Eur J Ageing (2016) 13:299–309
DOI 10.1007/s10433-016-0396-x

ORIGINAL INVESTIGATION

Minority population group status and QOL change: the case of older Israelis

Noam Damri[1] · **Howard Litwin**[1,2]

Published online: 8 September 2016

Abstract This study explores minority group status in relation to change in quality of life (QOL) among three population groups in Israel—Veteran-Jews, Arab–Israelis, and immigrants from the Former Soviet Union (FSU)—controlling for a set of known predictors. The study uses panel data from two waves (2009/10 and 2013) of the Israeli component of the Survey of Health, Ageing, and Retirement in Europe, ($N = 1590$). A set of Ordinary Least Squares regressions is used to predict positive QOL change over the two waves. Interaction terms in a number of selected areas are considered. The results show that minority group status (Arab–Israelis and FSU immigrants) is negatively related to positive QOL change, compared to the majority group (veteran-Jews). Moreover, being employed was found to improve QOL for older FSU immigrants, underscoring the realm of work in the well-being of this population group. In comparison, it was exchange with family members that had a positive effect on QOL change among the Arab–Israelis, emphasizing the importance of that particular aspect of their lives in older age. In sum, the results highlight the risk of minority group status to well-being in late life and confirm the observation that positive QOL change correlates with characteristically different factors among different population groups.

Responsible editors: Sharon Shiovitz-Ezra (guest editor), D.J.H. Deeg.

✉ Noam Damri
noam.damri@mail.huji.ac.il

[1] Israel Gerontological Data Center, Paul Baerwald School of Social Work, The Hebrew University of Jerusalem, Mount Scopus, 91905 Jerusalem, Israel

[2] Paul Baerwald School of Social Work, The Hebrew University of Jerusalem, Mount Scopus, 91905 Jerusalem, Israel

Keywords SHARE · Quality of life · Minority groups · Social inequality · Socio-cultural context

Introduction

Although quality of life (QOL) is an important construct in gerontological research (George 2010), and a valued policy goal as well (Deeming 2013; Vaarama 2009), the path to QOL in older age may vary according to several factors. In the current study, we examine the extent to which change in QOL is related to the social and/or cultural contexts in which people age. We look specifically, in this regard, at the notion of population group, that is, the ethnic or social status grouping in which older people are embedded. Such groupings shape one's frame of reference and also facilitate (or restrain) social interactions and opportunities (Fiori et al. 2008).

We consider, in particular, the construct of "minority group" status in relation to QOL change. The term refers to populations that are disempowered and/or otherwise subject to inequalities within the larger societies in which they live. Minority group status is often defined by ethnicity, but may also stem from other social factors that stratify society, such as race, national orientation, immigration status, or poverty (Angel and Angel 2006).

The association between the status of belonging to a minority population group and quality of late life has been addressed in the literature to only a limited degree. When reported, moreover, it is mostly based upon studies from the United States and the United Kingdom (Dowd and Bengtson 1978; Moriarty and Butt 2004). The purpose of the present study, therefore, is to highlight the association between minority group status and QOL in a different social context, specifically, the State of Israel. The current

analysis extends this area of inquiry in an additional way as well. In the present study, we focus on change in QOL rather than at a single point in time, in order to capture more precisely how socioeconomic background and population group relate to this important late-life outcome.

Literature review

QOL, or positive well-being as it is also termed, is a comprehensive concept which reflects a range of complementary functional, emotional, interpersonal and material states that underlie health, happiness, comfort, and security in late life (Netuveli and Blane 2008). The construct is defined in different ways in different studies. Some measures emphasize an objective point of view, while others are based on subjective appraisals (Lawton et al. 1999; Netuveli and Blane 2008). Moreover, the respective measurements can range from health and socioeconomic indicators to psychological aspects (Hyde et al. 2003).

In order to base the present study on a stable and consistent analytical framework that is guided by clear conceptual underpinnings, the analysis employs the Higgs et al. (2003) and Hyde et al. (2003) paradigm of QOL which stems from need satisfaction theory. The model reflects four domains of need that are highly relevant in late life: Control, Autonomy, Self-realization, and Pleasure (CASP). The various domains range from the most fundamental needs to higher level ones. Thus, "*Control* is understood as the ability to actively intervene in ones environment […] *Autonomy* is defined as the right of an individual to be free from the unwanted interference of others […] *Self-realization and pleasure* capture the active and reflexive processes of being human," respectively (Hyde et al. 2003, 187).

Predictors of QOL in old age

Several domains are related to QOL in older age and these can be classified according to five main streams: health, psychological resources, socioeconomic status (SES), social integration, and social relations and support (George 2010). Health has consistently been found to be an important correlate of QOL (Pinquart and Sörensen 2000). Both perceived health and more objective measures, such as no long-standing illness, are associated with positive QOL (Bowling et al. 2002). As for psychological resources, personality traits and characteristics such as optimism and emotional stability (high adjustment and low neuroticism) are also related (Cheng et al. 2014).

With regard to socioeconomic status, higher SES is positively associated with QOL and this association is maintained even after retirement (Blane et al. 2007). Several indicators of SES, such as parents' social class, respondents' educational and occupational achievements, car ownership and the financial measures of income, net worth, and having enough money to make ends meet are associated with high levels of QOL (Pinquart and Sörensen 2000; Gabriel and Bowling 2004; Knesebeck et al. 2007; Low and Molzahan 2007; Cheng et al. 2014).

Turning to social integration, the literature shows that engaging in activities and having a role in society are positive correlates of QOL (Bowling et al. 2002; Gabriel and Bowling 2004). For example, volunteering has a positive association with the well-being of older people (Morrow-Howell et al. 2003). In addition, social relations and support correlate with QOL (Pinquart and Sörensen 2000). For instance, emotional support, as measured by the level of satisfaction from closeness and intimacy in life, is positively associated with QOL (Gabriel and Bowling 2004; Low and Molzahan 2007). Social support provided by older people to members of their social network also has a positive effect on their well-being (Chen and Silverstein 2000; Thomas 2010), although there are some indications of both positive and negative effects (Liang et al. 2001). However, frequent contact with family members has a weak or a non-significant association with well-being (Pinquart and Sörensen 2000), mainly because the reasons for the contact may vary considerably.

