Understanding the significance of personal bonding social capital for mental well-being of first-generation labour migrants: a cross-sectional study in the Netherlands

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Abstract

Purpose – *The present study aims to contribute to the existing, yet still limited, research literature on the association between personal bonding social capital (PBSC) and mental well-being in older populations, with a specific focus on understanding this association in a population of first-generation labour migrants with a collectivistic cultural background, living in an individualistic country.*

Design/methodology/approach – *A cross-sectional study was conducted with a sample of 119 Turkish first-generation labour migrants (64.7% male; age 65–87, M(SD) = 71.13(5.04) and 124 Dutch non-migrants (32.3% male, age 65–94, M(SD) = 71.9(5.32). Both samples filled out either an online or printed questionnaire measuring PBSC (PSCSE, Simons et al., 2020), and psychological, social and emotional well-being (MHF-SF, Lamers et al., 2011) and relevant demographic covariates.*

Findings – *Regression analyses showed positive associations between PBSC and, respectively overall mental well-being and its subdimensions emotional, social and psychological well-being in both samples. Moderation analyses showed that these associations were significantly stronger for the Turkish older migrants. These findings suggest that the migrant sample relies more heavily on close-knit homogeneous social networks for socioemotional support and assistance than the non-migrants.*

Originality/value – *Research on social capital and mental well-being of older migrants is limited. This study clarifies the importance of PBSC for the mental well-being of first-generation labour migrants, considering the combined challenges they face. The results provide direction for further research and the development of practical interventions to improve mental well-being of the rapidly growing and increasingly diverse older populations.*

Keywords *Bonding social capital, Older migrants, Cultural background, Mental well-being, Ageing*

Paper type *Research paper*

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Introduction

Old age comes with challenges, such as the loss of loved ones, decline in physical health and mobility, reduced social participation and fewer activities (Forsman *et al.*, 2013), which may threaten mental well-being and increase the need for social support (Carstensen *et al.*, 2006; Machielse and Duyndam, 2020). The proportion of older adults has increased in many European and other societies (Eurostat, 2020; United Nations, Department of Economic and Social Affairs, Population Division, 2019), putting the well-being of older age groups high on the research agenda (Cresswell-Smith *et al.*, 2019; Tang *et al.*, 2020). A

substantial portion of the older population in Western European countries consists of labour migrants arriving from several Eastern and Southern European and North African countries during the 1960s and 1970s (Van Mol and De Valk, 2016). Research shows that these older first-generation labour migrants may face extra challenges, due to weaker language skills in the host country, limited knowledge of available services and more often being in challenging socio-economical situations (Walczak, 2009; Ruspini, 2010). They may encounter more physical and mental health problems (Kristiansen *et al.*, 2016; Spijker *et al.*, 2004) and consequently report lower levels of mental well-being then their native peers (Ten Kate *et al.*, 2020; Van Tilburg and Fokkema, 2021).

Personal social capital – containing an individual's socio-emotional and socio-economic resources (Chen *et al.*, 2009; Forsman *et al.*, 2013; Haslam *et al.*, 2018) – has been recognised as an important factor for mental well-being of older adults (Boen *et al.*, 2020; Chipps and Jarvis, 2016; Christian *et al.*, 2020; Keating *et al.*, 2005; Park *et al.*, 2020; Simons *et al.*, 2020). This social construct is associated with someone's cultural background (Fietz *et al.*, 2017; Warnes *et al.*, 2004) and demographic and socioeconomic factors (Nieminen *et al.*, 2008) either facilitating or constraining individual's opportunities to establish social networks.

In the present study, the association between personal social capital and the well-being of older first generation labour migrants with a collectivist cultural background, currently living in an individualistic host country, is further explored in comparison with their native peers.

