

The role of gender in the association of social capital, social support, and economic security with self-rated health among older adults in deprived communities in Beirut

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Abstract

Purpose To examine gender variations in the association of self-rated health (SRH) with social capital, social support, and economic security among older adults from three deprived communities in the suburbs of metropolitan Beirut.

Methods A population-based cross-sectional study using the Older Adult Component of the Urban Health Survey. Face-to-face interviews were conducted with 328 older men and 412 older women aged 60 years and above. SRH was assessed by a single question and treated as a dichotomous outcome, and several indicators of social capital, social support, and economic security were examined as independent variables.

Results Women were significantly more likely to report poor SRH compared to men (37.2 vs. 25.9 %, respectively). Better social capital indicators decreased significantly the

odds of poor SRH among both men (OR = 0.76, 95 % CI: 0.65–0.89) and women (OR = 0.71, 95 % CI: 0.62–0.82). Social support was strongly associated with SRH among women (OR = 0.56), but not among men (OR = 0.94). The reverse situation was observed for economic security (OR = 0.57 among men, OR = 0.80 among women).

Conclusions In these deprived neighborhoods, social and economic factors may have gender-specific effects on the promotion of well-being among older adults, with social support being more salient to women's SRH and economic security being more salient to men's SRH. In health studies among older people, SRH captures not only social and physical health but also broader economic well-being.

Keywords Economic security · Lebanon · Older people · Self-rated health · Social capital · Social support

Abbreviations

ADL	Activities of daily living
CI	Confidence interval
LP	Lebanese pounds
OR	Odds ratio
SD	Standard deviation
SRH	Self-rated health
UHS	Urban Health Survey

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Introduction

Population aging and the increased number of older people in both developed and developing countries coupled with concomitant epidemiological changes have led to increased interest in identifying health determinants and inequalities in

later life [1]. Self-rated health (SRH) is one of the most commonly used indicators in social epidemiology and geriatric research and is believed to be a valid global measure that reflects an individual's current and future health status [2]. Although simple, SRH is a robust measure of overall health status and encompasses several dimensions of well-being, including physical [2], psychological, and social well-being [3, 4]. The value of the SRH measure lies in its ability to predict mortality, even after controlling for age, gender, socioeconomic status, and comorbidities [5, 6].

A wide range of studies have emphasized the importance of social and economic factors for successful aging and lower mortality among the older adult population [7]. The role of a supportive social network and enhanced social capital in promoting a sense of wellness and better SRH has been reported by a number of researchers [8–12]. Others have highlighted the influence of economic resources and reduction in income inequality as essential to optimal SRH [13, 14]. Yet, few have examined whether the importance of such relationships differs by gender [12, 15]. This is important because earlier studies have mostly combined men and women in the analysis, and findings have been heterogeneous among studies using various variables and modeling strategies. In addition, no prior research has addressed which of the broad domains, the social or the economic, matters more in shaping health and wellness in old age, particularly in developing countries where resources available to older adults are almost lacking.

The aim of this study is to disentangle the effects of social resources (social capital and social support) from economic characteristics on individual health and to investigate which of the realms is more strongly associated with SRH in later life in the context of a deprived urban setting. We also examine whether associations vary according to gender and research how older men and women differ in the way they appraise the significance of social and economic characteristics to their SRH. We hypothesize, based on the literature reviewed, that older Lebanese women show worse SRH compared to older Lebanese men. Furthermore, we hypothesize that, in deprived suburban communities, support systems based on social networks and social capital play a protective role in women's SRH, while economic security and resources are more significant in the promotion of better SRH among men. Because there may be complex influences of other health indicators on SRH, associations are investigated controlling for the effect of chronic diseases and disability.

Materials and methods

Setting, study design, and participants

Using a unique data set that includes a comprehensive range of indicators, this study examined social and

economic factors associated with SRH among a sample of older men and women residing in the outskirts of Beirut, Lebanon. Lebanon is a small middle-income country of around 4 million people, still recovering from a long history of civil wars (16 years) and political violence. In the aftermath of the war, the pace of urbanization in the country has been very rapid, with several waves of migration of youths from rural areas to the large cities, seeking better employment opportunities and enhanced public services. This led to very crowded and congested communities around Beirut, the capital city and the largest in the country. The Central Administration of Statistics in the country estimates that almost a third of the total population live in Beirut and its suburbs [16].

