

Work after retirement affects elderly mental health and behaviors in Addis Ababa

Health Psychology Open
January-June 2021: 1–11
© The Author(s) 2021
Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/2055102921996189
journals.sagepub.com/home/hpo



Teshome Sirak Bedaso  and Buxin Han

Abstract

This study aimed to determine the impact of being without a job post-retirement on mental health (depression, life satisfaction) and behaviors (alcohol and cigarette). A cross-sectional study was conducted on 330 Ethiopians aged 60–69. Compared to workers, retirees without a job reported higher depression, lower life satisfaction, and hazardous drinking ($d = .49$, $.39$ and $\phi = .65$, respectively). Hierarchical multiple regression analyses indicated that being without a job post-retirement was associated with depression and life dissatisfaction. Thus, greater emphasis has to be given to improve the mental health and behaviors of retired elderly.

Keywords

continuity theory, depression, Ethiopian elderly, mental health, post-retirement job

Introduction

The elderly segment of the population has been rapidly growing in comparison to people in other age groups worldwide. This rise is due to the significant fall in fertility rates and increasing longevity. According to the United Nations (2015), one out of eight individuals is aged 60 or above and projected to be one in six people worldwide by 2030. Ethiopians' life expectancy at birth has also increased on average by more than 18 years from 47.7 in 1990 to 66 in 2015 (Jembere et al., 2018). Prolonged life expectancy induced a healthier elderly population, while increasing living expenditures led older adults to re-enter the job market after retirement. According to Ethiopian Central Statistics Agency (CSA), the labor force among urban population aged 60–64 was estimated to be 54% and 41% at the national level and Addis Ababa (capital city) respectively (Central Statistics Agency [CSA], 2016).

Although many of the Ethiopian older adults prefer to continue working and are less likely to withdraw abruptly (Waites and Onolemhemen, 2014), they retire at the age of 60 due to mandatory retirement age (Federal Negarit Gazeta, 2011). Then, they will be eligible to receive 30% of their average salary for the last 3 years plus 1.25% (civilian) or 1.65% (military and police) for each year of service exceeding 10 years. But the pension is insufficient to cover

minimal household expenditures (HelpAge International (HAI) and Cordaid, 2011) particularly food, house rent, health, and other expenses (Central Statistics Agency, 2018; Chane et al., 2018). The family structure also, needs to provide support for unmarried children and wife (ves). Thus, retirees might be forced to seek alternative sources of income to sustain their lives (Ashenafi, 2015).

Job after retirement

Retirement is an important moment that is accompanied by several issues to which individuals need to carefully adjust (Wetzel and Huxhold, 2016). Among social adaptation, loneliness, decreased resources and support, being without a job post-retirement stands out. Mainly, being without a job is highly associated with a higher level of mental distress (i.e. Australians below 60 ages, Vo et al., 2014) and deteriorating mental health especially for those who retired

Key Lab of Mental Health (Institute of Psychology), Chinese Academy of Sciences, China

Corresponding author:

Buxin Han, Key Lab of Mental Health (Institute of Psychology), Chinese Academy of Sciences, 16 Lincui Rd., Beijing 100101, China.
Email: hanbx@psych.ac.cn



involuntarily and ill health (Mosca and Barrett, 2014). Retirement is not a problem itself, rather the underlying factors of retirement such as health deterioration (Lee and Smith, 2010), and inadequate income to cover one's expense would also lead to the risk of mental health issues (Guo et al., 2016). Despite its negative influence on perceived health (Heide et al., 2013), retirement was found to be positively improving mental health (Atalay and Barrett, 2014; Cooper and Beehr, 2015) for Australians. For the developed countries with better unemployment insurance, work post-retirement is low (Heller-Sahlgren, 2017). This is not the case with Ethiopia.

Conversely, earning insufficient income (Li et al., 2013), and being without a work harms life satisfaction (Zenger et al., 2010). This decline in life satisfaction is observable with time following retirement (Zhu and He, 2015). However, those who had a job and receiving higher social support did show improved life satisfaction (Tirrito and Barkley, 2014).

Studies revealed contradicting results about the effect of retirement, for example, lifestyle. Ayyagari (2016) stated that retirement raises the smoking rates in United State, whereas Motegi et al. (2016) found no such influence on the frequency of smoking but upon reduction of alcohol use in Japan. Kuerbis and Sacco (2012) depict that retirement might not have a substantial direct impact on alcohol drinking in developed countries. Instead, they claim that the occurrence of stressful life experiences combined with free time leads to a raised level of alcohol use. Nonetheless, in Ethiopia the impact of being without a job on depression and the extent of alcohol consumption remained unaddressed.

Loneliness is one of the events during retirement that results in higher depression (Bekhet and Zauszniewski, 2012). Being a widow or widower is also related to a higher degree of depression (Lei et al., 2014). This fact denotes that availability of a family social network, such as spouse and child, would play a principal role in depression prevention (Lee and Smith, 2010). Further, attaining higher education (Wetzel and Huxhold, 2016) and volunteerism (Hoyer and Roodin, 2009) could be prevent depression. There are very few studies concerning the mental health situation of the retired elderly people in developing countries. Ethiopia has never been mentioned in those fewer studies.

Effect of retirement on mental health and lifestyle

Numerous studies conducted on the effect of retirement on mental health and behaviors were yielding mixed results. Some found a positive effect of retirement on mental health and behavior—lifestyle, whereas others found a negative or insignificant effect. This disparity shows that retirement is a time where individuals have to prepare and adjust for many more opportunities and challenges. Cheng et al. (2016) confirmed that there was a positive significant

relationship between smoking, alcohol consumption, and depression. Hence, it is important to include these variables in the investigation of the impact of retirement on mental health and behaviors.

Furthermore, despite the efforts in other African countries, the effects of retirement on mental health and behaviors in Ethiopia have not been investigated. Some studies that have been conducted on adults' mental health in the general population aged above 18 years (Gelaye et al., 2012; Molla et al., 2016) but overlooked retirement issues. Others emphasized on the retirees' household level of food insecurity (Chane et al., 2018), and adjustment to retirement (Ashenafi, 2015) but not mental health. A recent study in Ambo Town some 120km away from Addis Ababa yielded that retirement and living with children were significantly related to depression (Mirkena et al., 2018); yet the extent of alcohol use and a positive side of retirement—life satisfaction remained unaddressed. Thus, it is vital to better explain the effects of work during post-retirement on elderly mental health and behaviors in consideration of the gaps in previous researches mentioned above.