Personal bonding social capital and well-being

Social capital can been studied either as a collective good or individual asset (Chen *et al.*, 2009; Engbers *et al.*, 2017) and often a distinction is made betwee*n bridging* and *bonding* social capital (e.g. Chen *et al.*, 2009; Engbers *et al.*, 2017; Putnam, 2000). Bridging social capital refers to the creation and maintenance of relatively loose and transactional or business-like connections in mostly larger networks (Bourdieu and Wacquant, 1992; Putnam, 2000), providing for socioeconomic resources (Zhang *et al.*, 2011). Bonding social capital entails socioemotional resources (Liu *et al.*, 2016; Putnam, 2000), found in intimate and close-knit networks of family and friends (Putnam, 2000). Both types of social capital are interlinked and can either provide new connections or – in case of strong close-knit social ties – prevent one's network from expanding (Torrejón and Martin-Matthews, 2022). Research of social capital and well-being in later life emphasises the importance of *bonding* social capital over bridging social capital with regard to mental well-being (e.g. Litwin, 2011; Haslam *et al.*, 2018; Norstrand and Xu, 2012; Nyqvist *et al.*, 2016). This focus on close friends and family can be explained by the socioemotional selectivity theory (Carstensen, 1995), illustrating that when time is limited, as is the case in old age, people become more present-oriented and prioritise emotion regulation goals. As a result they will seek out social interactions that provide positive emotions and familiar feelings (Carstensen *et al.*, 2003*;* Luong *et al.*, 2011; Simons *et al.*, 2023). The present study focuses on personal *bonding* social capital (PBSC), conceptualised as an individual's accumulated social, durable, trustworthy and reciprocal connections and relationships, containing socio-emotional and socio-economic resources (Chen *et al.*, 2009; Forsman *et al.*, 2013; Haslam *et al.*, 2018), as an important ingredient for mental well-being in old age.

Mental well-being – also frequently referred to as positive mental health – has been described by the World Health organisation (WHO) as "a state of well-being in which the individual realises his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community (World Health Organization, 2004, p.12)". Following this definition, three components of mental well-being have since been frequently discussed and studied in the research literature of well-being: emotional, psychological and social well-being (e.g. Lamers *et al.*, 2011; Robitschek and Keyes, 2009). Emotional well-being follows the hedonic approach,

concerning life satisfaction and the experience of positive affect (Keyes, 2009). Psychological and social well-being, referring to effective functioning in respectively individual life and community life (Keyes, 2002), follow the eudaimonic approach. Psychological well-being comprises elements such as self-acceptance, personal growth and purpose in life (Ryff and Singer, 1998), while social well-being concerns aspects such as social coherence, social contribution and social acceptance (Keyes, 1998).

Although some studies found positive associations between bonding social capital and the separate sub-dimensions of mental well-being (Simons *et al.*, 2020, 2023), most research on social capital and well-being in later life focuses on the hedonic approach of well-being, finding positive associations between social capital and life satisfaction and happiness (e.g. Kim *et al.*, 2021; Nyqvist *et al.*, 2016; Wang *et al.*, 2022). However, eudaimonic elements of well-being are also important in later life. For instance, positive associations have been found between purpose in life and positive health outcomes (e.g. Boyle *et al.*, 2022; Nair *et al.*, 2024) and social contribution has been shown to be positively associated with psychosocial, physical and cognitive health (Anderson *et al.*, 2014). PBSC can be assumed to support all three subdimensions of well-being in later life (Forsman *et al.*, 2013; Simons *et al.*, 2023). Shared social norms and trust can foster feelings of belonging and a sense of coherence (Van Sint Fiet *et al.*, 2022) and contribute a sense of security (Nyqvist *et al.*, 2016). Trustworthy and reciprocal relationships offer opportunities for positive experiences, social participation and social support (Forte, 2009; Li and Ferraro, 2006; Simons *et al.*, 2023).

As previously mentioned, personal social capital is associated with cultural, demographic and socioeconomic factors and can therefor very across cultural or ethnic groups and communities (e.g. Liversage and Mizrahi, 2017). These differences can become more pronounced and particularly relevant for older migrants living in a country with cultural values different from their own – especially given the additional challenges they face, as earlier illustrated, which may increase their need for resources and support in later life.