Data for this study were obtained from the Older Adult Component of the Urban Health Survey (UHS), a large cross-sectional population-based study conducted by the Center of Research and Population Health at the American University of Beirut that aimed at assessing the socioeconomic and health consequences of population change. The UHS targeted three impoverished communities in the suburbs of metropolitan Beirut, namely Nabaa, Hay el Sellom, and Burj Barajneh. The communities are broadly characterized by the presence of high population density, poverty, rural immigrants and displaced and refugee population, and lack of necessary public services and basic infrastructure. The design and conduct of the UHS have been described in detail elsewhere [16, 17]. Briefly, the study employed a two-stage sampling design. A sample of almost 3,300 households was selected using probability proportional to size sampling methodology, and a total of 852 older adults aged 60 years and above were identified for participation in the Older Adult Component. They were individually approached for face-to-face interviews, and 740 individuals successfully completed the interview schedule, yielding an overall response rate of 86.8 %. The main reasons for non-response were residential change and no contact (after 3 unsuccessful attempts). The remaining non-respondents included refusals and failure to provide useful information.

Following extensive reviews of the public health and social science literature, a multidimensional health interview schedule was specifically developed for the UHS. The instrument was drafted in Arabic, pilot-tested prior to the start of the study, and revised accordingly. Each administration of the instrument took, on average, 1 h and 30 min. The final version of the instrument consisted of 19 sections and included socio-demographic and health-related variables, as well as other sections assessing social support, social capital, and economic security. Field work was carried out by trained university-level interviewers chosen from the respective communities. Several consistency and quality control checks, including a systematic re-interview

of 10 % of the sample, were performed. Using CSpro software, data were entered in parallel with field work activities, and automatic skips and consistency checks were continuously performed. Any questionnaire with detected inconsistencies was returned to the field for re-interview. The study protocol was approved by the university's Institutional Review Board (#FHS.MK.01), and a consent form was obtained from all participants prior to the interviews.

Measures

SRH, the dependent variable, was assessed through a single question asking respondents to rate their overall health on a 5-point scale as excellent, very good, good, poor, or very poor. For comparison with the published literature, SRH was dichotomized into a binary variable with individuals reporting excellent, very good or good being considered as having “good” SRH (coded as 0) and individuals reporting poor or very poor SRH being classified as having “poor” SRH (coded as 1). For the independent variables, three constructs were examined: social capital, social support, and economic security. We describe below the dimensions included in each construct and the indicators used to assess each dimension.

While the definition of social capital remains one of the most contested in the literature, it is widely accepted that the concept is multidimensional in nature and can be decomposed into different components [18–20]. In this study, we investigated the following dimensions of social capital: locational capital, trust, and reciprocity. Locational capital is defined as neighborhood characteristics that create a favorable environment for social interactions. This was measured by five questions that elicit self-perception of neighborhood characteristics, namely (1) neighborhood satisfaction, (2) feeling of belonging, (3) security, (4) knowledge of people in the area, and (5) attendance of weekly religious services. Trust, described as a sense of confidence generated from the belief that others will behave decently and in a predictable manner [21], was assessed through two indicators, namely (1) generalized trust in people and (2) absence of a requirement for vigilance when dealing with neighbors. Reciprocity, which is revealed in offering or receiving voluntary assistance [22], was measured based on two indicators, namely the individual's (1) perception that a sense of reciprocity among community members prevails and (2) engagement in reciprocal exchange with relatives, friends or neighbors in the month preceding the survey.

The social support construct relates to the functional dimension of the social network by examining the emotional and instrumental components of social interaction [23]. Social support indicators relied on responses to three

questions reflecting (1) self-perceived availability of help in the event of sickness, (2) self-perceived availability of help in case of personal hardship, and (3) the presence of someone to turn to when feeling like going out. Economic security, on the other hand, encompassed four indicators: (1) monthly income greater than 450,000 Lebanese pounds (LP), which is the minimum wage in Lebanon (with \$1 being equivalent to around 1,500 LP), (2) main source of earnings being from self or spouse, (3) additional earnings from investments or rent, and (4) not receiving additional income support from children or charity, all of which being markers of economic advantage.

