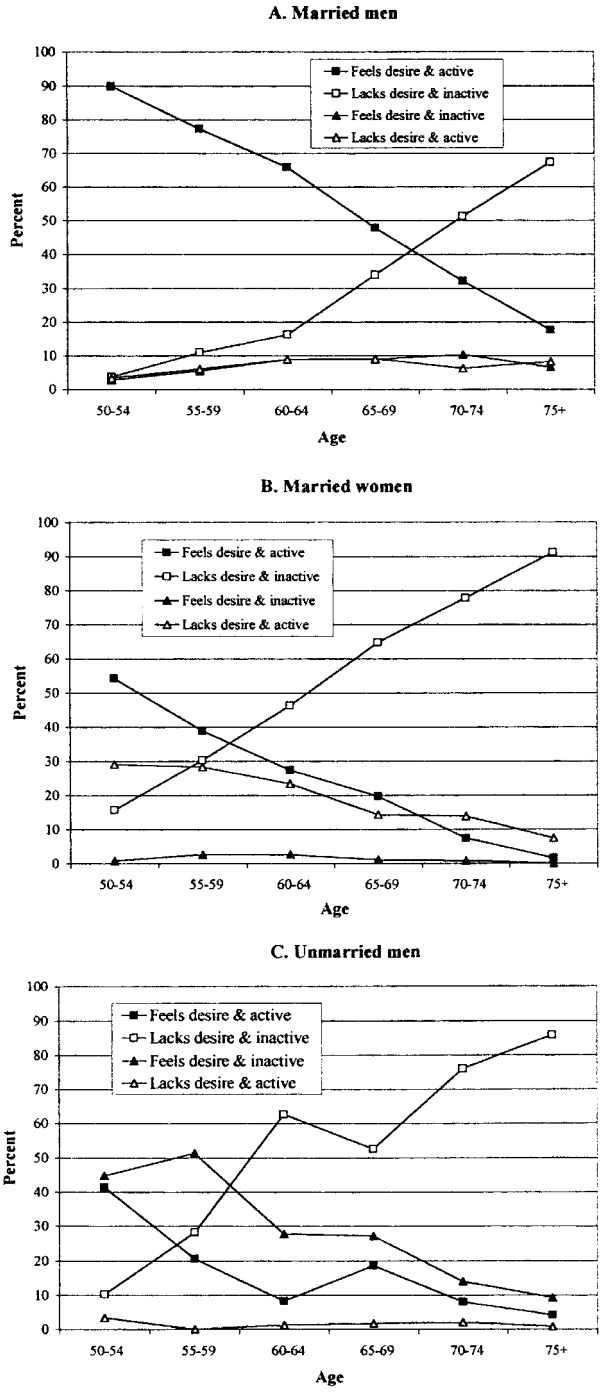

Figure 3. Comparisons of sexual activity (in prior year) and feelings of sexual desire (at least occasionally) by gender and marital status.

while having a younger spouse increases activity. This in itself would result in higher sexual activity among married men than women within the same age group and potentially could account for the observed pattern (Marsiglio & Donnelly 1991). In contrast, while feeling sexual desire may be influenced by perceptions of spousal interest in sexual relations, it is not a joint matter in the same sense as is intercourse. Thus it is less likely to be a function of age of one's spouse.

By statistically adjusting age differences between spouses, we can determine the extent to which the gender gap in reported marital sexual activity and desire is attributable to this influence. Logistic regression is used to adjust sexual activity status and expression of sexual desire for ages of both respondent and spouse.[5] Multiple classification analysis is used to adjust mean coital frequency among those sexually active during the prior month. Results are shown in Table 2.

Since married women in the sample tend to be somewhat younger on average than married men (60.3 versus 61.7), adjusting only for the respondent's age increases the gender differences in all four measures. Once age differences between spouses are also taken into account, however, the gender gap in sexual activity is considerably reduced although not eliminated. In the case of the percent sexually active during the prior month, most of the observed (unadjusted) gender difference is eliminated after being adjusted for respondent's age and the spousal age difference. However, the gender differences in reported sexual activity during the prior year and mean coital frequency of those sexually active during the prior month are reduced by less than half. Differences in reported feelings of sexual desire are only modestly reduced by controlling for age differences between spouses.

