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ORIGINAL ARTICLE

Social isolation as a risk factor for inadequate diet of older Eastern Europeans

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Abstract
Objectives Social isolation has been shown to be a risk factor for inadequate diet among older adults living in Western Europe and North America. This article investigates whether socially isolated older adults (65+) living in Eastern Europe also experience an increased risk of dietary inadequacy.
Methods The study used SHARE IV survey data collected in the Czech Republic ($n = 2{,}867$), Poland ($n = 772$), and Hungary ($n = 1{,}353$). Logistic regression models were estimated for each country separately to predict the likelihood of two proxies for dietary adequacy, having three meals a day and/or a serving of fruits or vegetables, by social isolation.
Results Social isolation was associated with lower likelihood of having three meals a day among Czech older adults (OR 0.39) and with lower likelihood of having a daily serving of fruits or vegetables among Czech (OR 0.62) and Polish older adults (OR 0.35). No association between social isolation and either one of the outcomes was found in Hungary.
Conclusions Socially isolated Eastern European older adults may be at a higher risk of dietary inadequacy, particularly in the Czech Republic and Poland.

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Introduction

Good nutrition is important for health and well-being at all stages of the life course; however, its determinants change as we age. Older adults are particularly vulnerable to slipping into a pattern of an inadequate diet because of decreased mobility associated with physical disabilities and/or fewer financial resources to spend on food (Brownie 2006; Dean et al. 2009). Teeth and sensory problems, both common health changes in older age, contribute to seniors' increased risk of inadequate diet (Griep et al. 1995; Sahyoun et al. 2006). Past research originating mainly in North America has found that socially isolated older adults are especially vulnerable to dietary inadequacy (Lee and Frongillo 2001; Millen et al. 2001). Yet, eating and socializing habits are highly culturally variable, and it is unclear whether a similar association of increased risks related to social isolation exists in other contexts, and whether dietary programs should target isolated older adults universally. This article examines social isolation as a predictor of dietary inadequacy in Eastern Europe, a region with recognized patterns of poor diet (Boylan et al. 2009; Lesser et al. 2008), but little empirical research on its local correlates.

Past work in other contexts has theorized that socially isolated older adults are at a greater risk of dietary inadequacy because they lack social support, which promotes good diet, as well as instrumental support, which enables it. Social support is broadly understood as the presence of

positive relationships that create a sense of belonging, trust and encourage self-care (Uchino 2004). In one of the first studies on nutrition and social support conducted in a sample of elderly Virginians, McIntosh and colleagues (1989) found that those with more friendships were less likely to lose their appetites and slip into poor diets when faced with life's hardships. In a more recent study of a dietary intervention among low-income men and women in the United Kingdom, social support predicted a positive change in fruit and vegetable consumption (Steptoe et al. 2004). The role of instrumental support, meaning concrete and tangible resources that one can draw on through their social networks, grows in prominence when older adults become less mobile and come to depend on others for help with their transportation and shopping needs. Researchers have emphasized that especially homebound and disabled older adults are at a risk of under-eating due to lack of access to desirable foods (Locher et al. 2009; Sharkey 2002). Instrumental social support can be used as a tool to overcome food access barriers.

Dietary regimes that lack in quantity and variety of foods have serious health repercussions. Undernourishment, a consequence of dietary inadequacy, leads to a greater degree of physical vulnerability to injury and disease, and slows recovery times (Corkins et al. 2014; Sullivan et al. 2002). Diets low on fruits and vegetables contribute to the risk of stroke and coronary heart disease (Ness and Powles 1997), and they have been linked to a decline in skeletal muscle strength over time (Lauretani et al. 2008). Moreover, consuming a wide variety of fruits and vegetables decreases the risk of developing squamous cell carcinoma in current smokers (Büchner et al. 2010). Dietary inadequacy is not hazardous only from an individual-level perspective, as caring for those who become malnourished means additional costs for healthcare systems. These individuals tend to have longer hospital stays and higher overall treatment expenses (Chima et al. 1997; Lim et al. 2012; Rowell and Jackson 2011).