QOL in old age and minority status

It may be assumed, generally, that well-being is greater among people who have higher social status, that is, those who are allocated most of society's resources (House et al. 1994). Research in the US and the UK has documented the presence of better QOL among members of the majority group and lesser QOL among individuals who belong to racial and ethnic minorities (Bajekal et al. 2004; Barger et al. 2009). Although minorities in Western countries are often socioeconomically disadvantaged, however, this does not always result in lower QOL (Chappell 2007). Studies suggest, in this respect, that cultural norms and perceptions about ageing, as well as differing views of the role of older people in society also impact the perceived needs and expectations of elders (Olson 2001; Lowenstein and Katz 2015). These, in turn, may possibly neutralize or, at least, lessen the negative effects of socioeconomic deprivation.

For example, it has been documented that social networks have different effects on older people's QOL in different social contexts and, hence, should be seen in light of the norms that prevail in different societies (Litwin 2010). Research suggests, moreover, that some population groups place greater emphasis on the value of familism, and this may result in a greater extent of support and care given to the older members of the group. Nonetheless, due

to the fact that some of these population groups are economically disadvantaged, it is difficult to disentangle whether help to older people derives mainly from social norms or from economic needs and limitations (Chappell 2007). A study in Israel suggests that different health care service utilization patterns between Arab–Israelis and Jews may be attributed to differing cultural norms; there is less use of specialist care and more use of family physicians among the former (Baron-Epel et al. 2007). A qualitative analysis of QOL among minority groups in the UK demonstrated that while there are "common features across […] ethnic groups in the factors that influence quality of life […] they also suggest variations in these factors' manifestations and salience between ethnic groups" (Grewal et al. 2004, 753–754). Material conditions were found to rank more highly as predictors of QOL among the white majority in the UK than among minority groups, while social networks ranked lower (Bajekal et al. 2004).

QOL change in old age

As noted, QOL is an increasingly frequent outcome of interest in ageing research. However, much of this line of inquiry examines selected predictors in relation to QOL at a given point in time. While there is a growing body of research that looks at short-term improvement in QOL in situations of illness or disability (e.g., Shrestha et al. 2015), there are still relatively few works that consider socioeconomic factors in relation to change in the QOL outcome. One notable exception is the study by Webb et al. (2011) who investigated whether change in QOL is explained by changes in social and economic variables in addition to health-related factors. Using the first and third waves of data from the English Longitudinal Study of Ageing, the investigators found that age and initial QOL were the strongest predictors of follow-up QOL scores. In addition, the quality of family relations was related to positive QOL change as was, to a lesser degree, perceived financial position. In the current study, we follow the approach taken by Webb et al. (2011) and consider QOL change as the key outcome in the analysis. This direction is further supported by Zaninotto et al. (2009) who maintain that the use of a change score allows one to infer causal relations with greater confidence.

The context of Israel

Israel offers an interesting case study of QOL due to its population's unique composition, and the differences between the respective sub-groups (Lowenstein and Katz 2015). The present study focuses on the three major population groups which comprise Israeli society (although further subdivisions within each of these three groups may be discerned as well). The majority group is composed of Hebrew-speaking veteran-Jewish-Israelis, that is, those who were either born in the area that became the State of Israel or immigrated to it (except for the recent immigrants from the Former Soviet Union who are presented next). Two other population groups may be identified as minority groups, to varying degrees. The first of these is composed of Arab–Israelis (Palestinian Arabs who remained in Israel after the War of Independence, in 1948, and became citizens of the State). They differ from the majority group in terms of language (Arabic), religion (mostly Muslim, Christian or Druze) and social integration (as reflected in separate residential communities and educational systems). The second population group with potential minority status is made up of older immigrants from the Former Soviet Union (FSU) who moved to Israel, after 1989, in the great exodus from that country [about 900,000 such immigrants arrived in Israel; some 25 % of whom were aged 55 + (CBS 2006)]. The older FSU immigrants differ in terms of language (Russian) and their Soviet orientation, although most share the religion (Jewish) of the majority group.

When comparing the veteran-Jewish majority to Arab–Israelis and to the FSU immigrants, several disparities emerge in the realms of SES, education, and health (Okun and Friedlander 2005; Baron-Epel et al. 2010; Na'amnih et al. 2010). Specifically, older Arab–Israelis and FSU immigrants experience higher rates of functional limitations compared to the veteran-Jewish population (Osman and Walsemann 2013) and are at higher risk of health deterioration over time (Spalter et al. 2014). Research has also documented a higher prevalence rate of emotional distress among Arab–Israelis compared to veteran-Jews (Shemesh et al. 2006), as well as a low level of QOL and a high level of depression among the FSU immigrants compared to other immigrants to Israel (Amit and Litwin 2010). Although some of the older immigrants from the FSU found jobs after their arrival, it often came at the cost of occupational downgrading compared to their previous careers (Raijman and Semyonov 1998), and many others remained unemployed in their new host country (Litwin and Leshem 2008). Wealth acquired by older persons from the Arab–Israeli and FSU immigrants groups is lower in comparison to their counterparts in the veteran-Jewish group (Semyonov and Lewin-Epstein 2011). Finally, a differing relation of social network and/or social support indicators and health outcomes among the population groups has also been documented. For example, marital status and frequency of contact with friends and children were positively related to self-rated health among veteran-Jews, while frequency of contact with neighbours and receipt of support from children were better predictors of

this same outcome among the Arab–Israelis (Litwin 2006a).