The fact that differences in sexual activity as reported by married men and women persist despite statistical controls for age differences between spouses suggests that there is some systematic reporting bias associated with gender with respect to sexual activity. Given that the sample design for SWET allowed only one respondent to be interviewed per household, we can not directly compare reported sexual activity between husbands and wives who are married to each other. Nevertheless, aggregate differences in how husbands and wives would report can be approximated by cross-tabulating measures of sexual activity (as reported by the respondent) by the age of the respondent's spouse and comparing the results with the extent of sexual activity reported by respondents of the same age and gender as the spouse. In the absence of reporting biases associated with gender, and provided extra-marital sexual activity is either minimal or not reported by married respondents, we would expect the sexual activity of married men of a particular age group as reported by wives to closely resemble the levels reported

Table 2. Unadjusted and adjusted measures of sexual activity for married men and women aged 50 and over, Thailand 1995

	Unadjusted	Adjusted for age group	Adjusted for age group and spousal age difference
Percent sexually active during prior month			
Married men	43.2	46.1	42.6
Married women	32.3	31.8	39.7
Difference	10.9	14.3	2.9
Significance level	$P = 0.000$	$P = 0.000$	$P = 0.051$
Percent sexually active during prior year			
Married men	70.6	73.4	70.8
Married women	59.8	59.0	64.9
Difference	10.8	14.4	5.9
Significance level	$P = 0.000$	$P = 0.000$	$P = 0.000$
Mean coital frequency among sexually active during prior month			
Married men	2.44	2.47	2.37
Married women	1.93	1.89	2.07
Difference	0.51	0.58	0.30
Significance level	$P = 0.000$	$P = 0.000$	$P = 0.011$
Percent feeling sexual desire (at least occasionally)			
Married men	70.0	72.6	70.0
Married women	35.5	35.0	41.2
Difference	34.5	37.6	28.8
Significance level	$P = 0.000$	$P = 0.000$	$P = 0.000$

Notes: Results are adjusted either by logistic regression (for percent sexually active during stated period of time and percent feeling sexual desire) or multiple classification analysis (for mean coital frequency). In the case of adjustment by logistic regression, the results shown represent the mean predicted probabilities based on taking into account the characteristics indicated, i.e. age of the respondents (as a categorical variable) and the age difference between the respondent and spouse (as a continuous variable). The *P*-values indicate statistical significance of the difference between married men and married women for each indicator of sexual activity. In the case of the unadjusted results, statistical significance is based on tests for differences between proportions and differences between means (*t*-test). In the case of results adjusted by logistic regression the *P*-value is based on the Wald statistic. Significance for the MCA adjusted results is based on the *F*-test.

by similar aged married men themselves. Likewise, the sexual activity of married women in a given age group as reported by their husbands should be essentially the same as that reported by married women in the same age group. Table 3 compares married male and female sexual activity by age as actually reported for self and as implied from reports by spouses.

The results show that, in a particular age group, the percentage sexually active in the prior month as reported by married men themselves is consist-

Table 3. Percent sexually active in prior month and mean reported coital frequency, by gender, as actually reported and as implied by reports of spouses

Age	Percent of married men sexually active in prior month		Percent of married women sexually active in prior month	
	As self-reported by married men in the indicated age group	As implied by reported activity of married women with husbands in the indicated age group	As self-reported by married women in the indicated age group	As implied by reported activity of married men with wives in the indicated age group
Under 50	n.a.	71.7	n.a.	60.8
50–54	68.7	52.7	52.2	55.8
55–59	55.1	46.0	40.0	47.9
60–64	40.2	22.3	25.8	34.1
65–69	29.2	19.3	11.4	21.7
70–74	15.0	14.2	10.9	8.5
75+	6.0	3.4	1.8	3.0

Age	Male coital frequency		Female coital frequency	
	As self-reported by married men in the indicated age group	As implied by reported activity of married women with husbands in the indicated age group	As self-reported by married women in the indicated age group	As implied by reported activity of married men with wives in the indicated age group
Under 50	n.a.	2.90	n.a.	2.68
50–54	2.64	1.94	2.13	2.87
55–59	2.71	1.82	1.87	2.04
60–64	2.07	2.00	1.82	1.83
65–69	1.97	1.73	1.58	1.99
70+	1.96	1.73	*	*

*Result not shown as based less than 20 cases.

ently higher than the percentage active among similar aged husbands as implied by reports of married women. Likewise, the mean coital frequency among those sexually active in an age group as reported by married men themselves is consistently higher than that for husbands in the age group as implied by reports of married women. Exactly the reverse is true when self reports by married women in an age group are compared with percentages sexually active or the mean coital frequency implied for wives of the same age from reports by married men. These results strongly suggest that married Thai men tend to systematically report higher levels of sexual activity than do married women. It is not possible from the data available to determine whether men or women report more accurately but it is reasonably clear that

some bias in reporting is associated with gender. The only possible explanation other than gender specific reporting bias would be that the married men in our sample engage in frequent and significantly greater amounts of extramarital sex than married women and are willing to report this. Both seem unlikely. As discussed below, existing evidence strongly indicates the level of extramarital sex among older married men, either as commercial sex patronage or in other forms, is far too infrequent to account for the large differences indicated in Table 3. Moreover, information on such a potentially sensitive matter would likely be difficult to solicit freely in a general interview not designed with this issue in mind.