Studying about work after retirement is relatively new and sparse (Beehr and Bennet, 2014), but highly recommended by gerontologists (Cooper and Beehr, 2015). In Ethiopia, where employment is exceptionally valued, leaving a job could be perceived as a loss of benefits (e.g. income, social involvement, personal interaction) and it might lead to mental distress (Ashenafi, 2015). The quality of life (physical and psychosocial) is another challenge they have been facing (Gebremariam and Adamek, 2015). Aging and the situation of the elderly have also received little attention from the Ethiopian government and researchers (CSA, 2016).

Therefore, this study was conducted to: (1) determine whether retirees' mental health (depression and life satisfaction) and behaviors (cigarette smoking and alcohol consumption) differ according to retirement/work status, (2) investigate the degree to which being without a job after retirement influences the elderly mental and perceived health.

Continuity theory as a framework

Continuity theory asserts that individuals attempt to preserve and maintain existing life patterns through adaptive changes linked to experiences (Atchley, 1989). Despite minor changes, most retirees maintain their level of wellbeing (Henning et al., 2016) using one's internal mental states (Cooper and Beehr, 2015). Indeed, the elderly tend to engage in post-retirement job (Zhan et al., 2015), which is mostly related to their previous career (Gobeski and Beehr, 2009) and become involved in activities most important to them (Pushkar et al., 2010). Older adults carefully select their new mates who look like their previous friends (Cooper and Beehr, 2015).

Thus, continuity theorists perceive retirement as an opportunity to maintain and continue these qualities. Of course, retirement does not necessarily mean the end of work, in either developing or developed countries (Kim and Hall, 2013). Although the discontinuity emerging from pathological aging might lead to severe mental health issues, elderly with disability would still prefer to preserve their wellbeing (Atchley, 1998).

Continuity theory is criticized for viewing continuity positively while perceiving discontinuity as a problem (Lynch et al., 2016), for its inability to explain the turning point in post-retirement (Wang, 2007), and for the aging constraints (Kim and Feldman, 2000). Nevertheless, it could explain the positive and negative outcomes of retirement (Wang, 2007) and an individual's adjustment to retirement (Wang and Shi, 2014). Continuity theory has been widely used by researchers to study post-retirement and successful aging (Breheny and Griffiths, 2017; Lu and Shelley, 2019; Zacher and Rudolph, 2017). It was also tested for applicability in the African context of Nigeria (Ejechi, 2015), in which the inclusions for the traditional and cultural activities unique to the context were suggested.

Hence, this theory is chosen after considering several commonly used theories (continuity theory, role theory, and life-course perspective) regarding bridge employment (Wang et al., 2008) and other less prevalent theories of aging (disengagement theory, and activity theory, DeLiem and Bengtson, 2015).

Methods

Participants

A cross-sectional study was conducted on 330 retirees aged 60–69, living in Addis Ababa. The data were collected from 438 participants (88.7% response rate). However, our analysis restricted us to 330 participants by excluding 108 individuals (89 participating in their own work and 19 with a disability).

The survey followed multistage sampling techniques. First, six districts were randomly picked from ten districts (Spaliviero and Cheru, 2017). Then, 12 pension payment centers were selected through proportional stratified sampling. Finally, participants were selected from each pension payment center via a convenience sampling technique. Individuals with a serious health problem, visual, and hearing impairment were excluded. The sample size was determined by a single population proportion formula, $n = \frac{(Z\alpha/2)^2 \cdot pq}{d^2}$ where n is the sample size, $Z\alpha/2$ is critical value of the Normal distribution at $\alpha/2$ (for a confidence level of 95%, α is 0.05 and the critical value is 1.96); d is tolerated margin of sampling error, p stands for sample proportion, and q is $1-p$. Convenience sampling was based on the assumptions of the sampling error of 5%, and proportion of the prevalence of

mental distress among Ethiopian adults 17.7% (Gelaye et al., 2012). Finally, a total sample size was determined after adjusting for an estimated non-response rate of 10%, and a design effect (due to stratified sampling used) of two were considered.

Measurements

All the instruments were translated from English into Amharic (local language) and back to English with the help of language professionals. The reliability of the instruments was checked in a pilot study before the main study.

Depression. The revised form of the Center for Epidemiological Studies Depression Scale (CES-D Scale) was employed to measure depression symptoms. It was designed to measure the depression symptoms in the general population (Radloff, 1977). It had good validity and reliability among different subgroups of the population. Besides, the scale is popular among researchers endeavoring to measure depression symptoms in general population surveys (Cheng et al., 2016; Lei et al., 2014). The average reliability score of the revised CES-D Scale is reported as $\alpha=0.85$ (Miller et al., 2008). In our study, a Cronbach's alpha of the scale was 0.78. It consists of 10-item to be rated on a 4-point Likert scale with responses ranged from *rarely or none of the time* (less than 1 day) to *most or all of the time* (5–7 days) for participants on how they felt during the last week. For analysis, the total score was used as continuum (Wang et al., 2014), where by higher scores represented a greater likelihood of depression.

Life satisfaction. The Satisfaction with Life Scale (SWLS) was used to measure participants' overall life satisfaction. It constitutes 5-items designed to measure the cognitive component of subjective well-being and provides an integrated judgment of how a person's life is going holistically (Diener et al., 1985). Participants indicated how much they agree or disagree with each item on a five-point Likert scale, ranging from *strongly disagree* (1) to *strongly agree* (5). The internal consistency of SWLS was confirmed in the previous study as Cronbach's alpha of 0.88 (Kobau et al., 2010). In this study, good reliability was obtained at $\alpha=0.76$. The analysis was performed by taking the mean scores of five items and considering higher score represented better satisfaction.

Perceived health. As perceived general health questions might reflect an overall picture of one's well-being (Coe and Zamarro, 2011), participants were requested to rate their overall health status as *Excellent*, *Very good*, *Good*, *Fair* or *Poor* (1=excellent, 5=poor). This item was reversed so that higher value indicated improvement in self-rated health.