This study contributes to our understanding of the determinants of two proxies of dietary inadequacy, eating fewer than three meals a day and not eating fruits and vegetables, among older adults in three countries: the Czech Republic, Poland, and Hungary. I analyze nationally representative survey data and ask the following research questions: first, are socially isolated older adults in this region less likely to eat three meals a day? Second, are socially isolated older adults in this region less likely to consume a serving of fruits or vegetables a day? After presenting the methods used and the results, I discuss the findings in light of past studies conducted in different cultural and national contexts.

Methods

Dataset and analytical sample

SHARE (Survey of Health, Aging, and Retirement in Europe) is a cross-national computer-assisted in-person survey of non-institutionalized adults 50 years or older and their partners. The first SHARE interview took place in 2004. At baseline, the first wave of SHARE I collected the data from 31,115 older adults residing in Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden, and Israel. With each round of data collection, SHARE gradually expanded the number of households surveyed. In the fourth wave that took place in 2010 and 2011 in the Czech Republic and Hungary, and in 2011 and 2012 in Poland, SHARE IV interviewed 58,489 respondents, including also respondents from the Czech Republic, Estonia, Hungary, Poland, Portugal, and Slovenia. In this wave, SHARE used for the first time a social network module in the questionnaire. Respondents were asked about people who were important to their lives, the frequency of their interactions, and their evaluation of the quality of their relationships. All respondents provided an informed consent prior to their interviews. For a more detailed description of the survey sampling and data collection procedures in individual countries, see Börsch-Supan et al. (2008, 2013) or Abduladze et al. (2013).

The initial analytical sample used in this study was limited to SHARE's Eastern European respondents 65 years of age or older who lived in the Czech Republic ($n = 3{,}007$), Poland ($n = 857$), or Hungary ($n = 1{,}380$). Respondents who did not provide disclose information about their diets (Czech Republic = 54, Poland = 5, Hungary = 23), or did not respond to questions used to construct any other measures employed in the multivariable regression models were excluded from the analysis (Czech Republic = 86, Poland = 80, Hungary = 4). The resulting analytical sample size comprised 2,867 respondents from the Czech Republic, 772 from Poland, and 1,353 from Hungary.

Measures of dietary adequacy

Two proxy measures of dietary adequacy were used to capture different aspects of respondents' diets. First, based on the evidence that meal-skipping is associated with significantly lower nutrient intake in elderly (Lee et al. 1996), I constructed a binary indicator of whether a respondent typically had at least three meals a day using the survey item, "Do you normally eat breakfast, lunch, and dinner?" Those who answered in the affirmative were classified as typically having three meals a day (91 % Czech Republic, 94 %

Poland, 90 % Hungary; all unweighted). Second, I assessed a qualitative aspect of respondents' diets; specifically, whether they consumed fruits and vegetables. All respondents were asked about their fruit consumption with the question, "In a regular week, how often do you consume a serving of fruits or vegetables?" I followed a strategy used by Yen and Tan (2012) and dichotomized responses by distinguishing those who reported a daily serving of fruits or vegetables and those who did not (60 % Czech Republic, 50 % Poland, 61 % Hungary; all unweighted).

Social isolation measure

SHARE survey included a set of questions evaluating the size and properties of respondents' confidant networks, similar to those that were previously used in the National Social Life Health and Aging Project (Cornwell et al. 2009). Early in their CAPI interviews, all respondents were asked, "Looking back over the last 12 months, who are the people with whom you most often discussed important things? These people may include your family members, friends, neighbors, or other acquaintances." Respondents could list up to seven names (range 0–7; mean in Czech Republic 2.05, Poland 1.99, Hungary 2.50; all unweighted). The respondents who said they had no one at all with whom they discussed important things were classified as socially isolated (Czech Republic 6 %, Poland 6 %, Hungary 3 %; all unweighted).

Other control variables

The multivariable regression models presented in this study accounted for other important characteristics that could influence both social isolation and nutrition. All models presented controlled for respondents' income, categorized into deciles with respect to their national subpopulations, gender (male vs. not), age, education (low, middle, or high designated based on ISCED categories), limitations in activities of daily living (any vs. none), self-reported health status (poor/fair vs. not). Past research has shown that cohabitation influences older adults' eating habits (Dean et al. 2009). Because one may have no one "with whom they discussed important things" yet live with a partner, all models included a control for the presence of cohabiting partner in the household (partnered vs. not). To avoid a loss of significant number of observations due to missing data in the income section of the survey, SHARE-constructed imputed income deciles were used when a respondent did not report his or her income.