4.3. *Health status*

The potential influence of physical health on sexual behavior and desire is of particular pertinence for older persons given that chronic health problems increase with age. In SWET the percentage of respondents reporting their health as poor or very poor increases steadily from 21 percent of those 50–54 to 48 percent of those 75 and older. Several Western studies have indicated positive associations between self-assessed health and sexual activity (e.g. Braehler et al. 1994; Marsiglio & Donnelly 1991; Roa & Demaris 1995). Some even claim that declines in sexual interest and activity with advancing years result mainly from the decline in physical health of one or both partners (Kaye 1993).

In SWET respondents assessed both their own health and that of their spouse. Responses were pre-coded into five categories ranging from very good to very poor. Thus the influence of health of each spouse on a couple's activity can be compared provided we treat self-assessed and spouse-assessed reports of health equivalently and assume that the reported activity of each respondent represents that of their spouse as well. Table 4 presents results of multivariate analyses that include measures of the self/spouse assessed health of the husband and wife in addition to age and gender of the respondent and the age difference between spouses. Since the measures of health presumably refer to the current time and may not reflect the situation for the prior year, the percent sexually active during the prior year are omitted.

The age of respondent and the age difference between respondent and spouse both remain highly statistically significant in all three analyses shown. Moreover, consistent and pronounced declines in the estimated odds ratios and adjusted means are evident with each successive age group of respondent. Clearly declining sexual activity and desire with age is not merely a matter of declining health. Gender is only weakly related to the measures shown and is statistically significant at better than the 0.05 level only in relation to mean coital frequency. Husband's and wife's health are both related in statistically

Table 4. Estimated odds ratios of the probability of being sexually active during specified periods and adjusted coital frequency as a function of age, gender, age difference with spouse, and couple's health status, for married persons aged 50 and over, Thailand 1995

	Odds ratios[a] of probability of		Adjusted coital frequency for those active in prior month[b]
	Begin sexually active during prior month	Feeling sexual desire (at least occasionally)	
Age of respondent	($P = 0.000$)	($P = 0.000$)	($P = 0.000$)
50–54[c]	1.00	1.00	2.48
55–59	0.56	0.54	2.42
60–64	0.30	0.31	1.95
65–69	0.15	0.18	1.75
70–74	0.08	0.07	1.61
75+	0.02	0.03	1.22
Gender	($P = 0.147$)	($P = 0.068$)	($P = 0.015$)
Male[c]	1.00	1.00	2.36
Female	0.88	0.22	2.08
Age difference with spouse	($P = 0.000$)	($P = 0.000$)	($P = 0.000$)
	1.07	1.06	n.a.
Husband's health	($P = 0.000$)	($P = 0.000$)	($P = 0.000$)
Very good[c]	1.00	1.00	2.73
Good	0.97	0.92	2.04
Moderate	1.12	1.06	2.22
Poor	0.71	0.52	2.12
Very poor	0.32	0.34	1.78
Wife's health	($P = 0.000$)	($P = 0.000$)	($P = 0.081$)
Very good[c]	1.00	1.00	2.06
Good	0.84	1.33	2.43
Moderate	0.84	1.06	2.26
Poor	0.56	0.83	2.11
Very poor	0.60	0.64	2.23

Notes: In all analyses presented in this table, the age difference between the respondent and spouse was entered as a continuous variable; all other variables were entered as categorical variables.

[a]Odds ratios are based on logistic regressions. The *P*-values are the based on the Wald statistic and for categorical variables refer to the entire set of categories comprising the variable taken together.

[b]Adjusted by multiple classification analysis. The *P*-values are based on the *F*-test.

[c]Omitted category in the logistic regression.

n.a. = not applicable

significant manners to being sexually active and feeling sexual desire but only the husband's health status is significantly related to mean coital frequency among those active in the prior month.

Despite the statistical significance of the associations, none of the measures of sexual behavior or desire show consistent declines with successively lower health ratings for either husband or wife. Substantial reductions in the percentage active during the prior month and the percentage feeling at least occasional desire only appear when health of either spouse is assessed as poor or bad. At the same time, the odds ratio are distinctly lowest when the husband is in bad health but not when the wife is in bad health. In the case of coital frequency, wife's health appears to have little effect while the husband's health appears to substantially increase frequency when health is very good and decrease frequency when health is very bad. Thus overall the results suggest that poor health for the husband has a more depressing effect on sexual relations than it does for the wife.

