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Self-Reported Health Among Older Bangladeshis: How Good a Health Indicator Is It?

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Purpose: This study examines the value of self-reported health (SRH) as an indicator of underlying health status in a developing country setting. ***Design and Methods:*** Logistic regression methods with adjustments for multistage sampling are used to examine the factors associated with SRH in 2,921 men and women aged 50 and older in rural Bangladesh. ***Results:*** SRH incorporates multiple dimensions of health status (including physical disability assessed by measured physical performance; self-reported limitations in activities of daily living, or ADLs; self-reported chronic morbidity; and self-reported acute morbidity), severity, comorbidity, and trajectory in a similar fashion for both men and women and for different age groups. Older individuals are more likely to report poor SRH than their younger counterparts, and women report significantly worse SRH than their male peers at each age group. In both cases, this disadvantage can be fully accounted for by differences in measured physical performance, ADL limitations, and chronic and acute morbidity. ***Implications:*** Among older Bangladeshis, SRH is an easily recorded, multifaceted, nuanced indicator of underlying health status that is significantly associated with measured physical performance. Moreover, SRH appears to be independent of age- and gender-related norms.

Key Words: Gender, Comorbidity, Developing country, ADLs

One of the major constraints in assessing the health of elderly populations is the lack of health status indicators that can be readily collected for large numbers of individuals with minimal expenditure of resources (time, money, and logistics). This has sparked considerable interest in self-reported measures of health status. Perhaps the most widely used is self-reported general health (SRH), in which respondents are asked to classify their current health status on some form of hierarchical scale (e.g., good, fair, or poor). Multiple studies have demonstrated that SRH is a good predictor of mortality and functional ability, even after objective measurements of medical morbidity (e.g., laboratory tests or physicians' reports) have been controlled for (Appels, Bosma, Grabauskas, Gostautas, & Sturmans, 1996; Borawski, Kinney, & Kahana, 1996; Idler & Benyamini, 1997; Idler & Kasl, 1991, 1995; Kaplan & Camacho, 1983; Mossey & Shapiro, 1982; Schoenfeld, Malmrose, Blazer, Gold, & Seeman, 1994; Sugisawa, Liang, & Liu, 1994; Wolinsky & Johnson, 1992). It has been hypothesized that the strong predictive value of SRH, even after appropriate controls have been instituted, is related to its multifaceted and nuanced nature, whereby it incorporates multiple dimensions of health (physical disability, functional or activity limitations, and chronic and acute morbidity), measures of severity, indications of comorbidity, and past trajectory (Idler & Benyamini, 1997). Relatively few studies have explicitly examined the multifaceted nature of SRH in detail (Idler, 1993; Johnson & Wolinsky, 1993; Leinonen, Heikkinen, & Jylhä, 1998, 2001; Schulz et al., 1994; Zimmer, Natividad, Lin, & Chayovan, 2000), especially with regard to interactions between different dimensions of health, and the impact of past trajectory on SRH (Ferraro & Kelley-Moore, 2001; Wolinsky & Tierney, 1998).

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In addition to understanding the composite nature of SRH, a number of questions arise with regard to gender and age influences on SRH. Inconsistent gender differences have been reported, with some studies showing a female disadvantage (Gijsbers van Wijk, van Vliet, Kolk, & Everaerd, 1991; Rahman, Strauss, Gertler, Ashley, & Fox, 1994; Zimmer et al., 2000) and others showing no disadvantage (Jylhä, Guralnik, Ferrucci, Jokela, & Heikkinen, 1998; Leinonen et al., 1998; McDonough & Walters, 2001; Zimmer et al., 2000). With regard to age trends, some studies have demonstrated that SRH remains constant or even improves with age (Barsky, Frank, Cleary, Wyshak, & Klerman, 1991; Idler, 1993; Johnson, Mullooly, & Greenlick, 1990; Leinonen et al., 2001; Rakowski & Cryan, 1990), despite the fact that there are age-related declines in physical performance and increases in acute and chronic morbidity (Hoeymans & Feskens, 1996; Laukkanen, Leskinen, Kauppinen, Sakari-Rantala, & Heikkinen, 2000). Possible explanations of this seeming paradox are that, with increasing age, individuals may adjust downward their expectations of good health by implicitly using age-related norms, and that physical health contributes less and less to overall perceptions of health (Idler, 1993; Leinonen et al., 2001; Peck, 1968; Pilpel, Carmel, & Galinsky, 1988; Tornstam, 1975).