Bonding social capital of older first-generation labour migrants

Since the 1960s and 1970s, labour migration to Western Europe has led to a significant population of older migrants from collectivistic cultures, such as Turkey, Morocco and other North African countries (Triandis, 2015), residing in predominantly individualistic Western European nations. In Germany and the Netherlands, for example, migrants with a Turkish background form the largest migrant group (Eurostat, 2021), in the Netherlands followed by migrants with a Moroccan background (Centraal Bureau voor Statistiek, 2022). Moroccan and Turkish migrants also form a considerable portion of the migrant population in Belgium (Statistiek Vlaanderen, 2022). In France, many older migrants come from North-African countries (e.g. Algeria, Morocco, Tunesia) (Eurostat, 2021).

In collectivistic countries or cultures, interdependence is valued and trust is typically limited to a smaller, close-knit circle, often consisting of family or relatives (Realo and Allik, 2009; Realo *et al.*, 2008). In these cultures, members are expected to subordinate their personal needs to shared values and goals. Collectivistic cultures are usually characterised by higher levels of familism (Schwartz *et al.*, 2010), which refers to strong identification and solidarity with family members (Knight and Sayegh, 2010; Schwartz, 2007). Different generations and extended family members often live together or in close proximity. Characteristics of collectivistic cultures align with Turkey, Morocco and several other North African countries, from which migrants have settled in Western European countries. These cultures have been found to score high on familism (Realo and Allik, 2009) and low on interpersonal trust (Hofstede *et al.*, 2010), which may discourage individuals to expand their social network with new and less familiar social circles, based on individual needs or aspirations.

In individualistic countries, people value independence and freely participate in a variety of smaller and larger networks and groups, characterised by interpersonal trust (Triandis, 2015). The cultural norm is for nuclear living arrangements (e.g. singles or couples with or without children) (Ruggles, 2009) opposed to the familism characteristic of more collectivistic cultures. Northern and Western European countries, such as the Scandinavian countries, the Netherlands, Germany, Belgium, France and the UK scoring high on interpersonal trust and low on familism, are considered to have an individualistic culture (Hofstede *et al.*, 2010; Realo and Allik, 2009).

Older first-generation labour migrants, currently living in these individualistic countries often come from rural areas with limited education, obtained low socio-economic status jobs and struggled acquiring the new language, hindering social integration (Brockmann and Fisher, 2001; Warnes and Williams, 2006). These migration-related factors may not only have contributed to the additional challenges they face in late adulthood, but may also have limited the expansion of their social networks, which tend to consist mainly of family members and fellow migrants from similar backgrounds who share the same language (Ruspini, 2010). Their collectivistic cultural background may have contributed to this, by discouraging them from establishing meaningful and trustworthy relationships outside their close-knit social network during earlier life stages, and making them even less inclined than their native peers to invest in new, unfamiliar relationships during late adulthood.

Considering both the additional challenges of ageing faced by these migrants and their presumably stronger social focus on close family and fellow migrants, it is assumed that first-generation older labour migrants are more dependent on the assistance and support of family members and close friends, – i.e. their PBSC – than non-migrants in later life. As a result, the association between bonding social capital and mental well-being is likely to be stronger for these older migrants than for their native peers, as there may be fewer alternatives for accessing socioemotional resources or assistance when an individual's bonding social capital cannot sufficiently meet their needs.

Present study

The present study aims to contribute to the existing, yet still limited, research literature on the association between social capital and mental well-being in older populations with a specific focus on understanding this association in a population of first-generation labour migrants from collectivistic cultures, living in an individualistic host country. To this end we investigated the association between PBSC and mental well-being in a sample of older Turkish migrants with a collectivistic background and Dutch non-migrants, both living in the Netherlands, a Western European country with an individualistic culture. Based on the theoretical assumptions and empirical findings, the following two hypotheses were examined:

H1. PBSC is positively associated with mental well-being of both older Turkish migrants and older Dutch non-migrants.

H2. The associations between PBSC and mental well-being are stronger for older Turkish migrants than for older Dutch non-migrants.

The above formulated hypotheses concern the overall concept of mental well-being, which comprises the three subdimensions emotional, psychological and social well-being. In addition, these associations and the assumed moderation were examined for each subdimension separately. This will contribute to a better understanding of the relationship between bonding social capital and mental well-being, as the current research literature has primarily focused on elements of emotional well-being (i.e. life satisfaction, happiness).