Since the health of both spouses are likely to jointly influence coital activity (and perhaps sexual desire), examining the impact of husband's and wife's health separately does not make obvious the full extent to which health acts as an important influence (Call, Sprecher & Schwartz 1995). Thus we conducted analyses parallel to those shown in Table 4 that incorporate a joint measure of both spouses health rather than separate measures. The joint measure is the simply the sum of the scores of the respondent and spouse regrouped into five categories.[6] Since using a joint health measure rather than separate measures for each spouse has almost no effect on the coefficients relating to age, gender and age difference between spouses, in Figure 4 we only present the results for the health variable. The percentage having intercourse in the prior month and the percentage feeling sexual desire are shown as mean predicted probabilities based on logistic regression; coital frequency is shown as adjusted means based on multiple classification analysis.

When the joint effect of both spouses health is considered, consistent positive associations between health and the measures of sexual behavior and desire emerge. All three measures decline successively with lower joint health ratings. Thus deteriorating health is likely to contribute to reduced sexual activity independent of age effects. Once a joint health measure is used, a consistent relationship with health emerges not only with the behavioral measures but also for sexual desire. Thus desire is likely reflecting in part the situation not just of the respondent but also of the spouse. This is consistent with the suggestion that accessibility to opportunities for sexual relations may influence desire.

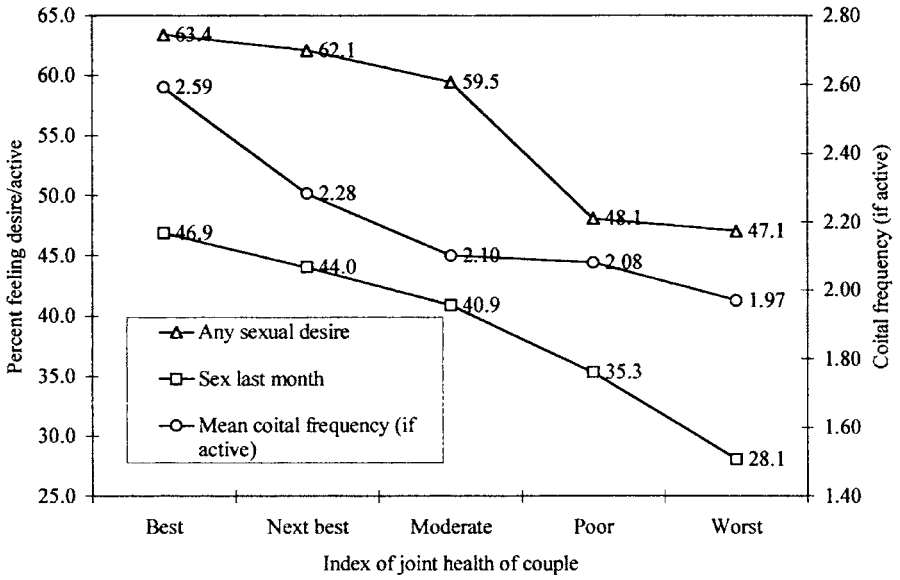

Figure 4. Measures of sexual activity and desire, by joint index of joint health of couple (adjusted for age, gender and spousal age difference).
Notes: Results are statistically adjusted either by logistic regression (percent feeling sexual desire and for percent sexually active during stated period of time) or multiple classification analysis (for mean coital frequency). In the case of adjustment by logistic regression, the results shown represent the mean predicted probabilities based on taking into account age and gender of the respondent (as categorical variables) and the age difference between the respondent and spouse (as a continuous variable).

5. Discussion and conclusions

Our analysis of sexual activity and desire among older Thais show both decline steadily with age and are also related to gender and health, confirming basic associations found in most studies of Western populations. Our results bear on a number issues of general interest including the predominant influence of age, the low reported sexual activity levels compared to the West, intersections with gender, the reconciliation of activity and desire, implications for AIDS, and methodological concerns.

The predominant influence of age. As in numerous studies in the West, age has a predominant influence on sexual activity among older Thais. Explanations of the strong negative correlation are likely similar to those cited for other populations. These involve biological aging (including reduced male physical ability to engage in coitus and hormonal changes in both men and women), diminished health, and habituation to sex with a particular partner over time

(Call, Sprecher & Schwartz 1995). The SWET data also reveal a pronounced decline in the percent feeling sexual desire with age for both men and women. This is likely a key factor in the decline in sexual activity that has both biological and social roots. Our data do not permit directly distinguishing biological from social influences on the age-related declines in sexual activity and desire. However, several aspects bear on this issue.