Hypotheses

Drawing upon the literature review, the current analysis addresses two main hypotheses:

H1 Positive QOL change is greater among members of the majority population group than among members of minority groups.

H2 The predictors of positive QOL change vary by population group.

Data and methods

The study draws upon the second and third waves of the Israeli component of the Survey of Health, Aging and Retirement in Europe (SHARE-Israel). Collected in 2009–2010 and 2013, respectively, the data provide comprehensive information on different aspects of life in a nationally representative sample of Israelis over the age of 50, including the areas of mental and physical health, SES, social and family networks and social activities. Information on the SHARE Project and the Israeli component of this survey is available elsewhere (Börsch-Supan et al. 2013; Litwin 2009). All the data used in this study were collected by means of personal interviews.

Among the 2439 people aged 50 and older who were interviewed in 2009/10, 144 died before 2013 and another 705 were not re-interviewed for other reasons (57 % of the dropouts were veteran-Jews, 19 % Arab–Israelis, and 24 % FSU immigrants). The analytic sample thus comprised 1590 respondents who participated in both waves of the survey; 1175 veteran-Jews (74 %), 283 FSU immigrants (18 %), and 132 Arab–Israelis (8 %). We note that the sample approximates the composition of the 50 + population, which in 2013 was veteran-Jews—69 percent, FSU immigrants—20 percent, Arab–Israelis—11 percent (CBS 2013). Survey dropouts were slightly younger than the longitudinal respondents (66.8 vs. 67.8) and also had lower levels of QOL in 2009/10 (35.7 compared to 36.3). However, both were similar in relation to mobility limitations (2.3 vs. 2.0) and number of depressive symptoms (2.8 vs. 2.6, respectively).

Dependent variable

The CASP-19 scale is a theoretically based and multi-dimensional indicator of QOL (Hyde et al. 2003). It has proven to be sensitive to changes over time and, thus, appropriate for longitudinal study (Zaninotto et al. 2009; Howel 2012). SHARE uses a 12-item version of the CASP-19 (Knesebeck et al. 2005), with a score range of 12–48, where higher values represent greater QOL. Cronbach's α for the sample was 0.81 in 2009/10 and 0.78 in 2013. In cases in which one item of the scale was not completed, the score was interpolated by dividing the sum score by the number of completed items and then multiplying that value by 12, [148 cases were imputed in 2009/10 (9.3 %) and 122 in 2013 (7.7 %)].

The dependent variable in this analysis is QOL change. It was calculated as the CASP-12 score in 2013 minus the score in 2009/2010. Thus, a positive score on this continuous measure indicated an improvement in QOL, while a negative score reflected a decline in QOL. Since the change score is based on the same question at two points of time, it may be subject to regression to the mean. Consequently, we followed the recommendation by Barnett et al. (2005) and Finkel (1995) and controlled for the baseline measure of QOL (2009/10) in the multivariate analyses which considered QOL change as the outcome.

Independent variables

The key independent variable was population group, an indicator that distinguishes between veteran-Jews, Arab–Israelis, and FSU immigrants who came to Israel after 1989. This variable was based on the language of the interview, country of birth, and year of immigration. The veteran-Jews (the majority group) were defined as the reference group in the respective analyses.

Other study variables included the basic demographic attributes of gender and age. In addition, several determinants of QOL were taken into account. Health was measured by two indicators which cover functional and subjective aspects of health, respectively. The functional measure was the number of self-assessed mobility limitations selected by respondents from a 10-item list that includes such limitations as difficulty kneeling or climbing one flight of stairs (range = 0–10). The subjective measure was perceived self-reported health status [range = 1 (excellent)–5 (poor)]. Insofar as personality traits were not addressed in the SHARE survey, psychological resources were addressed by means of the EURO-D, a scale of 12 depressive symptoms, e.g., feeling guilty or feeling irritable (range = 0–12) (Prince et al. 1999).

SES was tapped by financial status and education. *Financial status* was measured by the question "Thinking of your household's total monthly income, would you say that your household is able to make ends meet" [range = 1 (with great difficulty)–4 (easily)]. Previous research has found this question to be a robust indicator of financial capacity in older age (Litwin and Sapir 2009). *Education* was classified into three categories, based on the

International Standard Classification of Education (ISCED-1997) classification: 1. elementary education or less, 2. high school education, and 3. further education beyond high school.

Social integration was tapped by *employment status* (retired = 1, employed = 2, unemployed, and disabled or other = 3), and by e*ngagement in social activity*. The latter reflects activities that were undertaken in the month prior to the interview, e.g., voluntary or charity work, going to a club (sport, social, or other kind), and participating in political or community-related organization. The variable was dichotomized in the current analysis, with the value of 1 given if the respondent participated in at least one activity (0 = no activity).

Social relations and support were queried by means of four variables. The first three included *living with a spouse or a partner* (1) or not (0), the *number of children* (0–17), and the *number of children contacted frequently* (on a daily basis, either by meeting, talking, or living in the same household; 0–4). (The score of four includes 25 respondents with more than four children who were contacted daily by at least four of their children, as SHARE does not provide contact information for more than four children). The fourth variable addressed support and measured *receiving or giving financial or practical assistance to a family member or a friend*. This dichotomous measure equals 1 if the respondent gave or received such assistance, and 0 if not.

Analysis

First, we executed a descriptive analysis of the sample by population group. Next, predictors of QOL change among the respondents were examined. Finally, the same model was re-run adding interaction terms for population groups and selected predictors of QOL. The predictors in the analysis are those that reflect disparities between the respective population groups in Israel. In each such regression, the effect for the respective category of interest was calculated by running the regression three times, changing the base category of the population group each time, as recommended by Figueiras et al. (1998). All continuous variables were mean-centred for use in the interaction terms. Respondents with missing values on one or more of the measures were excluded. The tables show both the unstandardized regression coefficients and the standardized coefficients (betas).