Responses to each of the above variables were dichotomized and coded as 0 and 1, with the code 1 given to the more positive outcome. For example, if the answer to the question of whether or not the respondent felt happy to be living in the area was “yes,” it was coded as 1. Similarly, if the answer to the question of whether or not one must be careful in dealing with people in the area was “yes,” it was coded as 0. Additionally, three indices were created by summing up the various responses to each indicator, according to the dimension and construct they belonged to. Hence, the summative scores for social capital, social support and economic security yielded indices ranging from 0 to 9, 0 to 3, and 0 to 4, respectively.

Baseline socio-demographic variables were treated as covariates that may be important predictors of SRH, and these included age (“60–64 years,” “65–69 years,” and “70+ years”), nationality (“Lebanese” vs. “Palestinian”), community (“Nabaa,” “Hay el Sellom,” “Burj Barajneh”), education, and marital status. As a large proportion of today's elderly population have no formal educational qualification, education was defined as a dichotomous variable (“no formal schooling” vs. “any formal schooling”), with the latter group indicating schooling of 5 years or more. Health-related characteristics were considered as covariates, and these relied on self-reported physician-diagnosed chronic conditions (hypertension, diabetes, angina, myocardial infarction, arteriosclerosis problems, stroke, and cancer), limitations in activities of daily living derived from the Katz's ADL index [24], and tobacco smoking (cigarette or narghile).

Statistical analysis

We applied relative weights to account for unequal probabilities of selection in the sample, and the data reported reflect weighted estimates of the population. Gender differences in baseline socio-demographic and health-related variables were first examined, followed by a bivariate analysis to examine the association between these covariates and SRH, among men and women, separately. The results of the latter analysis, however, are not presented for

Table 1 Distribution of baseline socio-demographic and health-related characteristics among men and women, Urban Health Survey, Beirut, 2003

Variables	Total		Men		Women		<i>p</i> value
	<i>N</i> = 740		<i>N</i> = 328		<i>N</i> = 412		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Self-rated health							
Good and better	501	67.8	243	74.1	258	62.8	0.001
Poor and worse	238	32.2	85	25.9	153	37.2	
Socio-demographic							
Age (mean ± SD)	68.4 ± 6.6		68.5 ± 7.0		68.4 ± 6.4		0.780
60–64	260	35.1	120	36.6	140	34.0	0.760
65–69	211	28.5	92	28.1	119	28.9	
≥70	269	36.4	116	35.4	153	37.1	
Nationality (% Lebanese)	491	66.4	206	62.8	285	69.2	0.080
Community							
Nabaa	376	50.8	165	50.3	211	51.2	0.790
Hey El Sellom	118	16.0	50	15.2	68	16.5	
Burj El Barajneh camp	246	33.2	113	34.5	133	32.3	
Education (% any formal schooling)	307	41.5	219	66.8	88	21.4	<0.001
Marital status (% married)	462	62.4	289	88.1	173	42.0	<0.001
Health-related variables							
Chronic conditions (% yes)	510	69.4	194	59.3	316	77.5	<0.001
Functional disability (% yes)	237	32.2	75	22.9	162	39.5	<0.001
Smoking cigarettes or narghile (% yes)	214	28.9	138	42.1	76	18.5	<0.001

space considerations. To examine whether the association of each of the indicators with SRH varies by gender, we ran a series of bivariate logistic regression models separately for men and women with self-rated “poor” health as the dependent variable and indicators of social capital, social support, and economic security as independent variables while controlling for age. Prevalence odds ratios (OR) and 95 % confidence intervals (CI) were calculated. Finally, the summary indices were simultaneously fitted in two multivariate logistic regression models while adjusting firstly for age and secondly for baseline covariates. Only variables that were significantly associated with poor SRH in the bivariate analysis or were established correlates of poor SRH in the literature and of theoretical significance were included in the multivariate analysis (age, education, nationality, marital status, chronic disease, and functional disability). Data analyses were conducted using STATA, version 10.0, and a *p* value of less than 0.05 was considered statistically significant.

Results

The final study sample consisted of a total of 328 older men and 412 older women. Overall, 32.2 % of the respondents

perceived their health status as poor, with women being 1.4 times more likely to report poor SRH compared to men (37.2 vs. 25.9 % respectively, *p* = 0.001) (Table 1). There was no difference in the age distribution between men and women (mean ± SD, 68 ± 6.6 years). Two-thirds of the survey respondents were Lebanese, with the remaining consisting of Palestinian refugees. Men and women were similar with respect to their distribution by nationality and geographic community. However, men were more likely than women to be married (88.1 vs. 42.0 %) and to have had some formal schooling (66.8 vs. 21.4 %). The majority of survey respondents (69.4 %) reported having been diagnosed with at least one chronic condition listed in the interview schedule, and around 32 % reported at least one functional disability based on ADL scale. Men were significantly more likely to be current tobacco smokers compared with women (42.1 vs. 18.5 %, respectively). Poor SRH was significantly associated (*p* < 0.05) with older age, lower educational attainment, Palestinian nationality, presence of comorbid conditions, and functional disability among both men and women (data not shown).