With respect to biological influences, declining health accounts for only a small part of the reduction in activity and desire with age among older Thais, consistent with analyses for the US (Call, Sprecher & Schwartz 1995; Marsiglio & Donnelly 1991). This contradicts claims that attribute reduced sexual in later primarily to waning physical health (Kaye 1993). Typically declines in sexual interest, intercourse frequency, and vaginal lubrication have been found to be associated with menopause for women although most studies documenting this are based on small or non-representative samples in Western countries (Dennerstein et al. 1994; McCoy 1997, 1998). If menopause plays a substantial role, we should observe a rapid drop in the percentage sexually active among women between the mid-forties and mid-fifties, the ages where menopause is concentrated (Gray 1976; Knodel et al. 1982). No such pattern is evident in our data. Instead the percentage sexual active among married women declines linearly between reproductive and later ages (as implied in Figure 1) indirectly indicating that menopause does not prompt any very observable acceleration in the cessation of sexual activity among Thais.[7] Possibly the effect of menopause is too modest to detect in cross-sectional data using relatively crude measures of sexual activity. Alternatively, menopause may actually lead to declines in sexual desire among Thai women but marital sex is driven mainly by male interest, as suggested below.

The general agreement between the attitudinal data from the 1986 SECAPT survey of persons 60 and over and the behavioral data from SWET suggests that social influences contribute to reduced activity with age. Substantial portions of older persons disagreed that couples aged 60 and over should have sexual relations. Moreover, views about when men and women should cease having sexual relations generally correspond to when older Thais appear to cease having intercourse. Among the SECAPT sample, 57 percent thought men and 71 percent thought women should stop having sexual relations by age 60. These are very close to the 54 percent of men and 70 percent of women aged 60 in SWET who, as indicated in the smoothed results in Figure 2, reported that they did not engage in intercourse during the prior month. If we define activity to encompass the entire prior year, however, then the attitudes are more conservative than what occurs in practice.

Given that our analyses are based are based on cross-sectional data, the association of sexual activity and desire with age could reflect cohort effects. Several studies speculated that such effects are prominent among older persons in the West, mirroring the radical changes in attitudes towards sexual matters thought to have occurred during the last half century (e.g. Delbes & Gaymu 1997; Marsiglio & Donnelly 1991). For Thailand, however, little is known about changes in sexual behavior over the period when the current cohorts of older persons were growing up. However, the attitudinal data regarding when men and women should cease sexual activity and whether couples over age 60 should have sexual relations from the 1986 SECPAT survey are quite similar among different age groups of respondents (e.g. 68 percent of those 60–64 compared to 69 percent of those 75 and above disagree that couples over 60 should have sexual relations). Thus we see no reason to assume substantial cohort effects for our sample.

Lower activity than in the West. Overall, lower sexual activity is reported by older age Thais than by older populations in the West as suggested by surveys in the US, France and Germany. This seems clear despite differences in measures, methodologies, reference populations, and non-response rates. Analysis of the 1988 NSFH for the US indicates that non-response is associated with low activity (Call, Sprecher & Schwartz 1995). However, even under the extreme assumption that all non-responses represent cases of sexual inactivity, the percentage active in the last month would still be substantially above those indicated by SWET for older Thais.[8] Likewise, the mean levels of coital frequencies among those who are active are more than twice as high for most age groups of older married Americans as indicated by the NSFH data than are found for older Thais based on SWET. A later US survey focusing on sexual issues but excluding adults aged 60 and older indicates levels of coital activity for both men and women in their fifties that are at least twice as high as those reported by Thais (Laumann et al. 1994).[9] A 1992 French survey likewise indicates both men and women aged 50–69 are far more active than their Thai counterparts (Delbes & Gaymu 1997).[10] Finally, lower percentages of Thais report sexual activity in the prior year than do married German men and women in the 61–70 age group (Braehler & Unger 1994). The differences, however, are less pronounced than in the comparisons with the US and French surveys and the percentages active for the age group 70 and over are similar for Thais and Germans.

The observed differences in sexual behavior derived from these studies could be largely artifacts of differences in reporting accuracy arising from cultural and/or methodological differences. Without contrary evidence, however, there is little basis to doubt that the differences are real. Moreover,

although many older Thais denied having intercourse in the prior month, most reported when their last coitus occurred, often indicating that it was within the prior year. Thus older Thais do not necessarily deny having recent sex even if their reported frequency is low.