Results

Table 1 presents the descriptive statistics on the sample, by population group status. It shows that FSU immigrants were older than Arab–Israelis and veteran-Jews. Mobility limitations among the veteran-Jewish population were fewer compared to the other two groups. Nonetheless, subjective assessment of health was higher among the Arab–Israelis compared to the veteran-Jews. The latter reported fewer depressive symptoms compared to their counterparts in both groups. Arab–Israelis and FSU immigrants reported difficulty in making ends meet, while veteran-Jews were able to make ends meet fairly easily, on average. Moreover, as has been documented in previous research, FSU immigrants had higher levels of formal education than their veteran-Jewish and Arab–Israeli counterparts.

FSU immigrants also had the lowest social integration and the fewest social ties. Fewer of them participated in any activity compared to veteran-Jews and Arab–Israelis, and fewer of them received or gave social or financial help. Arab–Israelis had the most children and most children with daily contact, followed by the veteran-Jews. FSU immigrants had the lowest number of children with whom they maintained daily contact. Lastly, veteran-Jews had higher baseline QOL (in 2009/10) compared to the FSU immigrant and Arab–Israeli groups. As for QOL change, all three groups showed negative change scores, on average, in time 2 (2013).

Model 1 in Table 2 regressed QOL change on the study variables, controlling for baseline QOL (CASP). The analysis showed that the minority groups—Arab–Israelis and FSU immigrants—were both more likely than veteran-Jews to have a reduction in QOL over time. As for the other study variables, age, baseline poor self-rated health, baseline number of mobility limitations, depressive symptoms and children contacted daily were all negatively related to positive QOL change. High SES (i.e., good financial status and high education) were positively related to QOL change as was engaging in activity.

In the next stages of the regression, interaction terms were added to examine the associations between population group and the specific QOL predictors. Model 2 adds an interaction term for population group by work status. The findings show that the employment/population group interaction was significant for FSU immigrants ($b = 3.78$, $p < 0.001$) but not for Arab–Israelis ($b = -1.61$, ns). [The "other employment status" interaction term (disabled, housewife, etc.) was significant for Arab–Israelis ($b = 2.28$, $p < 0.05$), but this was not reflected in the main effect when Arab–Israelis were the reference category (not shown in table)]. Looking at the main effect of employment, the table reveals that work was unrelated to QOL change among veteran-Jews ($b = 0.02$, ns). Changing the reference categories and running the same regression uncovered a significant main effect of employment among FSU immigrants, but not among Arab–Israelis ($b = 3.81$, $p < 0.001$ and $b = -1.59$, ns, respectively, not shown in table).

Table 1 Descriptive statistics and QOL change by ethnic group, weighted cases

Variables	Categories	Veteran-Jews ($n = 1175$)	Arab-Israelis ($n = 132$)	FSU immigrants ($n = 283$)	χ^2/F
Age		67.14 (9.40)	64.11 (7.43)	69.58 (8.64)	*29.70***
Gender	Female	55.64 %	51.22 %	56.19 %	2.30
	Male	44.36 %	48.78 %	43.81 %	
Poor SRH health		3.27 (1.15)	3.17 (1.21)	4.05 (0.89)	*74.90****
# mobility limitations		1.52 (2.36)	3.47 (2.83)	3.18 (2.90)	*86.71****
Depression (EURO-D)		2.30 (2.39)	3.29 (2.95)	3.93 (2.55)	*52.31****
Difficulty making ends meet		2.78 (1.01)	1.63 (0.71)	1.91 (0.85)	*168.17****
Education	Elementary or less	16.84 %	77.13 %	2.10 %	596.55***
	HS	50.65 %	22.03 %	12.45 %	
	More than HS	32.52 %	0.84 %	85.45 %	
Any activity	No activity	51.71 %	59.60 %	67.69 %	26.91***
	Any activity	48.29 %	40.40 %	32.31 %	
Employed	Retired	40.73 %	14.21 %	61.86 %	206.40***
	Employed	39.36 %	21.65 %	26.00 %	
	Other	19.91 %	64.14 %	12.13 %	
Living with spouse partner	Living with spouse or partner	76.29 %	91.69 %	83.01 %	30.09***
	Living alone	23.71 %	8.31 %	16.99 %	
# of children		3.11 (1.73)	6.46 (3.06)	1.73 (0.72)	*509.91****
# children with daily contact		1.88 (1.30)	2.92 (1.09)	1.00 (0.80)	*119.20****
Received/gave support	No	26.20 %	18.71 %	51.25 %	52.96***
	Yes	73.80 %	81.29 %	48.75 %	
CASP		37.12 (6.33)	33.44 (5.49)	33.12 (6.02)	*60.81****
QOL change		−1.11 (5.09)	−0.96 (6.42)	−1.00 (6.29)	*3.08**

Numbers in italics show the *F* scores

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

Weighting is based on Wave 2 individual calibrated weights provided by SHARE (SHARE 2013). Parentheses denote standard deviation value. All variables reflect baseline values (wave 2) except QOL change

Model 3 explored the effect of the interaction between population group and number of children contacted on a daily basis (controlling for number of children). The results showed no effect. Model 4 considered the interaction of the exchange of time or money and population group. The findings show that the exchange/population group interaction was significant for Arab–Israelis ($b = 2.51$, $p < 0.05$) but not for FSU immigrants ($b = -0.98$, ns). Examining the main effect of exchange showed that it was not correlated with QOL change among veteran-Jews ($b = 0.15$, ns). Changing the reference categories uncovered a significant main effect of exchange among Arab–Israelis, but not among FSU immigrants ($b = 2.66$, $p < 0.01$, and $b = -0.83$, ns, respectively, not shown in table). An additional analysis that considered only exchange with family members and not with friends or other acquaintances, revealed an even greater effect of the interaction term for Arab–Israelis (available on request).