Health behaviors. A questionnaire for alcohol consumption and cigarette smoking was adapted from various literatures. The participants were asked, “Do you drink alcoholic beverages (beer, wine, whiskey, gin, *tella*, *araki*, *teji*)?” If their answer was “yes,” they were also requested to indicate how often (never, once a month or less, two or three times a month, once a week, twice or three times a week, four or six times a week, once a day, two or more times a day) they had consumed in the past 30 days and 12 months independently under each type of alcohol. Alongside each kind of alcohol, they were also inquired to specify the amount of drink they usually consumed on a typical day when they were drinking indicated by bottles, glasses, and “berele” (a rounded vase-shaped container similar to a Florence flask).

The most common Ethiopian homemade alcoholic drinks included were, “*tella*” (local beer with alcohol content 2%–4% or 5%–6%), “*teji*” (honey wine with alcohol content 5%–6% or 7%–11%) and “*araki*” (strong distilled liquor with alcohol content up to 45%) (Fekadu et al., 2007; Lee et al., 2015). In order to convert these drinks into standard equivalent alcoholic units, the volume of drink in milliliter was multiplied by the average alcoholic content (in percentage) and divided by 1000 (Department of Health, 2008). Finally, the units of each alcoholic beverage were multiplied by their respective frequency of drinking (reported by the respondent) and added together to estimate the total units utilized within a month. Once individuals’ weekly alcoholic consumption was found, we classified them into two groups (low alcohol drink, 0 = drinking 1–14 units/week for female or 1–21 units/week for male; hazardous drink, 1 = Consuming ≥ 14 or 21 units/week for female and male respectively) (Katulanda et al., 2014).

At the same time, the average number of cigarettes smoked per-day in the last 30 days, and the past 12 months were separately assessed. The number of cigarettes smoked per-day was less than 11 when controlled for individuals with disability. Subsequently, participants were grouped as 0 = never smoked, 1 = cigarette smokers, for data analysis.

Retirement status. Individuals might define themselves as “retired” if they completely withdraw from their paid job; or when they leave their profession and participate in other full-time or part-time work (Coe and Zamarro, 2011). Since we want to determine the impact of working after retirement, we use the former definition. Thus, the participants were asked about their current “labor force participation,” categorized as *full-time paid work* (1), *part-time paid work* (2), *partly retired* (3), *disabled* (4), *participating in my own work* (5), and *no labor force participation* (6). Analysis related to working status was conducted after recoding the above responses: 1, 2, and 3 into 0 = with job; and 6 as 1 = without job; excluding the other two options as they were not showing the individuals undertaking a paid job. Reasons for their

retirement were also assessed and those who retired due to “disability” were expelled from further analysis.

Social integration. Participants rated their level of participation in various community activities: religious activities, physical activities, voluntary activities, and social gatherings by *never* (1), *sometimes* (2), *often* (3), and *very often* (4). The entire activities were indexed, and the higher the resulting score, the better integration.

Social support. The Multidimensional Scale of Perceived Social Support comprises 12-items designed to measure perceived support from family, friends, and significant others (Zimet et al., 1988). The instrument generally has good reliability of Cronbach’s $\alpha = 0.88$. Participants responded to the items using a 5-point Likert-type scale ranging from *strongly disagree* (1) to *strongly agree* (5). The overall reliability of the scale in the current study was $\alpha = 0.91$. For analysis, the mean score was taken, and higher scores represented higher social support.

Demographic variables. We acquired information about participants’ age, gender (0 = male, 1 = female), religion (1 = Orthodox, 2 = Islam, 3 = Protestant/Evangelical), marital status (0 = divorced or widowed or single, 1 = married), their education (0 = high school and below, 1 = college and above), living arrangement (0 = alone, 1 = with spouse only or with spouse and others), income (0 = ≤ 3000.00 ETB, 1 = > 3000.00 ETB), and years since retirement were obtained.

Table 1 depicts that, from a total of 330 individuals included in the analysis, nearly 71% of them were male. Their ages ranged from 60 to 69 with a mean of 65.08 and a standard deviation of 3.22. Majority (57%) of them had attained college or beyond education. Seventy-two percent of the respondents were married, and nearly 75% were Orthodox Christian. Regarding living arrangements, above 88% of them were living with their spouse only or with spouse and others, while the rest were living alone. About 78% of the retirees were earning 3000 ETB (Ethiopian *Birr*, equivalent to 300 USD at the time of this study) and above monthly, while the rest were receiving below 3000 ETB. The median monthly household income was 3000 ETB. A majority (56%) of them described their pension as low, whereas 36% described it as moderate.

Statistical analyses

Data were analyzed with IBM SPSS 21.0 statistical software. Descriptive statistics, *t*-test, and chi-square tests were used to summarize demographic data and to determine whether retirees’ mental health and behaviors differ according to retirement/work status. Hierarchical multiple regression was used to investigate the degree to which being without a job after retirement influences Ethiopian elderly mental and perceived health.

Table 1. Demographic data by retirement/working status.

Characteristics	Overall N (N=330)	Full/part-time job (n=150)	Without job (n=180)	χ^2/t -value
Age ^a	65.08 (3.22)	64.40 (3.17)	65.66 (3.17)	-3.58**
Gender				3.86
Male	233 (70.6)	114 (34.5)	119 (36.1)	
Female	97 (29.4)	36 (10.9)	61 (18.5)	
Education				11.20**
\geq College	187 (56.7)	100 (30.3)	87 (26.4)	
\leq High school	143 (43.3)	50 (15.2)	93 (28.2)	
Marital status				1.17
Divorced/widowed/single	91 (27.6)	37 (11.2)	54 (16.4)	
Married	239 (72.4)	113 (34.2)	126 (38.2)	
Income				15.59***
>3000.00 ETB	73 (22.1)	48 (14.5)	25 (7.6)	
\leq 3000.00 ETB	257 (77.9)	102 (30.9)	155 (47.0)	
Living arrangement				0.98
With spouse or/and others	293 (88.8)	136 (41.2)	157 (47.6)	
Live alone	37 (11.2)	14 (4.2)	23 (7.0)	
Years since retirement ^a	7.58 (3.8)	7.19 (3.8)	7.89 (3.8)	-1.67
Religion				1.69
Orthodox Christian	246 (74.5)	109 (33.0)	137 (41.5)	
Islam	28 (8.5)	16 (4.8)	12 (3.6)	
Protestant/Evangelical	56 (17.0)	25 (7.6)	31 (9.4)	

^aThe mean was used along with standard deviation in parentheses.