Variation in the overall health levels of the populations could be involved since in general we would expect older populations in economically more advanced countries to be of better health on average than in Thailand. However, levels of coital frequency indicated by married Thai women in reproductive ages in the 1987 TDHS (Knodel & Chayovan 1991) are also considerably lower by more or less by an equivalent factor than the levels indicated by Americans in the equivalent ages in the 1988 NSFH (Call, Sprecher & Schwartz 1995).[11] Moreover, sexual activity even among the Thai couples reporting good health is lower than US and French surveys find for all couples (results not shown).

Levy (1994) points to the importance of access to a conducive environment (or private space) for sex and suggests that coresidence with adult children may depress sexual activity of the parents. Thus the fact that most older Thais but relatively few older persons in most Western countries coreside in the same household with an adult child might help account for lower Thai levels of sexual activity. According to SWET, only 15 percent of married persons aged 50 or older lived together as a couple with no others in the household and almost 70 percent lived with an adult child. However, regression analysis (controlling for age, gender and age differences between spouses) indicates neither coresidence with adult children nor living in a household with only one's spouse reveals any statistically significant relation in the SWET sample to either sexual activity in the prior month or to coital frequency among the sexually active (results not shown).

Another potential influence might be the relatively high prevalence of commercial sex availability and patronage in Thailand. Existing data, however, suggest it is unlikely many married men seek commercial sex or other extramarital sex for routine fulfillment of their sexual desires. According to a 1990 urban survey by Deemar (1990), 9 percent of married men reported sex with a prostitute in the prior 12 months. The 1990 Partner Relations Survey found that nationally 17 percent of married men under age 50 reported extramarital sex of any kind (including non-commercial sex) in the prior year (Sittitrai et al. 1992). The 1993 Survey of Women's Status and Fertility in Thailand (SWAFT), indicates that about three-fourths of husbands of reproductive aged women said they had never been to a prostitute since they married and about four fifths said they never had an extramarital affair (original tabulations). Levels for older men would undoubtedly be even lower. Moreover, there is clear evidence that by 1995, the year of SWET,

commercial sex patronage declined, presumably in response to the HIV/AIDS epidemic (UNAIDS 1998).

Assuming the validity of these comparisons, social influences likely account for them. As our review of previous qualitative research indicated, marital sex may be of lesser significance among older Thais, and perhaps Thais in general, than among older persons in the West. Substantial change, however, can and does occur in levels of older age sexual activity over time (e.g. in France 1970 and 1992 – see Delbes & Gaymu 1997) and likely reflects changing views of sexuality and appropriate sexual behavior both inside and outside of marriage in conjunction with other societal changes. Commercial sex patronage has been changing significantly among Thai men in response to the AIDS epidemic (Hanenberg & Rojanapithayakorn 1998; UNAIDS 1998). Thus a greater emphasis on sexual fulfillment within marriage could emerge in the future.

More generally, although substantial proportions of older populations are likely to be sexually active in numerous diverse settings, the contrast between the Thai and Western patterns suggest that local circumstances and cultural norms operate in ways that can lead to substantial cross national variation. Documenting and explaining such differences provides a methodologically challenging and substantively very interesting area for future research.

Intersections with gender. Pronounced differences between married Thai men and women within the same age group are evident in both sexual activity and desire even after taking into account the fact wives are usually younger than their husbands. Reporting biases associated with gender (discussed below) likely contribute to this finding, at least with respect to reported sexually activity. Explaining the substantial gender differences in reported sexual desire is a particularly interesting challenge. Although we have no direct supporting evidence, gender specific differences in the normative acceptability of expressing sexual feeling in an interview may play some role. However, lower sexual interest among older women than men common elsewhere as well (Levy & Albrecht 1989b). Recent surveys in the US and Australia have documented differences of comparable magnitude (Minichiello, Plummer & Seal 1996; National Council on the Aging 1998). Despite the generality of this finding, little consensus exists as to explanations (Levy & Albrecht 1989b). Men and women's sexual behaviour and psychology undoubtedly reflect genetic differences that have emerged over evolutionary time (Buss 1994; Low 2000). Nevertheless, this biological basis only provides the foundation upon which social, cultural and environmental forces mold male and female sexuality. Determining the extent of cross-national variation in gender differences in older age sexual behavior and

attitudes should provide interesting additional material for consideration in this debate.