Finally, Model 5 presents the results of the interaction between functional health (mobility limitations) and population group in relation to QOL change. As may be seen, the mobility limitation/population group interaction was significant for Arab–Israelis ($b = 0.69$, $p < 0.001$) but not for FSU immigrants ($b = 0.19$, ns). The table also shows that the main effect of mobility limitation on QOL change was negative among veteran-Jews ($b = -0.35$, $p < 0.01$). When the reference groups were changed, respectively, the regressions showed a positive main effect of mobility limitation among Arab–Israelis, but not among FSU immigrants ($b = 0.33$, $p < 0.05$, and $b = -0.16$, ns, respectively, not shown in table). Similar results were obtained when subjective health was entered as the interaction variable interest (available upon request).

Discussion

This study explored whether population group, and particularly minority status, is a significant correlate of change in quality of life (QOL) in older age. It also considered

Table 2 Multivariate OLS regressions results for changes in QOL

Variables	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	β	*B*	β	*B*	β	*B*	β	*B*	β
Age (mean-centred)	−0.08***	−0.12	−0.06**	−0.10	−0.08***	−0.12	−0.08***	−0.11	−0.08***	−0.12
Gender (base = female)	−0.22	−0.02	−0.15	−0.01	−0.22	−0.02	−0.24	−0.02	−0.18	−0.02
Poor self-perceived health (mean-centred)	−0.39*	−0.08	−0.39*	−0.08	−0.39*	−0.08	−0.39*	−0.08	−0.41**	−0.09
Mobility, arm function, and fine motor limitations (mean-centred)	−0.16*	−0.07	−0.14	−0.07	−0.16	−0.07	−0.16*	−0.07	−0.35**	−0.16
EURO-D	−0.24**	−0.11	−0.25**	−0.11	−0.24**	−0.11	−0.24**	−0.11	−0.25**	−0.12
Financial status	0.41*	0.08	0.32	0.06	0.41*	0.08	0.42*	0.08	0.39*	0.08
Education (base = elementary education or less)										
HS& completed HS	1.01*	0.09	1.07*	0.10	1.00*	0.09	0.93*	0.08	0.98*	0.09
More than HS	1.74***	0.16	1.71**	0.16	1.73**	0.16	1.67**	0.15	1.62**	0.15
Any activity	0.66*	0.06	0.74*	0.07	0.65*	0.06	0.66*	0.06	0.76**	0.07
Work status (base = retired)										
Employed	0.45	0.04	0.02	0.00	0.46	0.04	0.45	0.04	0.37	0.03
Unemployed, disabled and other	0.28	0.02	−0.70	−0.05	0.29	0.02	0.27	0.02	0.16	0.01
Living with spouse or partner	−0.39	−0.03	−0.38	−0.03	−0.41	−0.03	−0.39	−0.03	−0.49	−0.03
# of children	0.11	0.04	0.09	0.04	0.11	0.04	0.09	0.04	0.08	0.03
# children with daily contact	−0.26*	−0.06	−0.22	−0.05	−0.26	−0.06	−0.25*	−0.06	−0.24*	−0.06
Received/gave support	0.15	0.01	0.17	0.01	0.15	0.01	0.15	0.01	0.06	0.00
Population group (base = veteran-Jews)										
Arab-Israelis	−1.85**	−0.11	−2.69*	−0.16	−2.04**	−0.12	−3.78***	−0.22	−2.28***	−0.13
FSU immigrants	−1.48**	−0.11	−2.66***	−0.20	−1.67**	−0.12	−0.95	−0.07	−1.34**	−0.10
Arab-Israelis X Employed			−1.61	−0.04						
Arab-Israelis X Unemployed, disabled and other			2.28*	0.11						
FSU immigrants X employed			3.78***	0.14						
FSU immigrants X Unemployed, disabled and other			2.10	0.06						
Arab-Israelis X Children with daily contact					0.15	0.01				
FSU immigrants X Children with daily contact					−0.24	−0.02				
Arab-Israelis X Received/gave support							2.51*	0.13		
FSU immigrants X Received/gave support							−0.98	−0.06		
Arab-Israelis X# of Mobility limitations									0.69***	0.13
FSU immigrants X# of Mobility limitations									0.19	0.05
Constant	−3.59***		−3.04***		−3.59***		−3.53***		−3.44***	
Observations	1130		1130		1130		1130		1130	
Adjusted R-squared	0.29		0.31		0.29		0.30		0.30	

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

All variables reflect baseline values (2009/10), except QOL change. CASP score in baseline (2009/10) was controlled in all models

whether the factors that predict change in late-life QOL differ by population group. The first study hypothesis maintained that positive QOL change is greater among members of the majority group than among respondents from the minority groups. This assumption was supported. We should point out that all three groups actually showed a decline in QOL, on average. However, after controlling for QOL in 2009/10 and the full set of study variables, the minority group members showed greater negative QOL change scores compared to those from the majority group. This means that the general trend was toward less QOL over time in all groups, but the reduction was more pronounced among the respondents from the two minority groups. This finding joins similar results from other countries and affirms that minority status plays a role in the assessment of QOL (Bajekal et al. 2004; Grewal et al. 2004; Moriarty and Butt 2004; Barger et al. 2009). In addition, it highlights the relevance of viewing QOL over time. Finally, the results underscore that minority status is not only related to lower initial QOL, but also to greater decline in this well-being outcome measure.

It should be noted as well that, as described earlier, the two minority groups addressed in this study are subject to inequality in the domains of socioeconomic status and health (Okun and Friedlander 2005; Baron-Epel et al. 2010; Na'amnih et al. 2010; Osman and Walsemann 2013; Spalter et al. 2014). Therefore, the results of the present study follow those from previous studies that suggest that people in minority groups who are disempowered and subject to inequality have a lower level of QOL (House et al. 1994). Moreover, the current analysis expands our understanding of this association by examining the relation between these variables over time.