The distribution of social capital, social support, and economic security indicators and their associations with poor SRH are presented in Table 2, stratified by gender.

Table 2 Baseline distribution of social and economic constructs and age-adjusted odds ratio (OR) for their association with poor self-rated health, Urban Health Survey, Beirut, 2003

Constructs and indicators	Baseline distribution			Associations with SRH					
	Men	Women	<i>p</i> value	Men			Women		
	%	%		OR ^a	95 % CI	<i>p</i> value	OR ^a	95 % CI	<i>p</i> value
Social capital									
Locational capital									
Happy living in neighborhood	70.1	78.4	0.010	0.43	0.25–0.72	0.001	0.26	0.16–0.42	<0.001
Feeling like you belong here	65.6	68.0	0.489	0.89	0.53–1.49	0.656	1.21	0.78–1.88	0.383
Feeling safe walking alone at night	87.2	83.7	0.187	0.57	0.29–1.14	0.114	0.41	0.24–0.71	0.001
Knowing people in neighborhood	66.8	41.8	<0.001	0.35	0.21–0.59	<0.001	0.68	0.45–1.03	0.069
Attendance of weekly religious services	78.4	52.7	<0.001	0.49	0.28–0.85	0.012	0.39	0.26–0.59	<0.001
Trust									
Trusting people in area	26.2	16.8	0.002	0.51	0.28–0.96	0.036	0.75	0.43–1.30	0.309
One need not be vigilant in dealing with others	24.1	18.5	0.061	0.33	0.16–0.68	0.003	0.56	0.32–0.97	0.040
Reciprocity									
People in this community help each other	36.0	33.5	0.481	0.49	0.28–0.85	0.012	0.47	0.30–0.74	0.001
Exchanging favors last month	32.6	30.8	0.601	0.29	0.15–0.55	<0.001	0.55	0.35–0.88	0.011
Social support									
Can turn to someone...									
In case of illness	94.8	93.7	0.515	0.82	0.28–2.40	0.717	0.41	0.18–0.92	0.031
When needing help with personal hardships	77.4	74.8	0.396	0.85	0.47–1.52	0.578	0.61	0.39–0.96	0.032
If feel like going out	75.6	75.5	0.969	0.72	0.41–1.25	0.243	0.48	0.31–0.76	0.002
Economic security									
Income >450,000 Lebanese pounds	74.1	68.9	0.124	0.43	0.25–0.74	0.002	0.51	0.33–0.78	0.002
Main source of earnings from self or spouse	34.2	17.5	<0.001	0.33	0.17–0.61	<0.001	0.69	0.39–1.21	0.192
Additional earning from investments/rent	21.0	14.1	0.013	0.54	0.27–1.07	0.077	0.87	0.49–1.56	0.642
Not receiving money from children/charity	33.2	18.5	<0.001	0.34	0.18–0.64	0.001	0.67	0.39–1.15	0.147

^a Adjusted for age; OR refers to odds ratios; CI refers to confidence intervals

ORs and their 95 % CI are estimated, adjusted for age. Overall, both men and women expressed a relatively high level of locational capital; more than 70 % felt happy living in the area, almost two-thirds held strong feelings of belonging to the neighborhood, around 9 out of 10 felt safe walking alone at night, and these percentages were in general similar between men and women. A larger percentage of men than women reported knowing people in the area and attending weekly religious activities. In spite of this, a low level of trust prevailed, with the majority of men and women reporting the need for vigilance when dealing with people in the community. Furthermore, less than one-third of respondents reported engagement in instrumental exchange with family, friends, or neighbors in the month preceding the survey. Social support was perceived to be strong in many instances, notably in case of illness, among both men and women. Whereas monthly level of income was comparable among men and women, sources of earnings varied according to gender. Compared with women, men were more likely to have their main

earnings from self or spouse and to have access to financial resources from earlier investment or rent. Women, on the other hand, were more likely to be dependent on children or charity as their main source of livelihood.