The detailed exploration of SRH has been largely limited to the developed world. Very few analyses have been published using data from developing countries (Rahman et al., 1994; Yu et al., 1998; Zimmer et al., 2000), largely because of the absence of information on potentially key determinants of SRH such as acute and chronic morbidity, limitations in activities of daily living (ADLs), and, what is most important, measured physical performance. International explorations of SRH are particularly valuable, because there may be important differences in the association of SRH with other health indicators (Angel & Guarnaccia, 1989; Ferraro & Kelley-Moore, 2001; Jylhä et al., 1998; Rahman et al., 1994; Zimmer et al., 2000). More specifically, one might hypothesize that, because of lower levels of education and formal contact with the health care system in the developing world compared with the developed world, individuals in the developing world would have less knowledge about acute and chronic morbidity; consequently, the relationship between acute and chronic morbidity and other subjective and objective health measures would be weaker in the developing world than in the developed world. In a similar vein, because of high levels of family support and lower expectations of independence of movement in the developing world versus the developed world, one might expect physical disability and functional limitations to have a weaker association with SRH in the former compared with the latter.

Rural Bangladesh is an example of a developing society with widespread poverty, low levels of education (particularly for elderly persons), low mobility for women outside the home, numerous environmental hazards, and poorly developed community health and educational infrastructure. Per capita income is $370/year. The overwhelming majority of older individuals live with adult children (mostly sons), and alternative sources of support—financial and otherwise—outside the family are scarce. The predominant occupation for rural men is agriculture, with labor force participation rates remaining very high even for older men. Women are largely restricted by convention to activities within the home and have relatively little opportunity to venture outside the homestead. Given the high level of poverty and the scarcity of health providers (4,071 persons per physician and 17,446 persons per registered nurse), contact with the formal health care system is thought to be relatively infrequent. The population of persons over the age of 50 constitutes approximately 10% of the population as a whole, and life expectancy at age 50 is approximately 30 years with no significant gender difference (Aziz, 1979; Bangladesh Bureau of Statistics, 2002; Rahman, 1986; Rahman et al., 1999).

In this analysis we use a comprehensive data set from rural Bangladesh to investigate the following questions. First, to what extent does SRH incorporate multiple dimensions of health, severity and comorbidity? Second, are there differences in SRH by gender, and, if so, what accounts for these differences? Third, does the relationship of objectively measured physical performance limitations to SRH change with age?

Design and Methods

Subjects and Setting

The specific data for analysis come from the Matlab Health and Socio-Economic Survey (MHSS) in rural Bangladesh, which collected in 1996, in a multistage sample design, detailed health and socioeconomic information on approximately 11,200 individuals aged 15 and older in 2,687 baris or residential compounds, and 4,364 households within these baris. The sample was drawn from an ongoing population surveillance system in Matlab, 40 miles southeast of the capital city of Bangladesh and considered to be representative of rural Bangladesh (Rahman et al., 1999; Rahman & Liu, 2000). The Matlab surveillance system data have been used extensively in the demographic literature and are considered to be one of the few high-quality (i.e., complete, accurate, and up to date) data sources in the developing world. In particular, age reporting is considered to be highly accurate, which is a feature not found in other South Asian data sources (Menken & Phillips, 1990).

The multistage sampling was conducted as follows (Rahman et al., 1999). The Matab surveillance

Table 1. Comparison Between Final Analysis Sample and Missing Observations

Sample or Obs.	Female (%)	Age (Years)	Poor SRH (%)	Chronic Morbidity (%)		Acute Morbidity (%)
				Major	Minor	
Final sample	49 (47, 51)	60.47* (60.07, 60.88)	37 (35, 40)	35 (33, 38)	46 (44, 49)	59 (56, 61)
Missing obs.	53 (47, 58)	61.62 (60.56, 62.67)	40 (34, 46)	37 (31, 43)	44 (38, 49)	58 (52, 64)

Notes: All calculations use sampling weights and correct for the multistage sampling design. SRH = self-reported general health; Obs. = observations. Final sample consists of 2,921 individuals, from 1,783 clusters or baris. Missing observations are for 484 individuals from 411 clusters or baris. 95% confidence intervals are given parenthetically.