** $p < 0.01$. *** $p < 0.001$.

Procedure

After obtaining the lists of the sample frame, respondents were approached (face-to-face) in the first week of each month (at the time they came to collect their pension fee) from July to October 2018. The questionnaire was administered once their willingness to participate in the research was secured with signature.

Ethical consideration

This research was approved by Institute of Psychology, Chinese Academy of Sciences (approval number is H20017) and permission to conduct this study was obtained from the Public Servant Social Security Agency, Addis Ababa. Participants were informed about the purpose of the study, procedures, confidentiality, and the right to withdraw from the study freely at any time without any consequence.

Results

The results were summarized using tables and described in line with each specific objective. Tables 1 and 2 show that there were statistically significant group differences according to retirement status in some demographic variables (age, education, and income), depression, life satisfaction, alcohol intake, social integration, and social support. Participants

without a job were found to be 1.26 years older (mean = 65.66) than those with a job ($p < 0.001$), and had significantly less education ($p < 0.01$), and earn a significantly lower income ($p < 0.001$) than their counterparts.

Mean difference of key variables by retirement status

As presented in Table 2, chi-square and *t*-test were performed to determine whether retirees' mental health and behaviors differ according to retirement status. The total prevalence of cigarette smoking was 9.7%, and alcohol use was about 45%. Out of 330 participants 148 alcohol users were analyzed to determine the level of alcohol abuse. The prevalence of alcohol abuse was found to be 13.94% (solely in men, which was 19%). Considering the drinking level, chi-square result indicate that retirees who have no job were more inclined to engage in hazardous drinking ($\chi^2 = 13.60$, $df = 1$, $N = 148$, $p < 0.001$) than their counterparts. As the phi (ϕ) effect size (Table 2) indicated, this is a somewhat larger than typical effect (Cohen, 1992). A separate analysis was conducted to check retirees' pattern of alcohol use following retirement, whether they "decreased," "increased," or "remain the same." The weighted percentage revealed that it had significantly increased for those who were without a job compared to those who worked (22% and 11%, respectively).

Table 2. Mean difference of key variables by retirement/working status.

Characteristics	Overall N (N = 330)	Full/part-time job (n = 150)	Without job (n = 180)	χ^2/t -value	Cohen's d/ ϕ
Depression ^a	9.27 (5.82)	7.75 (5.51)	10.54 (5.79)	-4.46***	0.49
Life satisfaction ^a	16.58 (5.12)	17.65 (5.12)	15.70 (4.96)	3.50**	0.39
Perceived health ^a	2.89 (.82)	2.97 (.65)	2.82 (.93)	1.72	
Social integration ^a	0.02 (.53)	0.11 (.52)	-0.06 (.53)	3.01**	0.33
Social support ^a	3.97 (.86)	4.09 (.52)	3.86 (.90)	2.45*	0.27
Family ^a	4.20 (.97)	4.36 (.85)	4.07 (1.04)	2.85**	0.32
Friends ^a	3.44 (1.18)	3.60 (1.19)	3.32 (1.16)	2.18*	0.24
Significant others ^a	4.26 (.94)	4.32 (.84)	4.21 (1.01)	1.14	
Drinking status ^b				13.60***	0.65
1–20 units/week	102 (30.91)	60 (18.18)	42 (12.73)		
≥21 units/week	46 (13.94)	12 (3.64)	34 (10.30)		
Cigarette smoking				0.33	
Yes	32 (9.7)	13 (3.9)	19 (5.8)		
No	298 (90.3)	113 (34.2)	161 (48.8)		

^aThe mean was used along with standard deviation in parentheses.

^bThe percentages are weighted for the exclusion of non-alcohol drinkers.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

The t -test results (Table 2) illustrated that retirees who have no job had significantly higher depression and lower life satisfaction scores than those who were either in a full-time or part-time job ($t = -4.46$, $p < .001$ and $t = 3.50$, $p < .01$, respectively). These are considered as a medium and a small to medium effect, respectively (Cohen, 1992). Besides, those who were not working had significantly lesser social integration and social support than their counterparts ($t = 3.01$, $p < .01$ and $t = 2.45$, $p < .05$, respectively).

Working after retirement influences retirees' mental and perceived health

Hierarchical multiple regression analyses were carried out to investigate the contribution of demographic factors, working status, and covariates on the elderly's mental and perceived health. Before conducting the analysis, all the necessary assumptions were checked (the social support components were aggregated due to a high correlation between them) and met. Skewness and kurtosis values in Table 3 indicated that the distribution is approximately normal. In addition, Q-Q plots and P-P plots were visually inspected and found that the data follow a normal distribution. As illustrated in the correlation matrix (Table 3), there are only low to moderate associations among the predictor variables.

To run the hierarchical multiple regression analysis, demographic data (age, gender, marital status, education, income, living arrangement, and years since retirement) were entered in the first block. Then working status, social integration, and social support were added into blocks 2, 3, and 4, respectively. Finally, the regression analyses were computed separately for depression, life satisfaction, and perceived health (Tables 4–6).

Table 4 shows that the demographic data significantly predicted 14% of the variance in depression. Beta values indicated that below college education, lower income, and living alone were significantly associated with increased depression. After controlling for the demographic factors, working status was added at the second step, and it significantly improved the prediction of R^2 change = .03, $F(1, 321) = 10.06$, $p < 0.01$. The improvement revealed that older adults who were unable to find a job after leaving their work because of retirement age would be more likely to have depression than those who have a job ($\beta = .17$, $p < 0.05$). When social integration and social support were entered into the third and fourth steps, they explained an additional 9% and 4% respectively. Beta values in Table 4 depict that having better social integration ($\beta = -.32$, $p < .001$) and social support ($\beta = -.23$, $p < .001$) were significantly associated with lower depression. The entire variance in depression explained by the last model was 29%, $F(10, 319) = 12.93$, $p < .001$.

For life satisfaction, the demographic factors were significantly estimated at 3% of the variation. Given the age of the respondents ranged from 60 to 69 years, enhanced life satisfaction was significantly associated with increased age and decreased time since retirement (Table 5). Entering working status into the second steps controlling for *demographic* brought an additional 5% to the prediction. Job loss post-retirement was significantly related to lower levels of life satisfaction ($\beta = -.23$, $p < 0.001$). Adding social integration and social support at the third and fourth steps improved the prediction by 4% and 18%, respectively. The beta values (Table 5) show that better social integration ($\beta = .22$, $p < 0.001$) and social support ($\beta = .49$, $p < .001$) were considerably related to better life satisfaction. The

Table 3. Skewness, kurtosis, and correlations among study variables.