The results of bivariate analyses showed a protective effect of almost all psychosocial and economic security indicators examined on “poor” SRH. However, the strength and significance of these results varied by the construct examined and gender (Table 2). Overall, indicators of social capital showed significant association with SRH among both men and women, those of social support were stronger and more significant among women than among men, and in contrast, those of economic security were stronger and significant among men only. More specifically, women showed the strongest protective association of SRH with the social capital indicator “feeling happy living in the neighborhood” (OR = 0.26), and men showed the strongest association with the social capital indicator “exchanging favors” (OR = 0.29). Whereas perceived availability of social support networks did not significantly

Table 3 Associations of social capital, social support, and economic security scores with self-rated health: results of the logistic regression models, Urban Health Survey, Beirut, 2003

Scores of ^a	Men				Women			
	Model I ^b		Model II ^c		Model I ^b		Model II ^c	
	OR	95 % CI	OR	95 % CI	OR	95 % CI	OR	95 % CI
Social capital	0.75	0.65–0.87	0.76	0.65–0.89	0.73	0.64–0.83	0.71	0.62–0.82
Social support	0.98	0.70–1.39	0.94	0.63–1.40	0.69	0.52–0.90	0.56	0.41–0.76
Economic security	0.52	0.38–0.69	0.57	0.41–0.81	0.76	0.59–0.97	0.80	0.61–1.05

^a Social capital, social support, and economic security constructs were scored on 0–9, 0–3, and 0–4 scales, respectively

^b Adjusted for age

^c Adjusted for age, education, nationality, marital status, chronic disease, and functional disability

decrease the odds of “poor” SRH among men, women maintaining a large network that is ready to respond in case of need were at significantly lower odds of “poor” SRH. Similarly, the association between SRH and indicators of economic security varied significantly by gender. A relatively stable household income of >450,000 LP, the presence of earnings from self or spouse, and not relying on children or charity as a source of livelihood all decreased significantly the odds of “poor” SRH among men. Except for household income, none of these variables were significantly associated with SRH among women.

Two logistic regression models were additionally constructed to test associations with the composite indices of social capital, social support, and economic security; the first model was adjusted for age and the second model was adjusted for baseline socio-demographic and health-related variables (Table 3). Social capital score retained its statistical significance among both men and women (OR = 0.76, OR = 0.71, respectively). Whereas the social support score was found to be significantly protective against “poor” SRH in women only (OR = 0.56, 95 % CI = 0.41–0.76), the economic security score was significantly and inversely related to the odds of “poor” SRH in men only (OR = 0.57, 95 % CI = 0.41–0.81).

Discussion

This study extends previous findings on the role of gender in shaping the relationships of social and economic circumstances with self-rated health (SRH) in many ways. It also examines the association of several indicators of social capital, social support, and economic security with SRH in deprived communities of older men and women living in the outskirts of Beirut. Owing to years of civil strife and conflict, these communities share urban dense livings, economic hardships, the presence of displaced populations, and lack of public services and infrastructure. When measured on a national scale, the communities fall in the

lowest income bracket [15]. One of the main findings of the study was that while women reported worse SRH compared with men, the specific nature of the associations between the three constructs (social capital, social support, and economic security) and SRH varied according to gender. The association between social capital and SRH was equally important among both men and women. By contrast, social support and networks promoting social cohesion were found to be important relational ties for women’s health only, whereas economic and financial well-being seemed to play an important role for men’s health only, net of the effects of socio-demographic and health-related characteristics.

Our finding that older women were significantly more likely to report worse health status as compared to older men concurs with a large body of literature based on international as well as regional studies [6, 25–27]. Our constructs of social capital, social support, and economic security were found to be protective against poor SRH to different extents among older men and women. These are discussed below.

Associations with social capital

The association observed between social capital and SRH reinforces the long-established role that neighborhoods play in older adults’ well-being [28]. Social capital has been previously defined as “features of social organization, such as trust, norms, and networks, that can improve the efficiency of society by facilitating coordinated aims” [29]. The physical and cognitive functioning of older adults is particularly dependent on the availability of social capital which enhances their quality of life through community participation, trust, reciprocity and adequacy of the neighborhood environment [9].