Although older Thai men are far more likely than women to express feeling sexual desire, steady declines in the percentage feeling desire with increasing age for both sexes correspond to parallel declines with age in sexual activity. Nevertheless, it is the decline in the male sexual desire that appears to play the primary role in the decline in activity. In general, the percentages of older Thai married men at different ages who had sexual feelings corresponds closely to the percentages who remained active during the prior year while the percentages of women feeling sexual desire is well below the percentage who experience coitus. US studies likewise find that the male tends to be responsible for discontinuing sexual activity among couples (Marsiglio & Donnelly 1991). Although this pattern may be common across cultures, the extend to which male interest dominates older age sexual activity could vary considerably. Further research across a broad range of settings should clarify this.

Reconciliation of desire and activity. Much of the literature on aging and sexuality, almost all of which concerns Western societies, portrays remaining sexually active into old age in a positive light, viewing it as an important contributor to the quality of life. Indeed, some of the writing is more in the vein of advocacy than objective assessment. Emphasis is placed on persons who remain sexual active until an advanced age to contradict popular images of older persons as asexual. The decline in activity or interest is typically played down or attributed to attitudes related to ageism or external factors beyond the control of older persons themselves such as declining health (e.g. Hodson & Skeen 1994; Kaye 1993).

Our findings suggest this may be too narrow a perspective for approaching the topic, at least in the Thai context. The rapid decline in sexual desire evident from our survey means that large portions of older persons are probably satisfied to be sexually inactive. This may be particularly true for older Thai women, given that only slightly more that one third of those 50 and over and just slightly over a fifth of those 60 and over indicated they felt sexual desire even just occasionally. Even among men, only 56 percent of those 60 or over and 44 percent of those 65 or older said they felt any sexual desire. It seems presumptuous to assume that older persons who are sexually active are necessarily experiencing a better quality of life than those who are not, especially when the evidence suggests that there often is either discordance in the sexual desire between the husband and wife or both no longer feel sexual desire.

Implications for the AIDS epidemic. Many older Thais remain sexually active within marriage well past reproductive ages. There is little reason to doubt a similar situation prevails in many other settings as indeed has been documented by numerous representative surveys in the West. Thus stereotypes of older persons as asexual are misleading oversimplifications (Hodson & Skeen 1994). In addition, a sizeable minority of unmarried males in their 50s engage in at least occasional non-marital intercourse. Given the substantial prevalence of commercial sex in Thailand, many of the partners of unmarried older men are likely to be commercial sex workers, a group with high HIV infection levels (World Bank 2000). Thus messages aimed at informing the public about the epidemic and encouraging safe sexual practices should not ignore older persons, as typically done in Thailand and elsewhere (Evans 1996; Feldman 1994). Older non-married men, especially in their fifties, particularly merit attention in an AIDS campaign.

At the same time, the risk of AIDS among older Thais should not be exaggerated. The more general older Thai population is likely at substantially lower risks than younger adults. Informed assessments of the absolute or relative HIV risk levels of the older population are difficult since so little research has focused on their risk behaviors. Far more information than provided in SWET would be required. Given the long latency period of AIDS, not just current contacts but earlier encounters could result in HIV infection and, with continuing marital sexual activity, expose spouses to risk. Future research on the older population in Thailand needs to ascertain sexual histories of both married and unmarried persons over the last decade, including the frequency and nature of non-marital partners and current and past condom use.

Methodological implications. The high response rates to questions related to sexual matters in SWET challenge the common view that non-response will necessarily be a serious problem for population based studies of the sexual behavior of older persons (e.g. Levy & Albrecht 1989a). They also stand in contrast to rates encountered in the US 1988 NSFH, a major source of estimates of sexual activity among older Americans (Call, Sprecher & Schwartz 1995). While high response does not guarantee validity, it at least demonstrates that in some settings sexual questions can be included in a survey of older persons without the risk of high non-response bias.

The substantially higher response rates in SWET than in NSFH may stem in part from the fact that interviews in SWET were carried out entirely face-to-face while in the NSFH the questions on sexual behavior were self administered. With face-to-face interviews, respondents may feel more reluctant to refuse to answer a question (Levy & Albrecht 1989a). Sexual

matters may also be less sensitive to older Thais than older Americans. Survey response rates in Thailand, however, generally are quite high compared to the West and the high response on sexual questions may simply a typically more cooperative attitude among Thais towards survey takers. This in turn is probably rooted in differences in the cultural and social settings. Western experience with surveys on sexual matters among older persons thus may well not be a reliable guide for numerous non-Western settings.