*The two groups are significantly different at $p < .05$.

area consists of 8,640 baris or residential compounds, of which roughly one third (31.1%) or 2,687 baris were randomly sampled. The bari is the basic unit of social organization in rural Bangladesh and in Matlab in particular (Aziz, 1979; Rahman, 1986). Baris usually consist of a cluster of households linked in many instances in a kin network (note, however, that approximately 16% of baris consist only of a single household, and even in multi-household baris, kin networks may exist only for subclusters of households). Sampling baris rather than households provides a better representation of family networks, a major focus of the MHSS. Within each bari, up to two households were selected for detailed interviews. Within each selected household, all individuals aged 50 years and older were interviewed. For those younger than 50, certain criteria were followed to reduce the interviewing load vis-à-vis large households.

For baris with two or fewer households, all households were chosen. For baris with more than two households, the first household was chosen at random. The second household was selected from the bari in order of preference as follows: (a) the household of the father or mother of the head of the first sampled household; (b) a household containing a son of the head of the first sampled household (chosen at random if there are multiple sons in separate households in the bari); (c) a household containing a brother of the head of the first sampled household (chosen at random if there are multiple brothers in separate households in the bari); and (d) a second randomly selected household.

In this analysis we are concerned with the 3,054 individuals aged 50 years and older in the MHSS. These individuals come from 1,985 baris out of the 2,687 sampled baris. Out of the 3,054 eligible individuals, 484 had missing information on physical disability (measured physical performance limitations) and functional limitations (self-reported ADLs). Thus, for the purposes of this study, we will focus on 2,921 respondents aged 50 years and older (1,505 men and 1,416 women) distributed in 1,783 baris for whom we have complete information.

Table 1 shows that, on key demographic and health indicators, there appears to be little difference between the 484 individuals with missing information on physical performance and ADL limitations and the 2,921 individuals in the final analysis sample. To further explore the issue of the impact of dropping the 484 individuals with missing information from our final analysis sample, we conducted multivariate analyses using all 3,054 eligible individuals, and we coded the missing information on observed physical activity and ADLs as distinct unordered categories. Thus, in this expanded analysis, observed or measured physical activity was coded as having one of three unordered possible states: bad physical performance, missing physical performance, or good physical performance, with the latter being the reference category. In a similar fashion, with regard to reported ADLs, we coded the relevant groups as having major ADL limitations, minor ADL limitations, missing ADL limitations, or no ADL limitations (the latter being the reference category). Note that no ordering of categories is assumed; that is, the missing category is not considered better or worse a priori than the other possible states. The resulting multivariate models that treat the missing category as a separate possible state without any assumption or ordering do not lead to any substantive change in our conclusions compared with our results, which include just those with complete information.

Variables

With regard to our health measures, we have one objectively assessed indicator, physical disability (assessed as measured physical performance), and four self-reported measures, SRH, self-reported functional limitations (ADLs), self-reported chronic morbidity, and self-reported acute morbidity.

We assessed physical disability objectively as in prior studies (Merrill, Seeman, Kasl, & Berkman, 1997; Rahman & Liu, 2000) by asking respondents to perform four timed physical tasks: maintaining side by side, semitandem, and tandem positions (balance); walking 8 feet, twice (gait); rising from a chair (lower extremity movement); and rotating the shoulder (upper extremity movement). Each task had a three-level score, that is, 0 (unable to do the activity), 1 (had some difficulty doing the activity), and 2 (could do the activity easily), assigned by an independent observer. We constructed an overall summary measure of all performance tasks by

adding the four individual subscales, and this scale ranged in value from 0 to 8, with higher scores indicating better performance. Those with scores in the range from 0 to 5 were labeled as having poor physical performance, with the reference group being those with scores 6 and above.