Variables	Mean (SD)	Skewness	Kurtosis	1	2	3	4	5	6	7	8	9	10	11	12	13
Depression (1)	9.27 ± 5.82	0.67	-0.16	1												
Life satisfaction (2)	16.58 ± 5.12	-0.19	-0.81	-0.32***	1											
Perceived health (3)	2.89 ± 0.82	0.17	0.53	-0.16**	-0.08	1										
Age (4)	65.08 ± 3.22	-0.30	-1.33	0.05	0.06	-0.09	1									
Gender (5)	0.91	-1.18	0.05	0.07	-0.16**	-0.21***	1									
Marital status (6)	-1.01	-0.99	-0.20***	0.02	0.11*	0.03	-0.03	-0.27***	1							
Education (7)	-0.27	-1.94	-0.22***	0.02	0.02	0.03	0.03	-0.08	0.09	1						
Income (8)	1.34	-0.18	-0.25***	0.06	0.06	0.04	-0.02	-0.14*	0.08	0.33***	1					
Living arrangement (9)	-1.47	2.53	-0.23***	0.03	0.03	-0.02	-0.05	-0.02	0.49***	0.12*	0.03	1				
Years since retirement (10)	7.58 ± 3.81	0.78	1.04	0.08	-0.09	0.02	0.43***	-0.11*	-0.02	-0.16**	-0.17**	0.02	1			
Working status (11)	-0.18	-1.98	-0.18	0.24***	-0.19**	-0.09	0.19***	0.11*	-0.06	-0.18**	-0.22***	-0.05	0.09	1		
Social integration (12)	0.02 ± 0.53	-0.24	-0.38	-0.41***	0.23***	0.08	0.01	-0.06	0.19***	0.18**	0.20***	0.22***	0.03	-0.16**	1	
Social support (13)	3.97 ± 0.87	-1.31	1.52	-0.37***	0.47***	0.05	0.03	0.04	0.33***	0.03	0.10	0.34***	0.02	-0.13*	0.34***	1

Dummy variable: gender (male=0, female=1), marital status (divorced or widowed or single=0, married=1), education (high school and below=0, college and above=1), living arrangement (alone=0, with spouse only or with spouse and others=1), and income (≤ 3000.00 ETB=0, > 3000.00 ETB=1). * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

total variance in life satisfaction explained by the last model was 30%, $F(10, 319) = 13.54, p < .001$.

When perceived health was the criteria, only participants' age and gender from the demographic variables significantly predicted 6% of the variance in perceived health. The results (Table 6) illustrated that retirees' self-rated health decreased with the increment to one's age ($\beta = -.15, p < .05$), and females had lower perceived health than males ($\beta = -.15, p < .05$). When working status, social integration, and social support were added into steps 2, 3, and 4 respectively, there were no significant changes brought to the models. The resilience might be due to the removal of individuals from the analysis who retired as a result of health issues.

Discussion

This study intended to determine the impact of being without a job on the mental health and behaviors of the elderly. Compared to those who have been working after retirement, those not working were found more likely to be depressed. Of course, this result is consistent with the finding in developed countries (Mosca and Barrett, 2014; Vo et al., 2014) that signify being without a job post-retirement is highly associated with a higher level of mental distress. However, increased mental distress in these countries have observed among those who retired early, involuntary and due to ill health. Whereas, for Ethiopian retirees, depression is related to household expense and family burden (Mirkena et al., 2018).

To address the positive aspect of retirement on elderly people's mental health (Atalay and Barrett, 2014; Cooper and Beehr, 2015; Heide et al., 2013), we measured retirees' life satisfaction. Importantly, being jobless after retirement was significantly associated with a lower level of life satisfaction. This result verifies that having a job is better for life satisfaction (Tirrito and Barkley, 2014) than being without a job, which could negatively affect the satisfaction in life (Zenger et al., 2010). The finding also conveyed that retirees' life satisfaction increased with age but decreased with the length of retirement. Previously Zhu and He (2015) showed that life satisfaction tends to decline with time after retirement. One interpretation of these findings is that the positive effect of retirement would be better assumed for those individuals who engage in another job and receive better social support post-retirement. Unlike Li et al. (2013) who pointed out that limited income is associated with dissatisfaction for senior rural Chinese, we found it to be insignificant. An alternative explanation might relate to socio-cultural and context variation. Our results denote that getting a lower income, social support, and social integration would be significantly associated with higher depression. The study clarifies that receiving income insufficient to cover one's expense (Guo et al., 2016) especially in Ethiopia where retirees have been facing financial and

Table 4. Hierarchical multiple regression analysis predicting depression (N = 330).

Variables	Step 1 β (SE)	Step 2 β (SE)	Step 3 β (SE)	Step 4 β (SE)
Age	0.03 (0.11)	-0.01 (0.11)	-0.01 (0.10)	0.01 (0.10)
Gender	-0.01 (0.72)	-0.03 (0.71)	-0.02 (0.68)	0.01 (0.67)
Marital status	-0.09 (0.81)	-0.09 (0.80)	-0.06 (0.76)	-0.01 (0.76)
Education	-0.13* (0.66)	-0.11 (0.65)	-0.07 (0.62)	-0.10 (0.61)
Income	-0.20*** (0.78)	-0.17** (0.78)	-0.12* (0.75)	-0.11* (0.73)
Living arrangement	-0.16* (1.11)	-0.16* (1.10)	-0.11* (1.05)	-0.06 (1.05)
Years since retirement	0.01 (0.09)	0.02 (0.09)	0.04 (0.09)	0.04 (0.08)
Working status		0.17* (0.63)	0.14* (0.61)	0.11* (0.59)
Social integration			-0.32*** (0.57)	-0.26*** (0.57)
Social support				-0.23*** (0.37)
R ²	0.14***	0.16***	0.25***	0.29***
R ² Change	0.14***	0.03**	0.09***	0.04***

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 5. Hierarchical multiple regression analysis predicting life satisfaction (N = 330).