Statistical analysis

First, I examined the distributions of all variables, nutrition reports, and social isolation across the three studied countries (Tables 1, 2). Subsequently, I estimated logistic regression models predicting the probability of having three meals a day for respondents in each country, with

Table 1 Characteristics of the SHARE IV analytic subsamples for Czech Republic (2010/2011), Poland (2011/2012), and Hungary in 2011 stratified by whether respondents reported at least three meals a day or fewer

	Czech Republic			Poland			Hungary		
	Less than three meals daily	Three meals daily	*p* for diff.	Less than three meals daily	Three meals daily	*p* for diff.	Less than three meals daily	Three meals daily	*p* for diff.
Income decile (mean)	4.85	4.69		4.18	4.69		4.76	4.70	
CI	(4.30–5.40)	(4.55–4.84)		(3.36–4.99)	(4.46–4.91)		(3.23–6.27)	(4.41–5.00)	
Male (%)	45 %	41 %		35 %	38 %		32 %	38 %	
Age (mean)	71.25	73.79	***	73.93	74.33		70.87	74.59	**
CI	(70.17–72.33)	(73.37–74.21)		(72.03–75.84)	(73.77–74.88)		(68.43–73.31)	(73.74–75.44)	
Education									
Low	47 %	44 %		48 %	62 %		37 %	44 %	
Middle	44 %	43 %		45 %	32 %		56 %	41 %	
High	9 %	13 %		7 %	6 %		7 %	15 %	
With any ADLs (%)	14 %	12 %		28 %	26 %		19 %	19 %	
Poor or fair SRH health (%)	50 %	52 %		76 %	73 %		79 %	69 %	
Partner (%)	69 %	61 %		44 %	53 %		32 %	49 %	†
Socially isolated (%)	12 %	5 %	*	5 %	7 %		7 %	4 %	
n (unweighted)	251	2,640		45	727		129	1,224	

Wald tests used to evaluate the significance of differences in means and Chi-squared tests to evaluate the significance of differences in proportions. Results all weighted

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2 Characteristics of the SHARE IV analytic subsamples for Czech Republic (2010/2011), Poland (2011/2012), and Hungary in 2011 stratified by whether respondents reported consuming a serving of fruits or vegetables daily

	Czech Republic			Poland			Hungary		
	No daily serving of fruits or	Serving of fruits or vegetables	*p* for diff.	No daily serving of fruits or	Serving of fruits or vegetables	*p* for diff.	No daily serving of fruits or	Serving of fruits or vegetables	*p* for diff.
Income decile (mean)	4.87	4.61	†	4.14	5.17	***	4.80	4.66	
CI	(4.66–5.08)	(4.42–4.80)		(3.87–4.42)	(4.84–5.50)		(4.21–5.38)	(4.31–5.01)	
Male (%)	49 %	37 %	***	38 %	38 %		39 %	36 %	
Age (mean)	73.27	73.72		75.12	73.48	**	73.95	74.31	
CI	(72.70–73.84)	(73.19–74.25)		(74.38–75.86)	(72.73–74.24)		(72.69–75.22)	(73.13–75.48)	
Education									
Low	46 %	44 %		68 %	54 %	*	49 %	39 %	
Middle	42 %	43 %		26 %	40 %		39 %	45 %	
High	12 %	13 %		6 %	6 %		12 %	15 %	
With any ADLs (%)	18 %	9 %	***	24 %	28 %		15 %	21 %	
Poor or fair SRH health (%)	54 %	50 %		74 %	72 %		75 %	66 %	
Partner (%)	61 %	60 %		50 %	56 %		43 %	49 %	
Socially isolated (%)	7 %	4 %	*	11 %	3 %	***	4 %	5 %	
n (unweighted)	1,156	1,735		386	386		523	830	

Wald tests used to evaluate the significance of differences in means and Chi-squared tests to evaluate the significance of differences in proportions. Results all weighted

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3 Odds ratios and 95 % confidence intervals from logistic regression models predicting having three meals a day by social isolation in SHARE IV analytic subsamples for Czech Republic (2010/2011), Poland (2011/2012), and Hungary in 2011