The second hypothesis posited that the specific predictors of change in QOL vary by population group. The results from the analysis lend support to this hypothesis by showing three areas in which the predictors differ across the respective groups. First, the analysis showed that engaging in work improved QOL among the FSU immigrants but had no similar affect for Arab–Israelis or veteran-Jews. Arab–Israelis tend to work in low SES jobs during their lives (Semyonov and Lewin-Epstein 2011). Continued employment in such physically demanding work does not seem to add to their QOL. In contrast, work of any kind among the FSU immigrants who already suffered downward mobility in occupational status when immigrating to Israel (Raijman and Semyonov 1998) seems to be preferable to no work at all. This may stem from the former Soviet norms that emphasize the importance of participation in the labour force (Litwin and Leshem 2008), above and beyond the effect of their immediate material needs.

The second area of note is the realm of social ties with family members and friends. This domain was found to be related to QOL change among Arab–Israelis, but not among the others. Receiving or giving financial or material help, mostly within the family, lessened the decline in QOL in this population. This association is in-line with previous findings on familism and the relationship between family-oriented networks and well-being among Arab–Israelis (Litwin 1994). It also lends support to the claim that the family network has greater importance to older people who reside in more collectivistic traditional societies than to elders who live in individualistic Western societies (Litwin 2006b). Interestingly, however, frequent contact with children was not a predictor of QOL change among the Arab–Israelis when the exchange variable was included in the analysis as well. This suggests that the importance of the family networks lies in the support provided by the network. It also underscores that frequency of contact is an ambiguous predictor of QOL change insofar as it may stem from very different reasons, positive and negative (Pinquart and Sörensen 2000; George 2010).

The third area in which the population groups differed in relation to the predictors of QOL change was in the realm of health. Specifically, mobility limitations were negatively associated with QOL improvement among veteran-Jews, but positively correlated among Arab–Israelis. One explanation for this discrepancy could be that a decline in functional health among older Arab–Israelis is accompanied by greater support and nurturing received from members of the extended family, most of whom reside within close geographical proximity. Thus, although limited mobility may bring discomfort, it also recruits help from cherished others. Another possible interpretation could be that poor functional health is seen among Arab–Israelis as an act of God (Allah), reminding them that they are not individually responsible for their fate. Such expression of external locus control when reporting poor health has been found among elderly Muslims and Hindus in the UK (Grewal et al. 2004), and might also lie behind the lack of a negative effect of poor functional health on QOL change in the Arab–Israeli population.

Moreover, poor self-perceived health had a negative association with positive QOL change among veteran-Jews, but not among Arab–Israelis. This finding is in-line with other studies and suggests that one's self-perceived health status is shaped by cultural norms (Baron-Epel et al. 2005). We note, in this regard, that the number of chronic diseases was higher in the Arab–Israeli population compared to veteran-Jews. Nevertheless, their subjective assessment of health and its role as part of good QOL was not negative. Further research on the unique association (or lack thereof) between health and QOL among older Arab–Israelis is, indeed, warranted.

Despite the support for the study hypotheses in the current analysis, we should nevertheless note a few limitations. First, while the population group classification that was used is robust and well documented in other studies, a multicultural society like Israel can be divided into even more distinct groups. A further differentiated classification could potentially reveal additional factors by which QOL differs in different population groups. One such comparison, for example, might focus on veteran-Jews who immigrated to Israel from Europe and America in relation to those who immigrated from Asia and Africa. Further study of this topic is therefore needed.

A second limitation concerns the possibly different nuances in the translation of the QOL outcome measure—the CASP-12 scale—from English into three different languages: Hebrew, Arabic, and Russian. It might be that delicate differences in wording stand behind some of the differences that were observed. The SHARE project makes every effort to avoid such translation effects by utilizing coordinated online translation, back translation, and extensive testing. Nevertheless, differences due to translation may occur. This seems to be a concomitant hazard of cross-national research.

In conclusion, the present study affirms that minority group status is a significant correlate of change in late-life QOL. It also shows that cultural norms and other population group differences relate differently to QOL change in older age. The study makes a contribution, therefore, to the difficult task of disentangling the complex relations that exist between socioeconomic disadvantage of minorities, on the one hand, and the different cultural norms that reign in different societies, on the other hand. It also highlights the variety of factors related to better QOL that exists among older people in different national, social, and cultural settings. Consequently, policies aimed at improving quality of life among senior citizens should be aware of the differences in this realm across population groups.

Acknowledgments This paper uses data from SHARE Wave 5 release 1.0.0, as of March 31st, 2015 (DOI: 10.6103/SHARE.w5.100) and SHARE Waves 1 and 2 release 2.6.0, as of November 29th, 2013 (DOI: 10.6103/SHARE.w1.260 and 10.6103/SHARE.w2.260). The SHARE data collection has been primarily funded by the European Commission through the 5th Framework Programme (project QLK6-CT-2001-00360 in the thematic programme Quality of Life), through the 6th Framework Programme (projects SHARE-I3, RII-CT-2006-062193, COMPARE, CIT5- CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the 7th Framework Programme (SHARE-PREP, N° 211909, SHARE-LEAP, N° 227822 and SHARE M4, N° 261982). Additional funding from the US National Institute on Aging (U01 AG09740-13S2, P01 AG005842, P01 AG08291, P30 AG12815, R21 AG025169, Y1-AG-4553-01, IAG BSR06-11 and OGHA 04-064) and the German Ministry of Education and Research as well as from various national sources is gratefully acknowledged (see www.share-project.org for a full list of funding institutions).