SRH was assessed with this item: "What is your current health status?" Responses were scored as good, fair, or bad. For analytic purposes, bad SRH was coded as 1, with good or fair being coded as 0. In the cultural context of this study population, individuals even when they are in good health are reluctant to classify themselves as being in good health (because of the sense that "it might attract the attention of 'the gods'"), and the tendency is to say that one is in fair health. Thus the fair health category in all likelihood is composed of a substantial proportion of people in good health, and it seemed reasonable to combine the fair and the good categories, so that the dichotomy of poor versus fair or good would provide the sharpest contrast. Moreover, the dichotomous coding of poor versus fair or good has been used in other published studies (Wu & Rudkin, 2000). It is important to note, however, that a different coding scheme (i.e., poor or fair vs. good) would probably result in a less sharp contrast and some attenuation in our results.

Following Merrill and colleagues (1997), and Rahman and Liu (2000), we constructed a series of measures for functional limitations (self-reported ADLs). We used self-report information on 10 ADL items, which were divided into two different clusters. The first cluster included limitations in personal care and consisted of four items: the ability to (a) bathe, (b) dress, (c) get up and out of bed, and (d) use the toilet. The second cluster included limitations in range of motion and consisted of six items: the ability to (a) carry a 10-kg weight for 20 yards, (b) use a hand pump to draw water, (c) stand up from a squatting position on the floor, (d) sit in a squatting position on the floor, (e) get up from a sitting position on a chair or stool without help, and (f) crouch or stoop. Each cluster was summarized as 1 (can easily do all the activities in the cluster) or 0 (have trouble with one or more activities in the cluster). Individuals who scored a 0 on both clusters of ADLs were labeled as having major ADL limitations. Those who had a score of 0 on the range of motion limitation scale but scored a 1 on the personal care limitation scale were labeled as having a minor ADL limitation. Finally, those who scored a 1 on both ADL clusters were labeled as having no ADL limitations.

Self-reported chronic morbidity (Rahman et al., 1999) was assessed with a checklist of 14 sentinel conditions (anemia, arthritis, broken bones, cataracts, vision problems, asthma, other breathing difficulty, diabetes, pain or burning on urination, paralysis, tuberculosis, gastric or ulcer problems, edema, and a residual category called "other conditions"). For each condition, respondents were asked to report whether they had experienced it in the 3 months prior to the survey, and if so whether it had caused them no difficulty, some difficulty, a great deal of difficulty, or an inability to carry out their day-to-day activities. Those who reported none of the 14 sentinel conditions were labeled as having no chronic morbidity. Those who had experienced one or more of the 14 conditions with some or no difficulty in day-to-day activities were labeled as having minor chronic disease. Finally, those who had experienced 1 or more of the 14 sentinel conditions that had caused a great deal of difficulty or inability to carry out their day-to-day activities were labeled as having severe chronic disease.

Self-reported acute morbidity (Rahman et al., 1999) was assessed with a checklist of 12 sentinel conditions (headache, eye infection, toothache, cold and cough symptoms, vomiting and stomach aches, fever with chills, watery diarrhea, diarrhea associated with mucus or blood, skin problems, accidental trauma, excessive menstrual bleeding, and a residual category called "other conditions"). For each condition, respondents were asked to report whether they had experienced it in the 30 days prior to the survey or not. Those reporting at least one of the aforementioned conditions were labeled as having acute morbidity. It is worth noting that, for both self-reported acute and chronic morbidity, the summary measures are composed of heterogeneous categories of symptoms and disease labels that reflect the prevailing morbid conditions in rural Bangladesh. They are locally specific, and cross-country comparisons using these summary measures would be difficult to interpret.

Data Analytic Plan

Because of the multistage nature of the sample, individual observations have been weighted appropriately to reflect population representation (Rahman et al., 1999). We used binary weighted logistic regression with sampling weights and adjustment for intracluster (i.e., bari) correlations to examine the interrelationship between SRH and various underlying health indicators. These indicators included observed physical performance; reported ADL limitations (major and minor); chronic morbidity (major and minor); acute morbidity; and self-reported 1-year time trajectory of health. STATA statistical software was used for all of the analyses and the multistage design corrections (STATA, 1997a, 1997b).