	Czech Republic Model 1	Poland Model 2	Hungary Model 3
	Three meals a day	Three meals a day	Three meals a day
Socially isolated	0.39 (0.17–0.89)*	1.86 (0.49–7.01)	0.44 (0.14–1.33)
Income decile	0.93 (0.84–1.03)	1.10 (0.95–1.28)	0.90 (0.71–1.13)
Male	0.76 (0.48–1.21)	1.04 (0.52–2.07)	0.96 (0.52–1.78)
Age	1.08 (1.05–1.11)***	1.01 (0.95–1.06)	1.12 (1.05–1.20)***
Education[a]			
Low	0.94 (0.61–1.45)	2.22 (0.98–5.05)†	1.24 (0.61–2.52)
High	1.53 (0.74–3.16)	1.08 (0.34–3.47)	2.27 (0.73–7.12)
Any ADLs	0.71 (0.41–1.24)	0.89 (0.39–2.02)	0.73 (0.35–1.53)
Poor of fair health	1.02 (0.66–1.59)	0.91 (0.39–2.12)	0.50 (0.21–1.21)
Partner	2.25 (1.38–3.69)**	1.31 (0.57–3.01)	3.21 (0.98–10.45)†
N	2,867	772	1,353
F	5.16	0.77	2.02
p	<0.001	0.641	0.032

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[a] Middle education reference group omitted

social isolation as main predictor (Table 3). After that, I estimated logistic regression models to predict the probability of having one serving of fruits or vegetables daily in each country, with social isolation as the main predictor (Table 4). All analyses were done using Stata/SE 13.1. The official SHARE ex-post calibrated survey weights were applied to the estimates to minimize the effects of different sampling procedures and selective attrition within each

Table 4 Odds ratios and 95 % confidence intervals from logistic regression models predicting having a serving of fruits and vegetables daily by social isolation in SHARE IV analytic subsamples for Czech Republic (2010/2011), Poland (2011/2012), and Hungary in 2011

	Czech Republic Model 4 Fruits or vegetables	Poland Model 5 Fruits or vegetables	Hungary Model 6 Fruits or vegetables
Socially isolated	0.62 (0.38–1.01)†	0.35 (0.16–0.75)**	1.41 (0.55–3.62)
Income decile	0.96 (0.91–1.01)	1.16 (1.07–1.26)***	0.90 (0.80–1.02)†
Male	0.55 (0.43–0.70)***	0.87 (0.61–1.23)	0.61 (0.37–1.00)*
Age	1.02 (1.00–1.04)*	0.97 (0.95–1.00)*	1.02 (0.98–1.05)
Education[a]			
Low	0.93 (0.73–1.19)	0.68 (0.46–1.00)*	0.55 (0.34–0.88)*
High	1.06 (0.72–1.55)	0.56 (0.27–1.16)	1.30 (0.62–2.76)
Any ADLs	0.41 (0.29–0.58)***	1.49 (0.98–2.27)†	1.71 (1.02–2.88)*
Poor of fair health	0.94 (0.74–1.20)	1.00 (0.67–1.49)	0.66 (0.39–1.13)
Partner	1.33 (0.99–1.78)†	0.73 (0.48–1.13)	2.01 (1.01–3.99)*
N	2,867	772	1,353
F	6.87	4.60	2.83
p	<0.001	<0.001	0.003

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

[a] Middle education reference group omitted

country. More technical information about the strategy used for their creation can be found in the methodological SHARE release IV guide available on the SHARE website (www.share-survey.org).

Results

Table 1 presents the sociodemographic characteristics and the social isolation measure in each country, stratified by having at least three meals daily. In the Czech Republic and Hungary, those with fewer than three meals were younger on average. In Hungary, partnered respondents were less likely to go without three meals a day. In the Czech Republic, but not in the other two countries, socially isolated respondents were over-represented among those who did not have three meals a day.

Table 2 shows the sociodemographic characteristics and the social isolation measure in each country stratified by having at least one serving of fruits or vegetables daily. In the Czech Republic, higher income decile was associated with not eating fruits or vegetables, but the association was opposite in Poland. Moreover, Czech men were more often in the group that did not eat fruits and vegetables daily. Those who did not eat fruits and vegetables did not differ significantly in age in the Czech Republic and Hungary. However, those who did not eat fruits and vegetables in Poland tended to be older. Educational attainment between the two subpopulations differed in Poland; a greater proportion of the group that did not eat fruits and vegetables daily had low education compared to those who did. Limitations in activities of daily living were more frequent in the group without fruits or vegetables in the Czech Republic. Social isolation was associated with no fruits and vegetables in the Czech Republic and in Poland, but not in Hungary.