References

Amit K, Litwin H (2010) The subjective well-being of immigrants aged 50 and older in Israel. Soc Indic Res 98:89–104. doi:10.1007/s11205-009-9519-5

Angel JL, Angel RJ (2006) Minority group status and healthful aging: social structure still matters. Am J Public Health 96:1152–1159. doi:10.2105/ajph.2006.085530

Bajekal M, Blane D, Grewal I et al (2004) Ethnic differences in influences on quality of life at older ages: a quantitative analysis. Ageing Soc 24:709–728. doi:10.1017/S0144686X04002533

Barger SD, Donoho CJ, Wayment HA (2009) The relative contributions of race/ethnicity, socioeconomic status, health, and social relationships to life satisfaction in the United States. Qual Life Res 18:179–189. doi:10.1007/s11136-008-9426-2

Barnett AG, van der Pols JC, Dobson AJ (2005) Regression to the mean: what it is and how to deal with it. Int J Epidemiol 34:215–220. doi:10.1093/ije/dyh299

Baron-Epel O, Kaplan G, Haviv-Messika A et al (2005) Self-reported health as a cultural health determinant in Arab and Jewish Israelis: mABAT—National Health and Nutrition Survey 1999–2001. Soc Sci Med 61:1256–1266. doi:10.1016/j.socscimed.2005.01.022

Baron-Epel O, Garty N, Green MS (2007) Inequalities in use of health services among Jews and Arabs in Israel. Health Serv Res 42:1008–1019. doi:10.1111/j.1475-6773.2006.00645.x

Baron-Epel O, Kaplan G, Moran M (2010) Perceived discrimination and health-related quality of life among Arabs and Jews in Israel: a population-based survey. BMC Public Health 10:282. doi:10.1186/1471-2458-10-282

Blane D, Netuveli G, Bartley M (2007) Does quality of life at older ages vary with socio-economic position? Sociology 41:717–726. doi:10.1177/0038038507078927

Börsch-Supan A, Brandt M, Hunkler C et al (2013) Data resource profile: the survey of health, ageing and retirement in Europe (SHARE). Int J Epidemiol 42:992–1001. doi:10.1093/ije/dyt088

Bowling A, Banister D, Sutton S et al (2002) A multidimensional model of the quality of life in older age. Aging Ment Health 6:355–371. doi:10.1080/1360786021000006983

CBS (2006) Immigrant population from the former USSR: demographic trends, 1990–2001. Central Bureau of Statistics, Jerusalem

CBS (2013) Annual Israel Central Bureau of Statistics social survey table generator. http://surveys.cbs.gov.il/Survey/surveyE.htm, Accessed 18 Jan 2016

Chappell NL (2007) Ethnicity and quality of life. In: Mollenkopf H, Walker A (eds) Quality of life in old age—International and multi-disciplinary perspectives. Springer, The Netherlands, pp 179–194

Chen X, Silverstein M (2000) Intergenerational social support and the psychological well-being of older parents in China. Res Aging 22:43–65. doi:10.1177/0164027500221003

Cheng H, Green A, Wolpert M et al (2014) Factors influencing adult quality of life: findings from a nationally representative sample in the UK. Pers Indiv Differ 68:241–246. doi:10.1016/j.paid.2014.04.026

Deeming C (2013) Addressing the social determinants of subjective wellbeing: the latest challenge for social policy. J Soc Policy 42:541–565

Dowd JJ, Bengtson VL (1978) Aging in minority populations an examination of the double jeopardy hypothesis. J Gerontol 33:427–436

Figueiras A, Domenech-Massons JM, Cadarso C (1998) Regression models: calculating the confidence interval of effects in the presence of interactions. Stat Med 17:2099–2105. doi:10.1002/