Results

Table 1 shows that there were no significant differences in various health indicators between the 484 missing observations and the 2,921 observations

Table 2. Gender Differences in Health Status Indicators by Age for Men and Women Aged 50 and Older

Gender	Bad SRH (%)	Worse Health (%)	Bad PP (%)	ADL Limitations (%)		Chronic Morb. (%)		Acute Morb. (%)
				Major	Minor	Major	Minor	
Men								
50–59	25 (20, 29)	37 (32, 42)	4 (2, 6)	4 (1, 6)	15 (12, 19)	19 (15, 24)	50[a] (45, 56)	54 (49, 60)
60–69	32 (26, 37)	42 (37, 48)	6 (4, 9)	9 (6, 12)	29 (24, 34)	25 (20, 30)	52 (46, 57)	57[a] (51, 62)
70+	45 (38, 53)	52 (45, 60)	21 (15, 27)	26 (19, 32)	47[a] (39, 54)	39 (32, 46)	46[a] (38, 54)	54[a] (47, 61)
50+	**31 (28, 35)**	**42 (38, 45)**	**8 (7, 10)**	**10 (8, 12)**	**26 (23, 29)**	**25 (22, 29)**	**50 (47, 54)**	**55 (52, 59)**
Women								
50–59	38 (33, 43)	46 (41, 51)	12 (9, 14)	10 (7, 18)	53 (49, 58)	39 (35, 44)	48[a] (43, 52)	64 (59, 68)
60–69	46 (40, 53)	53 (42, 59)	27 (21, 32)	30 (24, 36)	58 (52, 64)	56 (49, 62)	34 (29, 40)	58[a] (52, 64)
70+	67 (57, 76)	69 (61, 78)	63 (54, 72)	53 (43, 63)	43[a] (33, 53)	54 (44, 64)	37[a] (27, 47)	66[a] (56, 75)
50+	**44 (40, 47)**	**51 (47, 54)**	**22 (19, 25)**	**21 (18, 24)**	**54 (50, 57)**	**46 (42, 49)**	**42 (39, 46)**	**62 (59, 65)**

Notes: All calculations use sampling weights and correct for the multistage sampling design. SRH = self-reported general health; PP = physical performance; Morb. = morbidity; ADL = activities of daily living. 95% confidence intervals are given parenthetically. Worse health is in comparison to the year before. For men aged 50–59, 60–69, and 70+, $n = 632$, 569, and 304, respectively; for 50+ (total), $N = 1{,}505$ (cluster, bari = 1,272). For women aged 50–59, 60–69, and 70+, $n = 777$, 455, and 184, respectively; for 50+ (total), $N = 1{,}416$ (cluster or bari = 1,242).

[a]All of the health indicators are significantly different by gender at $p < .01$ except for the categories marked.

used in the final analysis. The missing individuals are slightly older, but they have the same mean values for SRH, major and minor chronic morbidity, and acute morbidity. These results support the notion that dropping the 484 individuals with missing observations has not biased the results from the final analysis sample in any significant manner.

Table 2 shows that, for a variety of health indicators, older individuals are generally more likely to have poor health than their younger counterparts and that for each age group women are by and large more likely to have worse health than men. Note that, in both Tables 1 and 2, all calculations use sampling weights and correct for the multistage sampling design of the survey (STATA, 1997a, 1997b).