Our study findings on the associations of the specific indicators of social capital with SRH deserve a closer look. Theoretically, the importance of social capital lies in its human and material resources that ultimately yield better health benefits [17, 30]. Both older men and women in our

study exhibited equally high rates of various indicators of locational capital that enhanced their SRH, with the exception of “feeling like you belong here”. The attenuated association of the latter indicator with SRH might be the result of shared history of displacements, mobility, and refugee status that characterize the residents of our selected communities, located in an urban poverty belt created after a long history of civil wars and unrest and other specific political events in the country.

Whereas the necessity for vigilance in dealing with others was associated with poor SRH among both older men and older women, trusting people in the area was significantly associated with better SRH for men, but not for women. This might indicate that men tend to attribute considerable importance to trusting people outside their family circle as opposed to women who are more likely to focus on social interaction and close relationships within the scope of their families and close neighbors. Kavanagh and colleagues argue that the gender difference may be due to the fact that women, notably in a culturally diverse environment, are exposed to an additional social burden of networking which reduces their ability to benefit from the social trust component [15].

The associations observed between indicators of reciprocity and SRH did not appear to be affected by gender, at least in this community sample. These findings are consistent with those observed in other settings and provide empirical support for the important role of social engagement and the informal two-way helpful acts in healthy aging [31]. Furthermore, feelings of social role fulfillment as well as a sense of mutuality are believed to promote SRH [32, 33].

Associations with social support

Social support, on the other hand, both emotional and instrumental, is critically needed for the maintenance of optimal physical and cognitive functioning in older adults [12]. Previous studies conducted in the USA, Europe, and Japan established a link between social support and various health outcomes [34, 35]. An important finding of this study is that, while both men and women displayed similar and relatively high levels of social support indicators, each group showed a unique profile with regard to its association with SRH. Such attributes of social support as having someone to turn to for leisure or in the case of illness and other hardships were significant correlates of women’s SRH but carried no such weight among men. Current evidence is divided with respect to the observed gender difference, with few studies indicating that the relationship between social support and SRH is evident in men only [36], while others suggesting that the relationship does not vary significantly according to gender [12]. Yet, the

majority of studies, and in accordance with our findings, concur that women invest more than men in cultivating social relations and social support, and this puts them at higher odds of having “poor” SRH in the absence of social support [37, 38].

Associations with economic security

A gender difference was also prominent in the association between economic security and SRH, whereby men (but not women) scoring high on this construct were less likely to report “poor” SRH, net of the effect of social capital and social support. The role of economic circumstances in shaping physical and mental health has been emphasized in findings from recent studies. Housing tenure and receipt of income support were associated to varying degrees with higher odds of poor SRH among older men and women in the Health Survey for England [39]. Also, self-perceived socioeconomic status showed significant association with elder health in both rural and urban China [40]. While the association between socioeconomic position and SRH attenuated and was explained by differences in access and social network among Norwegian adult population [41], the relationship in our study among men maintained its significance even after including social indicators, chronic disease, and functional disability, suggesting that there are other mechanisms by which economic resources or position may impact health of older people. There is some evidence that people with lower economic position have lower access to health care [42], yet this may not explain disparities observed between men and women. One explanation we offer here is that the current generation of older men in our social context of patriarchal social norms is expected to be the main breadwinners in the family providing for other members including older women. Hence, men receiving financial support from others are more likely to associate it with feelings of low self-esteem, dependency, and failure to fulfill their role as heads of the household.

The current study has some limitations. First, given the cross-sectional nature of the study, there is uncertainty about the temporality of the relationships: it is plausible that poor SRH, owing to some unknown underlying factors, may have negatively impacted social interactions and lead to social isolation. In addition, given the small sample size, the study may not have had enough power to detect true associations when analyses were stratified by gender. While we adopted a broad definition of social capital, questions regarding civic and political activity could not be included in the questionnaire due to sensitivities and community restrictions. Finally, it is possible that the indicators used to measure social support and economic

security may not have captured all potentially relevant resources for older adults, hence affecting the robustness of these constructs and their expression on SRH. Yet, this study is, to our knowledge, the first to assess the role of gender in the association of social capital, social support, and economic security, examined simultaneously, with SRH among older adults in a deprived urban post-conflict setting. Findings of this research are particularly significant for older adults living in other parts of the developing world where social and economic safety net for older people are mostly lacking.