In the Netherlands, Turkish migrants represent the largest migrant group (Eurostat, 2021). A significant proportion of first-generation older labour migrants in other individualistic Western European countries also come from collectivist cultures, such as Turkey, Morocco and several other North African countries (Eurostat, 2021; Triandis, 2015). Therefore, we believe this research can contribute to a better understanding of the needs of older labour migrants in other European countries as well.

Method

Procedure and sample

Data were collected by two graduate students of the Open Universiteit in the Netherlands using convenience sampling through personal and professional networks and social media. Inclusion criteria were age of 65 or over, proficiency in either Dutch or Turkish language, living in the Netherlands and either being a Dutch non-migrant or a first-generation Turkish migrant. A questionnaire, available in both Dutch and Turkish, could be completed online or offline.

The graduate student that collected the data among first-generation Turkish migrants had a Turkish background and was proficient in the Turkish language. As this group was difficult to reach via the standard invitation e-mail or announcement on social media, this student personally approached potential Turkish respondents that met the inclusion criteria, within his own personal network and religious community. He was instructed to offer assistance when asked for, but only when reading was challenging for the respondent and not to get involved further in completing the questionnaire. The Dutch non-migrant sample used the online questionnaire, whilst the Turkish sample, due to the personalised approach, completed a paper questionnaire.

The study was approved by the university's research ethics committee and followed the American Psychological Association ethical principles of psychologists and code of conduct (American Psychological Association, 2010). Respondents filled out a consent form, informing them that participation was on a voluntary basis and that submitted questionnaires were used anonymously, in compliance with their privacy rights and only for the purpose of this study.

The Turkish version of the questionnaire was filled out by 119 Turkish first-generation migrants varying in age from 65 to 87 years (*Mean* = 71.13, SD = 5.04) of which 64.7% were male and 35.5% female. The Dutch non-migrant sample consisted of 124 respondents, varying in age from 65 to 94 years (*Mean* = 71.91; SD = 5.32) with 32.3% male and 62.9% female respondents.

Measurement

Mental well-being. Mental well-being was measured with the validated Dutch version of the Mental Health Continuum – Short Form (MHC-SF, Lamers *et al.*, 2011) and the validated Turkish version of this scale (Demirci and Akin, 2015). The scale consists of 14 items of which 3 items measure *emotional* well-being (e.g. "In the past month, how often did you feel happy?"), 6 items measure *psychological* well-being (e.g. "In the past month, how often did you feel that you are good at managing the responsibilities of your daily life?") and 5 items measure *social* well-being (e.g. "In the past month, how often did you feel that you belonged to a community"?). Respondents were asked to score these items on a 6-point scale (1 = never, 2 = once or twice; 3 = about once a week, 4 = two or three times a week, 5 = almost every day, 6 = every day). Mean scores were then computed for both the total scale and each sub-dimension.

Bonding social capital. PBSC was measured using the Personal Social Capital Scale for the Elderly (PSCSE, Simons *et al.*, 2020), a validated Dutch adaptation of the Personal Social

Capital Scale by Chen *et al.*(2009). This scale has been shown to be appropriate for assessing personal social capital, including bonding and bridging capital by obtaining information regarding network connections as an asset – e.g. frequency of contact, possessed resources, trustworthiness and reciprocity (Chen *et al.*, 2009; Simons *et al.*, 2020). For the current study only the items concerning bonding social capital were included. This subscale has 21 items distributed over five categories. The first four categories each present a statement, respectively category 1) "I have ….. close friends"; category 2) "I keep a routine contact with ….. close friends"; category 3) "I have ….. close friends that I can trust; and category 4") "I can ask ….. close friends for help". Respondents were asked to score these statements for four different social groups – "family members/relatives"; "close friends"; "acquaintances"; and "others" – on a 5-point scale (1 = none; 2 = few; 3 = some; 4 = reasonably many; 5 = many). A fifth category, scored on the same 5-point scale, consists of five items addressing someone's access to certain resources via these categories of personal networks (e.g. "I know ….. people with certain political or other influential power" or "I know ….. people with broad social connections"). Mean scores of each category were added to compute the score for someone's BSC. As no validated Turkish version of this scale is yet available, the Dutch items were translated into Turkish, using the translation – back translation procedure, with the assistance of a Turkish–Dutch graduate student and an independent translator, both proficient in Dutch and Turkish.