Variables	Step 1 β (SE)	Step 2 β (SE)	Step 3 β (SE)	Step 4 β (SE)
Age	0.15* (0.10)	0.20** (0.10)	0.02** (0.10)	0.15* (0.09)
Gender	0.10 (0.67)	0.13* (0.66)	0.13* (0.64)	0.05 (0.58)
Marital status	0.04 (0.76)	0.04 (0.74)	0.02 (0.73)	-0.08 (0.66)
Education	-0.02 (0.61)	-0.05 (0.60)	-0.07 (0.59)	-0.03 (0.53)
Income	0.06 (0.73)	0.02 (0.72)	-0.01 (0.71)	-0.04 (0.64)
Living arrangement	0.02 (1.04)	0.01 (1.01)	-0.02 (1.00)	-0.13* (0.92)
Years since retirement	-0.13* (0.08)	-0.14* (0.08)	-0.16* (0.08)	-0.16* (0.07)
Working status		-0.23*** (0.58)	-0.21*** (0.58)	-0.15** (0.52)
Social integration			0.22*** (0.54)	0.10 (0.50)
Social support				0.49*** (0.32)
R ²	0.03	0.08**	0.12***	0.30***
R ² Change	0.03***	0.05***	0.04***	0.18***

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

psychosocial challenges (Chane et al., 2018; Gebremariam and Adamek, 2015; HelpAge International (HAI) and Cordaid, 2011) together with loss of benefits (Ashenafi, 2015) would most likely increase the risk of mental health issues.

Although the previous research (Heide et al., 2013) revealed a significant association between retirement and perceived health, it was not supported by our findings. Probably, this would be because of the elimination from further analysis of participants who retired due to disability. The results also suggest that as an individual's age increases, their self-rated health decreases significantly.

Regarding health behaviors, the results suggest that there is a significant relationship between retirement status and the level of alcohol use, but no relationship with cigarette smoking was found. Older adults without a job showed a greater likelihood of developing hazardous drinking than those with a job. Furthermore, the overall pattern of drinking for both groups increased since retirement. The findings contradict a recent study (Motegi et al., 2016), which argues

that retirement reduces alcohol use. The inconsistency may have occurred as a result of the country, participants' age and cultural differences. On the other hand, unlike Ayyagari (2016), the results refute that retirement status does not significantly predict the rate of cigarette smoking. The discrepancy may have happened because of chance as the sample size becomes even smaller when smokers are stratified according to retirement status beside country disparity.

In general, the effect of retirement status on elderly mental health and behaviors (lifestyle) would be better explained by the combined effect of individuals' demographic factors and retirees' job-related issues.

Theoretical consideration

Continuity theory emphasizes the employment of familiar adaptive strategies for maintaining continuity (Atchley, 1989). Indeed, we found that regardless of their career job, the elderly would more likely benefit from continuing their work, receiving social support, and enhanced social integration

Table 6. Hierarchical multiple regression analysis predicting perceived health ($N=330$).

Variables	Step 1 β (SE)	Step 2 β (SE)	Step 3 β (SE)	Step 4 β (SE)
Age	-0.16* (0.02)	-0.15* (0.02)	-0.15* (0.02)	-0.16* (0.02)
Gender	-0.15* (0.11)	-0.15* (0.11)	-0.15* (0.11)	-0.16* (0.11)
Marital status	0.11 (0.12)	0.11 (0.12)	0.10 (0.12)	0.09 (0.12)
Education	0.04 (0.10)	0.03 (0.10)	0.03 (0.10)	0.03 (0.10)
Income	0.01 (0.12)	-0.00 (0.12)	-0.01 (0.12)	-0.01 (0.12)
Living arrangement	-0.10 (0.16)	-0.10 (0.16)	-0.11 (0.17)	-0.12 (0.17)
Years since retirement	0.09 (0.01)	0.08 (0.03)	0.08 (0.01)	0.08 (0.01)
Working status		-0.05 (0.10)	-0.04 (0.10)	-0.04 (0.10)
Social integration			0.07 (0.09)	0.06 (0.09)
Social support				0.05 (0.06)
R^2	0.06*	0.06*	0.06*	0.06*
R^2 Change	0.00	0.00	0.00	0.00

* $p < 0.05$.

under normal conditions. Hence, the critique toward this theory for placing a positive value on continuity (Lynch et al., 2016) should be reconsidered. Although discontinuity due to pathological aging would most likely lead to mental health problems (Atchley, 1989), it is not necessarily limited to it. Instead, individuals who are capable of performing their job but have retired due to age would also suffer from depression, dissatisfaction, and hazardous drinking. The elderly whose income is insufficient to cover their expenses and that are unable to find a job will most likely exemplify such characteristics. So, justifying retirement as minor change (Cooper and Beehr, 2015) would be contextualized (Ejechi, 2015), especially in Ethiopia, where leaving employment results in a loss of benefits (Ashenafi, 2015).

Practical implication

Our findings have significant implications for promoting mental health among retired Ethiopian elderly people, and probably for the elderly in other developing countries as well. The results suggest that older adults who went back to either full-or part-time jobs after being retired mostly due to retirement age would benefit more. Although retirement is indeed a time to connect with family, in Ethiopia, retirees prefer to continue working (Waites and Onolemhemen, 2014). The first reason is that since retirement has negative impact household income (Bertoni and Brunello, 2017); they re-enter workforce to support themselves (Ashenafi, 2015). Second, unlike the Chinese elderly who are most likely privileged and able to integrate in active aging opportunities (rearing grandchildren, traveling, hobby groups, etc., Ko and Yeung, 2018), Ethiopian elderly depend on work to keep themselves active and self-sufficient (Chane et al., 2018; HelpAge International (HAI) and Cordaid, 2011). Third, they also want to maintain their social value by being having a job (Ashenafi, 2015). This does not mean that retirement does not happen at all. Instead, the society expect them to

work as long as they are able to perform their job (HelpAge International (HAI), 2013). In fact, retirees who evaluate their aging as a social loss were less likely to be retire even in developed country like Germany (Fasbender et al., 2014).

Given the improved life expectancy (Jembere et al., 2018), it is crucial to ensure that they retain their job or are provided an alternative source of income. Moreover, promoting social integration through religious activities, physical activities, volunteerism, and social support would be helpful for elderly people's mental health. Thus, assuming "healthy continuity," continuity theory (Atchley, 1989) has significant applications in promoting mental health among the elderly in diversified cultures.