To summarize, social networks and economic resources are associated in several ways with health; however, the specific nature of the associations varies according to social context and appears to be affected by gender. In such suburban deprived neighborhoods, support systems comprised of social capital and social networks may be resourceful for the promotion of SRH among older women, whereas social capital and economic security seem to play an important role among men. These gender differences in the health effects of the various constructs are plausible because older men and women may place different values on human connectedness and material resources, and these, in turn, play different roles in the health trajectories of older people. Our analyses emphasize again that SRH, as an outcome measure, although subjective, captures not only social, psychological, and physical health but also broader resources, including financial and economic well-being.

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References

1. Grundy, E., & Holt, G. (2001). The socioeconomic status of older adults: How should we measure it in studies of health inequalities? *Journal of Epidemiology and Community Health*, *55*(12), 895–904.
2. Manor, O., Matthews, S., & Power, C. (2000). Dichotomous or categorical response? Analysing self-rated health and lifetime social class. *International Journal of Epidemiology*, *29*(1), 149–157.
3. Wilkinson, R. G. (1997). Socioeconomic determinants of health. Health inequalities: Relative or absolute material standards? *BMJ*, *314*(7080), 591–595.
4. Murray, C. J. L., & Lopez, A. D. (1996). *The global burden of disease: A comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020*. Cambridge, MA: Harvard School of Public Health on behalf of the World Health Organization and the World Bank; Harvard University Press.
5. Idler, E. L., & Benyamini, Y. (1997). Self-rated health and mortality: a review of twenty-seven community studies. *Journal of Health and Social Behavior*, *38*(1), 21–37.
6. Kennedy, B. P., Kawachi, I., Glass, R., & Prothrow-Stith, D. (1998). Income distribution, socioeconomic status, and self rated health in the United States: Multilevel analysis. *BMJ*, *317*(7163), 917–921.
7. Kawachi, I., Kennedy, B. P., Lochner, K., & Prothrow-Stith, D. (1997). (1997) Social capital, income inequality, and mortality. *American Journal of Public Health*, *87*(9), 1491–1498.
8. Veenstra, G. (2000). Social capital, SES and health: An individual-level analysis. *Social Science and Medicine*, *50*(5), 619–629.
9. Pollack, C. E., & von dem Knesebeck, O. (2004). Social capital and health among the aged: Comparisons between the United States and Germany. *Health Place*, *10*(4), 383–391.
10. Nummela, O., Sulander, T., Karisto, A., & Uutela, A. (2009). Self-rated health and social capital among aging people across the urban-rural dimension. *International Journal of Behavioral Medicine*, *16*(2), 189–194.
11. Nummela, O., Sulander, T., Rahkonen, O., Karisto, A., & Uutela, A. (2008). Social participation, trust and self-rated health: A study among ageing people in urban, semi-urban and rural settings. *Health Place*, *14*(2), 243–253.
12. Cheng, S. T., & Chan, A. C. (2006). Social support and self-rated health revisited: Is there a gender difference in later life? *Social Science and Medicine*, *63*(1), 118–122.
13. Lynch, J., Due, P., Muntaner, C., & Smith, G. D. (2000). Social capital—is it a good investment strategy for public health? *Journal of Epidemiology and Community Health*, *54*(6), 404–408.
14. Kondo, N., Sembajwe, G., Kawachi, I., van Dam, R. M., Subramanian, S. V., & Yamagata, Z. (2009). Income inequality, mortality, and self rated health: Meta-analysis of multilevel studies. *BMJ*, *339*, b4471.
15. Kavanagh, A. M., Bentley, R., Turrell, G., Broom, D. H., & Subramanian, S. V. (2006). Does gender modify associations between self rated health and the social and economic characteristics of local environments? *Journal of Epidemiology and Community Health*, *60*(6), 490–495.
16. Jawad, M. H., Sibai, A. M., & Chaaya, M. (2009). Stressful life events and depressive symptoms in a post-war context: Which informal support makes a difference? *Journal of Cross-Cultural Gerontology*, *24*(1), 19–32.
17. Khawaja, M., & Mowafi, M. (2006). Cultural capital and self-rated health in low income women: Evidence from the Urban Health Study, Beirut, Lebanon. *Journal of Urban Health*, *83*(3), 444–458.
18. Colletta, N. J., & Cullen, M. L. (2000). *Violent conflict and the transformation of social capital: Lessons from cambodia, rwanda, guatemala, and somalia*. Washington, D.C.: World Bank.
19. Harpham, T., Grant, E., & Thomas, E. (2002). Measuring social capital within health surveys: Key issues. *Health Policy and Planning*, *17*(1), 106–111.
20. McKenzie, K., Whitley, R., & Weich, S. (2002). Social capital and mental health. *British Journal of Psychiatry*, *181*, 280–283.
21. Falk, I., & Kilpatrick, S. (2000). What is social capital? A study of interaction in a rural community. *Sociologia Ruralis*, *40*(1), 87–110.
22. Onyx, J., & Bullen, P. (2000). Measuring social capital in five communities. *The Journal of Applied Behavioural Science*, *36*(1), 23–42.
23. Travis, L. A., Lyness, J. M., Shields, C. G., King, D. A., & Cox, C. (2004). Social support, depression, and functional disability in older adult primary-care patients. *The American Journal of Geriatric Psychiatry*, *12*(3), 265–271.
24. Katz, S., Downs, T. D., Cash, H. R., & Grotz, R. C. (1970). Progress in development of the index of ADL. *Gerontologist*, *10*(1), 20–30.