In Table 3 we use weighted binary logistic regression with adjustments for multistage sampling to examine the determinants of SRH, focusing initially on the impact of gender and age. As already noted, the outcome variable is bad compared with fair or good SRH. Table 3 shows that, unadjusted for any other controls, there is a significant female disadvantage in SRH: odds ratio (OR) = 1.71 (1.38, 2.12) for Model 1. Controlling for calendar age actually increases the female disadvantage, OR = 1.94 (1.55, 2.44) for Model 2, as women are on average younger than men in this study population and SRH is worse for older individuals. The female disadvantage in SRH is attenuated but persists after controls for objectively measured physical performance are added: OR = 1.73 (1.38, 2.18) for Model 3. Subsequently the female disadvantage in SRH further attenuates and becomes nonsignificant when controls are added for self-reported ADLs and self-reported chronic and acute morbidity: OR = 0.78 (0.60, 1.02) for Model 4. Similarly, with regard to age trends, when gender is controlled for, older individuals are more likely to report poor health than their younger peers in Model 2. This age effect persists when controls are added for measured physical performance but becomes statistically insignificant when controls are added for different self-reported health indicators. The results of the final model (Model 4) show that several different dimensions of health, such as physical disability (poor observed physical performance), functional limitations (self-reported major and minor ADL limitations), and acute and chronic morbidity, have independent impacts on SRH. Moreover, for ADLs and chronic morbidity, there is a severity gradient in the expected direction, with more severe conditions having more of an impact on SRH than less severe conditions. Finally, the results also indicate that there is a negative interaction between some of the different dimensions of health affecting SRH (i.e., ADL limitations and chronic morbidity). Thus the impact of an ADL limitation on SRH is greatest when the individual has no chronic morbidity. If the individual already has some kind of chronic morbidity, the addition of an ADL limitation does not affect SRH quite as much as it would in the absence of chronic morbidity. In a similar manner, the impact of chronic morbidity on SRH is greatest when the individual has no ADL limitation. If the individual already has some kind of ADL limitation, the addition of chronic morbidity does not affect SRH as much as it would in the absence of an ADL limitation. Finally, gender and age interactions for each of these distinct health status indicators were tested and were found not to be significant.

Discussion

Before we discuss our results, we believe it is worth pointing out a number of salient caveats and

Table 3. Odds Ratios for Bad Versus Fair or Good SRH

Variable	Model 1	Model 2	Model 3	Model 4
Female vs. male	1.71 (1.38, 2.12)	1.94 (1.55, 2.44)	1.73 (1.38, 2.18)	0.78[a] (0.60, 1.02)
Age in years		1.04 (1.03, 1.06)	1.03 (1.02, 1.05)	1.00[a] (0.98, 1.02)
Poor versus good PP			1.94 (1.45, 2.59)	1.43 (1.04, 1.95)
Acute versus no acute morb.				1.71 (1.33, 2.19)
Major ADL limit versus no ADL limit				
For those with no chronic morb.				16.08 (7.86, 32.88)
For those with major or minor chronic morb.				5.47 (3.60, 8.24)
Minor ADL limit versus no ADL limit				
For those with no chronic morb.				9.45 (4.90, 18.19)
For those with major or minor chronic morb.				3.20 (2.36, 4.34)
Major chronic morb. versus no chronic morb.				
For those with no ADL limit				5.96 (3.44, 10.33)
For those with major or minor ADL limit				2.02 (1.24, 3.27)
Minor chronic morb. versus no chronic morb.				
For those with no ADL limit				2.86 (1.67, 4.90)
For those with major or minor ADL limit				0.97[a] (0.60, 1.56)
N	2921	2921	2921	2921
No. of clusters (baris)	1783	1783	1783	1783
No. of parameters	1	2	3	9
−2 Log likelihood	3813.33	3729.32	3695.14	3208.72

Notes: All calculations use sampling weights and correct for the multistage sampling design. 95% confidence intervals are given parenthetically. SRH = self-reported general health; PP = physical performance; ADL = activities of daily living; limit = limitation(s); morb. = morbidity.
[a]Nonsignificant.

limitations of this study. First, because of the cross-sectional design and the subjective nature of many of our independent variables (self-reports of: chronic morbidity, ADL limitations, and acute morbidity), the potential for bidirectionality between our independent variables and our outcomes cannot be ruled out. Thus we are not able to make any definitive cause and effect statements, and we are limited to pointing out associations. Second, our indicators of acute and chronic morbidity are heterogeneous composites of self-reported symptoms and disease labels (e.g., difficulty breathing and anemia), which may not necessarily correspond to objectively diagnosed disorders.