Future direction

It would be useful to extend the current findings by considering the limitations of this study and including other principle variables. Notably, the main avenue for future research is to explain the antecedent, process, and consequence of retirement (Cooper and Beehr, 2015) using combined longitudinal and cross-sectional research designs. Given the current cross-sectional study design, the impact of retirement status on elderly people's mental health and behaviors cannot be fully explained. The possibility of participants' under-reporting their alcohol intake and cigarette use, and over-reporting their life satisfaction as a result of social desirability cannot be ruled out. Because of the sampling technique used, we cannot apply the findings to the general population, and we never mentioned the differences in policies on the age of retirement and pension after retirement.

Conclusion

The prevalence of depression and hazardous alcohol consumptions among Ethiopian retired elderly in this study was found to be high. Being without a job during retirement

was significantly associated with higher levels of depression, life dissatisfaction, and hazardous drinking. This is because, leaving a permanent job completely at once because of the mandatory retirement age amplifies life-stressors such as reduced resources, limited social support, and smaller social networks. At the same time, low income, and low level of education significantly predicted depression. The application of continuity theory in studying post-retirement work in Ethiopia context found worthy. Our findings suggest that greater emphasis has to be given to improve mental health and behaviors among the elderly population in developing countries, especially the retired people.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the China Social Science Foundation (20VYJ041).

ORCID iD

Teshome Sirak Bedaso  <https://orcid.org/0000-0002-5087-7498>

References

- Ashenafi G (2015) *Aging and retirement among Ethiopian elderly: Adjustment, challenges and policy implications*. PhD Dissertation, Addis Ababa University, Ethiopia.
- Atalay K and Barrett GF (2014) The causal effect of retirement on health: New evidence from Australian pension reform. *Economics Letters* 125: 392–395.
- Atchley RC (1989) A continuity theory of normal aging. *Gerontologist* 29: 183–190.
- Atchley RC (1998) Activity adaptations to the development of functional limitations and results for subjective well-being in later adulthood. *Journal of Aging Studies* 12:19–38.
- Ayyagari P (2016) The impact of retirement on smoking behavior. *Eastern Economic Journal* 42: 270–287.
- Beehr TA and Bennett MM (2014) Working after retirement: features of bridge employment and research directions. *Work, Aging and Retirement* 1(1): 112–128.
- Bekhet AK and Zauszniewski JA (2012) Mental health of elders in retirement communities: Is loneliness a key factor? *Archives of Psychiatric Nursing* 26(3): 214–224.
- Bertoni M and Brunello G (2017) Pappa Ante Portas: The effect of the husband's retirement on the wife's mental health in Japan. *Social Science and Medicine* 175: 135–142.
- Breheeny M and Griffiths Z (2017) "I had a good time when I was young": Interpreting descriptions of continuity among older people. *Journal of Aging Studies* 41: 36–43.
- Central Statistics Agency (2016) *Statistical report on the 2016 urban employment unemployment survey*. Addis Ababa: CSA.
- Central Statistics Agency (2018) *The 2015/16 Ethiopian household consumption - expenditure (HCE) survey*. Addis Ababa: CSA.
- Chane Y, Hailu G and Kumera H (2018) Pension beneficiaries' household food insecurity and associated factors in Debre Markos town, Northwest Ethiopia. *BMC Research Notes* 11:561.
- Cheng HG, Chen S, McBride O, et al. (2016) Prospective relationship of depressive symptoms, drinking, and tobacco smoking among middle-aged and elderly community-dwelling adults: Results from the China Health and Retirement Longitudinal Study (CHARLS). *Journal of Affective Disorders* 195: 136–143.
- Coe NB and Zamarro G (2011) Retirement effects on health in Europe. *Journal of Health Economics* 30: 77–86.
- Cohen J (1992) A power primer. *Psychological Bulletin* 112(1): 155–159.
- Cooper AD and Beehr TA (2015) Retirement and continuity theory. *Encyclopedia of Geropsychology*.
- DeLiem M and Bengtson VL (2015) Activity theory, disengagement theory, and successful aging. *Encyclopedia of Geropsychology*.
- Department of Health (2008) *Alcohol units: A brief guide*. www.nhs.uk/units (accessed 10 June 2019).
- Diener E, Emmons RA, Larsen RJ, et al. (1985) The Satisfaction with Life Scale. *Journal of Personality Assessment* 49: 71–75.
- Ejechi EO (2015) Social Activities of Retired Nigerian Academics: The Applicability of the Continuity Theory. *Activities, Adaptation and Aging* 39(1): 64–76.
- Fasbender U, Deller J, Wang M, et al. (2014) Deciding whether to work after retirement: The role of the psychological experience of aging. *Journal of Vocational Behavior* 84(3): 215–224.
- Federal Negarit Gazeta (2011) *Public servants' pension proclamation, proclamation No. 714/2011*. Berhanena Selam Printing Press.
- Fekadu A, Alem A and Hanlon C (2007) Alcohol and drug abuse in Ethiopia: past, present and future. *African Journal of Drug Alcohol Studies* 6(1): 39–53.
- Gebremariam M and Adamek ME (2015) Quality of life of elders in Ethiopia: the challenge of aging in a developing nation. *The Gerontologist* 55(Suppl_2): 440–441.
- Gelaye B, Lemma S, Deyassa N, et al. (2012) Prevalence and correlates of mental distress among working adults in Ethiopia. *Clinical Practice and Epidemiology in Mental Health* 8(1): 126–133.
- Gobeski KT and Beehr TA (2009) How retirees work: Predictors of different types bridge employment. *Journal of Organizational Behavior* 30: 401–425.
- Guo Y, Zhang C, Huang H, et al. (2016) Mental health and related influencing factors among the empty-nest elderly and the non-empty-nest elderly in Taiyuan, China: A cross-sectional study. *Public Health* 141: 210–217.
- HelpAge International (HAI) and Cordaid (2011) *A Study of Older People's Livelihoods in Ethiopia*. Addis Ababa: HAI.
- HelpAge International (HAI) (2013) *The State of Health and Ageing in Ethiopia: A Survey of Health Needs and Challenges of Service Provisions*. Addis Ababa: HAI