25. Rahman, M. O., & Barsky, A. J. (2003). Self-reported health among older Bangladeshis: How good a health indicator is it? *Gerontologist*, *43*(6), 856–863.
26. Kabir, Z. N., Tishelman, C., Aguero-Torres, H., Chowdhury, A. M., Winblad, B., & Hojer, B. (2003). Gender and rural-urban differences in reported health status by older people in Bangladesh. *Archives of Gerontology and Geriatrics*, *37*(1), 77–91.
27. Zimmer, Z., Natividad, J., Lin, H. S., & Chayovan, N. (2000). A cross-national examination of the determinants of self-assessed health. *Journal of Health and Social Behavior*, *41*(4), 465–481.
28. Kawachi, I., Kennedy, B. P., & Glass, R. (1999). Social capital and self-rated health: A contextual analysis. *American Journal of Public Health*, *89*(8), 1187–1193.
29. Putnam, R. D. (1993). *Making democracy work*. Princeton, NJ: Princeton University Press.
30. Edmondson, R. (2003). Social capital: A strategy for enhancing health? *Social Science and Medicine*, *57*(9), 1723–1733.
31. Rowe, J. W. (1997). The new gerontology. *Science*, *278*(5337), 367.
32. Adelman, P. K. (1994). Multiple roles and psychological well-being in a national sample of older adults. *Journal of Gerontology*, *49*(6), S277–S285.
33. Mendes de Leon, C. F., Seeman, T. E., Baker, D. I., Richardson, E. D., & Tinetti, M. E. (1996). Self-efficacy, physical decline, and change in functioning in community-living elders: A prospective study. *Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *51*(4), S183–S190.
34. Cooper, H., Arber, S., Fee, L., et al. (1999). *The influence of social support and social capital on health*. London, UK: Health Education Authority.
35. Stansfeld, S. A., Fuhrer, R., Shipley, M. J., & Marmot, M. G. (2002). Psychological distress as a risk factor for coronary heart disease in the Whitehall II Study. *International Journal of Epidemiology*, *31*(1), 248–255.
36. Okamoto, K., & Tanaka, Y. (2004). Gender differences in the relationship between social support and subjective health among elderly persons in Japan. *Preventive Medicine*, *38*(3), 318–322.
37. Gurung, R. A., Taylor, S. E., & Seeman, T. E. (2003). Accounting for changes in social support among married older adults: Insights from the MacArthur Studies of Successful Aging. *Psychology and Aging*, *18*(3), 487–496.
38. Prus, S. G., & Gee, E. (2003). Gender differences in the influence of economic, lifestyle, and psychosocial factors on later-life health. *Canadian Journal of Public Health*, *94*(4), 306–309.
39. Grundy, E., & Sloggett, A. (2003). Health inequalities in the older population: The role of personal capital, social resources and socio-economic circumstances. *Social Science and Medicine*, *56*(5), 935–947.
40. Norstrand, J. A., & Xu, Q. (2012). Social capital and health outcomes among older adults in China: The Urban-rural dimension. *Gerontologist*, *52*(3), 325–334.
41. Gele, A. A., & Harslof, I. (2010). Types of social capital resources and self-rated health among the Norwegian adult population. *International Journal for Equity in Health*, *9*, 8.
42. Janevic, T., Sripad, P., Bradley, E., & Dimitrievska, V. (2011). “There’s no kind of respect here” A qualitative study of racism and access to maternal health care among Romani women in the Balkans. *International Journal for Equity in Health*, *10*, 53.