Table 3 summarizes the results of the multivariable logistic regression models predicting having three meals a day by social isolation in each country, with adjustment for other respondent's characteristics. Socially isolated older adults in the Czech Republic had 61 % lower odds of having three meals a day compared to the non socially isolated Czechs (OR 0.38). However, social isolation was not significantly associated with the outcome in the remaining two countries. In the Czech Republic and Hungary, the probability of having three meals a day increased with age (OR's 1.08 and 1.12, respectively). The presence of cohabiting partner in the household was associated with an increased likelihood of having three meals a day in both Czech Republic and Hungary (OR's 2.25 and 3.21, respectively). For Poland, the model as a whole was not statistically significant, as indicated by the F test of all independent variables jointly.

Table 4 shows logistic regression models analogous to those in Table 3, but this time predicting eating fruits and vegetables in each country. In this set of models, social isolation was linked to lower likelihood of eating fruits and vegetables in the Czech Republic and Poland. In the Czech Republic, socially isolated people had 38 % lower odds of eating fruits and vegetables compared to those who were

not socially isolated, while socially isolated people in Poland had 65 % lower odds of the outcome. Other significant associations included income, in that higher income predicted a positive outcome in Poland (OR 1.16), while lower income predicted positive outcome in Hungary (OR 0.90). Furthermore, men had lower odds of eating fruits and vegetables compared to women in the Czech Republic and Hungary (OR's 0.55 and 0.61, respectively). The likelihood of eating fruits and vegetables daily increased with age in the Czech Republic (OR 1.02) but decreased in Poland (OR 0.97). In Poland and Hungary, lower education was associated with lower odds of positive outcome when contrasted with middle-level education (ORs 0.68 and 0.55, respectively). Interestingly, while in the Czech Republic having limitations in activities of daily living was linked to a lower likelihood of eating fruits and vegetables (OR 0.49), the associations were opposite in Poland (1.49) and Hungary (1.71). Finally, the presence of a cohabiting partner was linked to greater likelihood of a positive outcome in both Czech Republic and Hungary (OR's 1.33 and 2.01, respectively).

Discussion

In 2013, the European Nutrition Health Alliance (ENHA), in cooperation with several major patients' rights groups, issued a "Call for Recognition of Malnutrition as a Critical Health Priority," urging European governments to take action and work towards preventing older people and patients with chronic conditions from becoming malnourished (ENHA 2013). However, before we can work to enact effective policies and put in place programs that will best target those older individuals who are at risk of becoming malnourished, we must first acquire a thorough understanding of the correlates of inadequate diet, a precursor of malnutrition, in the varied contexts of European countries. The goal of this study was to examine whether socially isolated older adults in three Eastern European countries, the Czech Republic, Poland, and Hungary, are at an increased risk of dietary inadequacy, as assessed by two proxies, eating three meals a day and consuming a daily serving of fruits and vegetables. The results highlighted that socially isolated older adults in the Czech Republic may be particularly vulnerable. Moreover, they underscored the possible differences in vulnerability to dietary inadequacy in the three countries.

The correlates of dietary inadequacy that emerged were not uniform across the three contexts. Social isolation was associated with a lower likelihood of having three meals a day in the Czech Republic and a lower likelihood of fruit and vegetable consumption in both the Czech Republic and Poland. No statistically significant associations were found between either one of the outcomes and social isolation in Hungary. Although definite conclusions cannot be drawn from this study only due to its measurement limitations, they are strongly suggestive of the importance of social ties for adequate diet among the elderly in the Czech Republic and partially in Poland. The lack of findings in Hungary may reflect several factors. It could be that access to adequate diet is less problematic for socially isolated elderly in this context, perhaps due to more effective social services. It might also be the case that the measures used did not capture well dietary inadequacy or social isolation in this country.