- Heide IV, Rijn RM, Robroek SJ, et al. (2013) Is retirement good for your health? A systematic review of longitudinal studies. *BMC Public Health* 13(1): 1–11.
- Heller-Sahlgren G (2017) Retirement blues. *Journal of Health Economics* 54: 66–78.
- Henning G, Lindwall M and Johansson B (2016) Continuity in well-being in the transition to retirement. *GeroPsych* 29(4): 225–237.
- Hoyer WJ and Roodin PA (2009) *Adult development and aging* (6th Ed.). New York: McGraw-Hill.
- Jembere GB, Cho Y and Jung M (2018) Decomposition of Ethiopian life expectancy by age and cause of mortality; 1990–2015. *Plos One* 13(10): e0204395.
- Katulanda P, Ranasinghe C, Rathnapala A, et al. (2014) Prevalence, patterns and correlates of alcohol consumption and its' association with tobacco smoking among Sri Lankan adults: a cross-sectional study. *BMC Public Health* 14: 612.
- Kim N and Hall DT (2013) Protean career model and retirement. In M. Wang (ed.) *The Oxford Handbook of Retirement*. New York: Oxford University Press, pp. 102–116.
- Kim S and Feldman DC (2000) Working in retirement: The antecedents of bridge employment and its consequences for quality of life in retirement. *Academy of Management Journal* 43(6): 1195–1210.
- Kobau R, Sniezek J, Zack MM, et al. (2010) Well-being assessment: An evaluation of well-being scales for public health and population estimates of well-being among US adults. *Applied Psychology: Health and Well-Being* 2(3): 272–297.
- Ko PC and Yeung WJ (2018) An ecological framework for active aging in China. *Journal of Aging and Health* 30(10): 1642–1676.
- Kuerbis A and Sacco P (2012) The impact of retirement on the drinking patterns of older adults: A review. *Addictive Behaviors* 37: 587–595.
- Lee J and Smith JP (2010) Work, retirement, and depression. *Population Ageing* 2: 57–71.
- Lee M, Regu M and Seleshe S (2015) Uniqueness of Ethiopian traditional alcoholic beverage of plant origin, Tella. *Journal of Ethnic Foods* 2(3): 110–114.
- Lei X, Sun X, Strauss J, et al. (2014) Depressive symptoms and SES among the mid-aged and elderly in China: Evidence from the China Health and Retirement Longitudinal Study national baseline. *Social Science and Medicine* 120: 224–232.
- Li H, Chi I and Xu L (2013) Life satisfaction of older Chinese adults living in rural communities. *Journal of Cross-Cultural Gerontology* 28: 153–165.
- Lu P and Shelley M (2019) Retirement, pensions and depressive symptoms among older adults in China, England, Mexico, and the United States. *The International Journal of Aging and Human Development* 0(0): 1–25.
- Lynch KM, Hanni AA, Reed SF, et al. (2016) Continuity theory. *The Encyclopedia of Adulthood and Aging*.
- Miller WC, Anton HA and Towns AF (2008) Measurement properties of the CESD scale among individuals with spinal cord injury. *Spinal Cord* 46(4): 287–292.
- Mirkena Y, Reta MM, Haile K, et al. (2018) Prevalence of depression and associated factors among older adults at ambo town, Oromia region, Ethiopia. *BMC Psychiatry* 18(1): 1–7.
- Molla GL, Sebhat HM, Hessen ZN, et al. (2016) Depression among Ethiopian adults: Cross-sectional study. *Psychiatry Journal* 2016: 1–5.
- Mosca I and Barrett A (2014) The impact of voluntary and involuntary retirement on mental health: Evidence from older Irish adults. *Discussion Paper No. 8723*.
- Motegi H, Nishimura Y and Terada K (2016) Does retirement change lifestyle habits? *The Japanese Economic Review* 67(2): 169–191.
- Pushkar D, Chaikelson J, Conway M, et al. (2010) Testing continuity and activity variables as predictors of positive and negative affect in retirement. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 65: 42–49.
- Radloff LS (1977) The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement* 1: 385–401.
- Spaliviero M and Cheru F (2017) *The State of Addis Ababa 2017: The Addis Ababa we want*. UN-Habitat: Nairobi, Kenya.
- Tirrito TS and Barkley WM (2014) Fear as a predictor of life satisfaction in retirement in Canada. *Educational Gerontology* 40: 102–122.
- United Nations (2015) *World Population Ageing 2015, (ST/ESA/SER.A/390)*. New York: United Nations.
- Vo K, Peta FM, Tavener M, et al. (2014) Retirement, age, gender and mental health: findings from the 45 and Up Study. *Aging and Mental Health* 19(7): 647–657.
- Waites CE and Onolemhmen DN (2014) Perceptions of Healthy Aging among African- American and Ethiopian Elders. *Ageing International* 39(4): 369–384.
- Wang L, Wang R and Chan RCK (2014) Towards a dimensional model of depression: Evidence from Chinese samples. *PsyCh Journal* 3(4): 231–233.
- Wang M (2007) Profiling retirees in the retirement transition and adjustment process: Examining the longitudinal change patterns of retirees' psychological well-being. *Journal of Applied Psychology* 92: 455–474.
- Wang M and Shi J (2014) Psychological research on retirement. *Annual Review of Psychology* 65(1): 209–233.
- Wang M, Zhan Y, Liu S, et al. (2008) Antecedents of bridge employment: A longitudinal investigation. *Journal of Applied Psychology* 93(4): 818–830.
- Wetzel M and Huxhold O (2016) Are leisure activity and health interconnected after retirement: Educational differences? *Advances in Life Course Research* 30: 43–52.
- Zacher H and Rudolph CW (2017) Successful aging at work and beyond: A review and critical perspective. *Advanced Series in Management* 17: 35–64.
- Zenger M, Brahler E, Berth H, et al. (2010) Unemployment during working life and mental health of retirees: Results of a representative survey. *Aging and Mental Health* 15(2): 178–185.
- Zhan Y, Wang M and Shi J (2015) Retirees' motivational orientations and bridge employment: testing the moderating role of gender. *Journal of Applied Psychology* 100(5): 1319–1331.
- Zhu R and He X (2015) How does women's life satisfaction respond to retirement? A two-stage analysis. *Economics Letters* 137: 118–122.
- Zimet GD, Dahlem NW, Zimet SG, et al. (1988) The multidimensional scale of perceived social support. *Journal of Personality Assessment* 52: 30–41.