Keeping these caveats in mind, we find that our results suggest SRH in our study population is a multifaceted, nuanced indicator of underlying health status that incorporates different dimensions of health (physical disability—actual measured physical performance; functional limitations—reported limitations in ADLs, and chronic and acute disease or symptom status), severity, and comorbidity. The independent effects of different dimensions of health point to the fact that there does not appear to be a single pathway, such as functional limitations, that determines self-reported health status (Johnson & Wolinsky, 1993). The results with regard to severity are noteworthy as they confirm theoretical expectations that have not been tested explicitly in most previous studies (Idler & Benyamini, 1997). Our findings with respect to comorbidity are particularly interesting in that they show that SRH is not merely an additive function of different kinds of health risks. On the contrary, the marginal impact of additional health risks on SRH diminishes with each existing problem for this study population. This result underscores the complex weighting across various dimensions of health that underlies SRH assessments (Idler & Benyamini, 1997).

As is the case in the developed world, we find strong evidence of female disadvantage in SRH status. In our sample, this female disadvantage does not vary with age (i.e., there are no Age × Gender interactions), and it persists (in an attenuated fashion) when controls are added for objectively measured physical performance. Subsequently, however, this female disadvantage appears to be fully accounted for by the fact that women are more likely to report more ADL limitations and more acute and chronic morbidity. One might be tempted to argue that these findings suggest that female disadvantages in SRH reflect true gender differences in underlying health status. However, in light of the fact that ADL limitations and acute and chronic morbidity are ultimately self-reported, and not objectively measured, one cannot rule out definitively that the portion of the female disadvantage not explained by observed physical performance ratings is a function of differential reporting by gender. Although the reporting bias issue remains unresolved, our results do indicate that marginal changes in physical disability, functional limitations, and acute and

chronic morbidity work in similar fashion in both men and women to affect SRH in our sample.

We also explore the issue of whether the impact of physical limitations on SRH is different for different age groups in our sample. We focus on objectively measured physical performance, which uses age independent norms, and find that there are no significant age interactions. Thus the same level of absolute, objectively measured, physical performance limitation affects SRH in the same manner in the old old versus the young old. These results thus provide an interesting contrast to studies in other social settings, which have suggested that physical limitations have a decreasing impact on SRH with increasing age (Idler, 1993; Leinonen et al., 2001).

Earlier in this article, we posited that the relationship between SRH and other health-related measures may be different in the developing world than in the developed world because of differences in levels of knowledge about health conditions, differing expectations about physical mobility, and differences in social support. Although we are not able to explore such differences explicitly, we are able to explore gender differences in our study population, which may mirror differences between the developing and developed world. As women in this population have less education and less contact with the health care system than their male peers, one might expect that proportionately more women than men would be unaware of existing acute and chronic morbid conditions. Thus this might be expected to lead to a weaker association for women than for men between acute and chronic morbidity and SRH (provided acute and chronic morbidity have the same theoretical impact on SRH for both men and women). Gender differences were tested and were not found to be significant.

In a similar vein, one could hypothesize that, given the low levels of mobility outside the home for women and the lower expectations for physical strength and coordination in this society, objectively measured physical limitations would have less of an impact on SRH for women than for men. This was tested for and no gender interaction was found.

In conclusion, our analysis provides support for the notion that, in our study population, easily recorded SRH assessments incorporate many of the properties one would want in a composite health indicator, including multidimensionality, severity, comorbidity, and trajectory. Moreover, SRH appears to be significantly correlated with a hard objective measure of physical performance. Finally, in contrast to some other settings, in rural Bangladesh there appears to be no evidence that the impact of physical performance limitations on SRH is different for women than for men and for older individuals than for younger individuals.

It is hard to know to what extent our results hold just for rural Bangladesh. Clearly, some of our measures are locally specific (e.g., acute and chronic morbidity summary measures). Moreover, as we have already noted, there are in all likelihood different degrees of knowledge about morbid conditions and different behavioral expectations about health and varying social support networks across different societies. Further exploration of the generalizability of our results will require parallel datasets from other social or environmental settings that will allow us to test directly for both differences and similarities in the conceptualization of SRH measures.

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