Another important highlight of these findings is that dietary inadequacy was less clearly patterned by income and education than what might have been expected based on earlier findings in other contexts (Quandt and Rao 1999), particularly when considering the three meals a day outcome. Greater income was linked to greater likelihood of eating fruits and vegetables in Poland and lower likelihood in Hungary. However, in both countries, people with lower levels of education were less likely to eat fruits and vegetables. While it is not possible to uncover the reasons for the opposite associations in Poland and Hungary in this analysis, one may speculate that the divergences in usual diet composition could be the underlying cause of this difference. Further empirical investigation is needed to understand this finding. Another interesting cross-national difference was observed for the associations between limitations in activities of daily living and the likelihood of eating fruits and vegetables. While those who had difficulties with the activities of daily living in the Czech Republic were less likely to eat fruits and vegetables, the reverse association was observed for Poland and Hungary. Again, speculatively, one may hypothesize that older adults with physical limitations could be especially disadvantaged in the Czech Republic with respect to food access, but this hypothesis also needs to be tested in future research.

The present study has several limitations that cannot be overlooked when discussing its implications. Most importantly, in comparison with other studies on dietary behaviors, this work has relied on relatively crude proxies of diet adequacy. Although the interviewers were instructed about what they should consider a standard meal, bias could have been introduced in reports of servings of fruits or vegetables, which were not clearly demarcated to the respondents. The rudimentary nature of the measures used is due to the fact that the survey data were not collected by an instrument whose primary focus was on the quality of

respondents' diet. It would be ideal if the respondents' diets were measured using meal diaries or observed directly. Unfortunately, such methods are rarely available in a sample as large as the one used in this study. This paper cannot therefore provide a fully accurate assessment of the prevalence of dietary inadequacy in the populations examined, instead its focus is on the correlates of the likely markers of inadequate diet, not having three meals daily and not eating fruits or vegetables.

Relatively few respondents were classified as socially isolated. This limited the power of statistical inference in the regression models. It is possible that future studies with larger sample sizes will be able to detect associations between social isolation and dietary inadequacy which the analyses presented here did not reveal. Moreover, the dichotomous manner of measuring social isolation could have introduced some degree of inaccuracy into the estimates. This may be particularly the case in those instances where a respondent reported no social connections of any kind, yet had a partner in the household. Two scenarios could lead to this situation. First, they may have a distant relationship with their partner that does not provide them with social support; in this situation, they would be appropriately classified as socially isolated. In the second case, they erroneously omitted to report their spouse as their social contact. In this situation, their classification as socially isolated would be in error. All regression models included a control for a cohabiting partner, which should reduce this bias. Nevertheless, it is not possible to distinguish between those who simply omitted to list their partner as their social contact and those who do not have a close relationship with their partner.

Finally, it is important to emphasize that the data used were cross-sectional; therefore, they cannot speak to the directionality of the causal link between social relations and dietary inadequacy. Although it is very unlikely that the number of meals eaten per day or the frequency with which one consumes fruits or vegetables would influence social isolation, it is not impossible.

Despite the limitations stated above, this study provides some of the first evidence of the important links between social isolation and dietary inadequacy in the Czech Republic, and to some extent in Poland. The variation in other correlates of eating three meals a day and daily fruit and vegetable consumption highlights that the determinants of dietary inadequacy is not constant across sociocultural contexts. This study has shown that when designing interventions and developing policies aimed at improving the diets of older residents of this region, per the recommendations of ENHA, it will be important to identify and target those without any social ties as a higher risk group, particularly in the Czech Republic. For such interventions and policies to be most effective, further research should employ more sophisticated measures of diet and consider the effect of the extant policies and programs on food access among the elderly.

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Appendix

See Table 5.

Table 5 Characteristics of the SHARE IV analytic subsamples for Czech Republic (2010/2011), Poland (2011/2012), and Hungary in 2011

	Czech Republic	Poland	Hungary
Income decile (mean)	4.71	4.65	4.71
CI	(4.56–4.85)	(4.43–4.87)	(4.40–5.02)
Male	41 %	38 %	37 %
Age (mean)	73.55	74.30	74.17
CI	(73.16–73.95)	(73.78–74.83)	(73.29–75.05)
Education			
Low	45 %	61 %	43 %
Middle	43 %	33 %	43 %
High	12 %	6 %	14 %
With any ADLs	13 %	26 %	19 %
Poor or fair SRH health	52 %	73 %	70 %
Partner	61 %	53 %	47 %
Socially isolated	5 %	7 %	4 %
Three meals daily	91 %	94 %	89 %
Daily serving of fruits or vegetables	62 %	50 %	62 %
n (unweighted)	2,867	772	1,353

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