(SICI)1097-0258(19980930)17:18<2099:AID-SIM905>3.0.CO;2-6
Finkel SE (1995) Causal analysis with panel data. SAGE Publications, London
Fiori KL, Consedine NS, Magai C (2008) Ethnic differences in patterns of social exchange among older adults: the role of resource context. Ageing Soc 28:495–524. doi:10.1017/s0144686x07006940
Gabriel Z, Bowling A (2004) Quality of life from the perspectives of older people. Ageing Soc 24:675–691. doi:10.1017/S0144686X03001582
George LK (2010) Still happy after all these years: research frontiers on subjective well-being in later life. J Gerontol B 65B:331–339. doi:10.1093/geronb/gbq006.Advance
Grewal I, Nazroo J, Bajekal M et al (2004) Influences on quality of life: a qualitative investigation of ethnic differences among older people in England. J Ethn Migr Stud 30:737–761. doi:10.1080/1369183041000169959
Higgs P, Hyde M, Wiggins R, Blane D (2003) Researching quality of life in early old age: the importance of the sociological dimension. Soc Policy Admin 37:239–252. doi:10.1111/1467-9515.00336
House JS, Lepkowski JM, Kinney AM et al (1994) The social stratification of aging and health. J Health Soc Behav 35:213–234. doi:10.2307/2137277
Howel D (2012) Interpreting and evaluating the CASP-19 quality of life measure in older people. Age Ageing 41:612–617. doi:10.1093/ageing/afs023
Hyde M, Wiggins RD, Higgs P, Blane DB (2003) A measure of quality of life in early old age: the theory, development and properties of a needs satisfaction model (CASP-19). Aging Ment Health 7:186–194. doi:10.1080/1360786031000101157
Knesebeck O, Wahrendorf M, Hyde M, Siegrist J (2007) Socio-economic position and quality of life among older people in 10 European countries: results of the SHARE study. Ageing Soc 27:269–284. doi:10.1017/S0144686X06005484
Lawton MP, Winter L, Kleban MH, Ruckdeschel K (1999) Affect and quality of life: objective and subjective. J Aging Health 11:169–198. doi:10.1177/089826439901100203
Liang J, Krause NM, Bennett JM (2001) Social exchange and well-being: is giving better than receiving? Psychol Aging 16:511–523. doi:10.1037/0882-7974.16.3.511
Litwin H (1994) Filial responsibility and informal support among family caregivers of the elderly in Jerusalem: a path analysis. Int J Aging Hum Dev 38:137–151
Litwin H (2006a) Social networks and self-rated health: a cross-cultural examination among older Israelis. J Aging Health 18:335–358. doi:10.1177/0898264305280982
Litwin H (2006b) The path to well-being among elderly Arab Israelis. J Cross Cult Gerontol 21:25–40. doi:10.1007/s10823-006-9019-x
Litwin H (2009) Understanding aging in a Middle eastern context: the SHARE-Israel survey of persons aged 50 and older. J Cross Cult Gerontol 24:49–62. doi:10.1007/s10823-008-9073-7
Litwin H (2010) Social networks and well-being: a comparison of older people in Mediterranean and non-Mediterranean countries. J Gerontol B 65B:599–608. doi:10.1093/geronb/gbp104
Litwin H, Leshem E (2008) Late-life migration, work status, and survival: the case of older immigrants from the former Soviet Union in Israel. Int Migr Rev 42:903–925. doi:10.1111/j.1747-7379.2008.00152.x
Litwin H, Sapir EV (2009) Perceived income adequacy among older adults in 12 countries: findings from the survey of health, ageing, and retirement in Europe. Gerontologist 49:397–406. doi:10.1093/geront/gnp036
Low G, Molzahan AE (2007) Predictors of quality of life in old age: a cross-validation study. Res Nurs Health 30:141–150. doi:10.1002/nur.20178
Lowenstein A, Katz R (2015) Intergenerational family relations in the multicultural society of Israel. J Intergener Relatsh 13:1–5. doi:10.1080/15350770.2015.992509
Moriarty J, Butt J (2004) Inequalities in quality of life among older people from different ethnic groups. Ageing Soc 24:729–753. doi:10.1017/S0144686X04002521
Morrow-Howell N, Hinterlong J, Rozario PA, Tang F (2003) Effects of volunteering on the well-being of older adults. J Gerontol B 58:S137–S145
Na'amnih W, Muhsen K, Tarabeia J et al (2010) Trends in the gap in life expectancy between Arabs and Jews in Israel between 1975 and 2004. Int J Epidemiol 39:1324–1332. doi:10.1093/ije/dyq073
Netuveli G, Blane D (2008) Quality of life in older ages. Brit Med Bull 85:113–126. doi:10.1093/bmb/ldn003
Okun BS, Friedlander D (2005) Educational stratification among Arabs and Jews in Israel: historical disadvantage, discrimination, and opportunity. Popul Stud-J Demog 59:163–180. doi:10.1080/00324720500099405
Olson LK (2001) Age through ethnic lenses: caring for the elderly in a multicultural society. Rowman & Littlefield, Lanham
Osman A, Walsemann KM (2013) Ethnic disparities in disability among middle-aged and older Israeli adults: the role of socioeconomic disadvantage and traumatic life events. J Aging Health 25:510–531. doi:10.1177/0898264313478653
Pinquart M, Sörensen S (2000) Influences of socioeconomic status, social network, and competence on subjective well-being in later life: a meta-analysis. Psychol Aging 15:187–224. doi:10.1037/0882-7974.15.2.187
Prince MJ, Reischies F, Beekman AT, Fuhrer R, Jonker C, Kivela SL, Lawlor BA, Lobo A, Magnusson H, Fichter M, Van Oyen H, Roelands M, Skoog I, Turrina C, Copeland JRM (1999) Development of the EURO-D scale—A European Union initiative to compare symptoms of depression in 14 European centres. Br J Psychiatry 174:330–338. doi:10.1192/bjp.174.4.330
Raijman R, Semyonov M (1998) Best of times, worst of times, and occupational mobility: the case of Soviet immigrants in Israel. Int Migr 36:291–312. doi:10.1111/1468-2435.00048
Semyonov M, Lewin-Epstein N (2011) Wealth inequality: ethnic disparities in Israeli society. Soc Forces 89:935–959. doi:10.1353/sof.2011.0006
Shemesh AA, Kohn R, Blumstein T et al (2006) A community study on emotional distress among Arab and Jewish Israelis over the age of 60. Int J Geriatr Psych 21:64–76. doi:10.1002/gps.1426
Shrestha S et al (2015) Predictors of change in quality of life in older adults with generalized anxiety disorder. Int Psychogeriatr 27:1207–1215. doi:10.1017/s1041610214002567
Spalter T, Brodsky J, Shnoor Y (2014) Improvements and decline in the physical functioning of Israeli older adults. Gerontologist 54:919–929. doi:10.1093/geront/gnt084
Survey of Health Ageing and Retirement in Europe (SHARE) (2013) SHARE Release Guide 2.6.0 Waves 1&2. http://www.share-project.org/fileadmin/pdf_documentation/SHARE_guide_release_2-6-0.pdf Accessed 17 July 2016
Thomas PA (2010) Is it better to give or to receive? social support and the well-being of older adults. J Gerontol B 65B:351–357. doi:10.1093/geronb/gbp113
Vaarama M (2009) Care-related quality of life in old age. Eur J Ageing 6:113–125. doi:10.1007/s10433-009-0115-y
Von dem Knesebeck O, Hyde M, Higgs P et al (2005) Quality of life and wellbeing. In: Borsch-Supan AAB, Jurges HMJ, Siegrist JWG (eds) Health, ageing and retirement in Europe. First results

from the survey of health, ageing and retirement in Europe. Mann, Mannheim, pp 199–203

Webb E, Blane D, McMunn A, Netuveli G (2011) Proximal predictors of change in quality of life at older ages. J Epidemiol Community Heal 65:542–547. doi:10.1136/jech.2009.101758

Zaninotto P, Falaschetti E, Sacker A (2009) Age trajectories of quality of life among older adults: results from the English longitudinal study of ageing. Qual Life Res 18:1301–1309. doi:10.1007/s11136-009-9543-6