While the low non-response rate is encouraging, our analysis also finds clearly detectable bias in responses associated with gender. Older Thai married women provide substantially more conservative estimates of sexual activity than men. This difference is likely rooted in the very different socially constructed views of male and female sexuality in Thai society referred to above. This gender-specific reporting bias contrasts to the reasonably good agreement in couple responses found in the US NSFH survey (Call, Sprecher & Schwartz 1995). As already noted, Thais believe women should cease sexual activity at earlier ages than men. It may be that while face-to-face interviewing elicits higher response rates to questions on sexual activity than self administered questionnaires, it also leads respondents to answer in accord with perceived social values and thus detract from their factual accuracy. Determining the extent of gender biases in reporting in other settings, understanding their sources, and learning how to minimize them where they exist all pose interesting challenges for research on older age sexual behavior.

Survey questions are necessarily brief and hence typically superficial. A fuller understanding of older age sexuality and sexual behavior will thus benefit from a broader range of approaches. Qualitative research should be able to probe more deeply into the meaning of the findings of declining desires and activity. In general, the shortage of representative surveys providing quantitative data is matched by a dearth of qualitative research into the topic of sexuality in later life (Minichiello et al. 1996). With older persons becoming an increasing share of populations worldwide, a fuller understanding of older age sexuality likewise increases in importance.

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Notes

1. The results of (SECAPT) cited in this section are from original tabulations made by the present authors.
2. We recognize that non-coital forms of sexual expression may be of greater significance in contributing to many older persons' sense of well being. Only information on coitus, however, is available in the survey. Also, non-coital sexual expression is unlikely to play a part in the AIDS epidemic.
3. No information on when divorce or separation took place is available in SWET. Thus a few divorced and separated men who report sexual activity within the prior year may be referring to marital sex. However, only 14 percent of all unmarried men in the weighted sample are divorced or separated and far fewer would have experienced the dissolution of their marriage within a year.
4. We used a compound data smoothing procedure known as T4253H available in the SPSS statistical package.
5. To derive adjusted percentages based on logistic regression, we first calculate a predicted probability for each individual based on regression coefficients under the assumption that all individuals fall into the particular gender category under consideration while retaining their actual values with respect to other control variables. Then we calculate the adjusted percentage as the mean of the predicted probabilities for that gender for all individuals included in the analysis.
6. Since the assessed health score for both the respondent and the spouse ranged from 1 (very good) to 5 (very poor), there were 9 possible joint scores ranging from 2 to 10 after summing the two. To regroup the summed scores, pairs of adjacent scores were combined into single categories except for the middle score of 6 which contained the largest number of cases and was left as separate category.
7. The trend in sexual desire can not be examined for this age range since the TDHS did not include a question on this.
8. Precise comparisons with published results from NSFH are not possible. Call, Sprecher and Schwartz (1995) only show graphical results while Marsiglio and Donnelly (1991) make no adjustment for non-response and use different age groups. Nevertheless, it is clear that the NSFH indicates substantially higher sexual activity at equivalent ages than SWET. Unadjusted NSFH results provided by Marsiglio and Donnelly indicate 65 percent of Americans sexually active in the prior month among 60–65 year olds compared to 33 percent of Thais. Relative differences are even greater for older age groups. According to Call, Sprecher and Schwartz, if all non-responses are treated as indicating no activity, the percentage active among Americans aged 60–64 is about 46 percent compared to 35 percent for Thais of the same age. Moreover, even under this extreme assumption about non-responses, the NFSH percentages active in the prior month are higher than for SWET for all age groups among the older population, often substantially so. Non-response may also influence comparisons between NSFH and SWET with respect to mean coital frequency but is in unclear in what direction.
9. Exact comparisons are not possible since the frequency measure in the US study includes acts of oral sex and are not limited to heterosexual acts (Laumann et al. 1994, Table 3.6).
10. For example, 93 percent of French men and 78 percent of women age 50–69 with partners had intercourse in the previous month versus 50 and 36 percent respectively of married Thai men and women of equivalent age. Among those active, 55 and 39 percent of the French men and women reported 5 or more acts of coitus in the prior month versus 10 and

5 percent of their Thai counterparts. Since non-response in the French survey was modest, biases associated with non-response can only minimally affect these differences.

11. For example, a mean coital frequency of approximately 4 times during the prior month was reported by sexually active married women aged 30–34 in the TDHS compared to a mean of about 8.4 for sexually active married Americans of both sexes in that age group (see Figure 2 in Call, Sprecher and Schwartz). The fact that the NSFH results refer to both married men and women inflates the coital frequency compared to the women based SWET results (given that the wives of the men are on average younger than their husbands). However this accounts for only a small part of the difference as indicated by the fact mean coital frequency in the NSFH for 35–39 years old is about 8 and thus still twice as high as for the Thai women 30–34.

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