Covariates. In addition to age and gender, educational level - 0 = low (up till secondary school or vocational education) and 1 = high (at least an undergraduate degree) – and having a partner/spouse (1) or not (0), were included as covariates as these two variables were previously found to be related to mental well-being (e.g. Hooghe and Vanhoutte, 2011). Also, the perception of one's own physical health – measured on a 5-point scale from 1 = poor to 5 = excellent and found to be related to mental well-being in old age (Cho *et al.*, 2011) – was measured. Both educational level and physical health can be expected to differ between the two included samples – older Turkish migrants have reported lower levels of physical health and education than older non-migrants in previous studies (Van Tilburg and Fokkema, 2021) – emphasising the relevance of including these variables.

Analyses

Statistical analyses were conducted, using SPSS (version 25) and the Lavaan package (Rosseel *et al.*, 2018) in R (version 2022.07.1). Covariates and study variables for both samples were compared, using Pearson's χ^2 and t-tests. As for this study the PBSC scale was translated into Turkish, the one-factor structure of this subscale of the PSCSE was (re-)examined using confirmatory factor analysis. A CFA ≥ 0.90 and SRMR < 0.10 were considered acceptable for goodness of fit (Hu and Bentler, 1999). Furthermore, reliability analysis (Cronbach's alpha) of the study variables were performed and Pearson's correlations were computed. Noticeable differences between samples were tested (Preacher, 2002). As two different samples were compared, measurement invariance analyses were performed. A difference in CFI scores between models of < 0.01 was considered as an indicator of invariance (Cheung and Rensvold, 2009).

To test the Hypotheses 1 separate multiple regression analyses (Enter, stepwise) were performed for each sample, examining the association between PBSC and respectively overall mental well-being and the subdimensions emotional, psychological and social well-being. Hypothesis 2 was tested with moderation analysis, repeating the regression analyses examining Hypothesis 1, including both samples and adding the dichotomous variable *sample* (–0.5 = Dutch non-migrants sample, 0.05 = Turkish migrants sample) and interaction variable *BSC* sample* to the regression analyses.

All regression analyses used standardised scores of study variables and included the *a priori* defined covariates.

Results

Descriptives, reliability and correlations

In Table 1 scores of covariates and study variables of both samples are presented. The mean age in both samples is similar, but gender is inversely distributed. Furthermore the Turkish migrants sample reported lower levels of education and physical health, and lower scores on PBSC and the mental well-being scales than the Dutch non-migrants sample.

One respondent in the Dutch non-migrants sample failed to complete the mental well-being questionnaire. As this number is small and the propensity for data to be missing seems random, listwise deletion was applied in the CFA and regression analyses.

CFA of both the Dutch and Turkish PBSC scale resulted in a goodness of fit, with scores of respectively $\chi^2(5) = 22.4$, CFI = 0.93, and SRMR = 0.06 for the Turkish scale and $\chi^2(5) = 45.3$, CFI = 0.90 and SRMR = 0.05 for the Dutch scale. These scores correspond with results from the validity study of the PSCSE (Simons *et al.*, 2020) and indicate sufficient goodness of fit.

Table 2 presents the reliability scores and correlations between PBSC and mental well-being scales. Cronbach's alpha values for the different scales were all > 0.70 and can be considered sufficiently reliable for the purpose of this study (Nunnally and Bernstein, 1994).

Table 1 Demographic and study variables: examining differences between samples

	Turkish migrants sample (n = *119*)		*Dutch non-migrants sample* (n = *124*)		
Demographic variables	n	%	n	%	χ^2
Gender					$\chi^2(1) = 25.61$, $p < 0.001$
Female	42	35.5	84	67.7	
Male	77	64.7	40	32.3	
Other	0	–	0	–	
Partner					$\chi^2(1) = 2{,}08$, $p = 0.15$
Yes	65	54.6	79	63.7	
No	54	45.3	45	36.6	
Educational level					$\chi^2(1) = 110.22$, $p < 0.001$
Low	119	100	46	37.1	
High	0	0	78	62.9	
Health					$\chi^2(4) = 82.84$, $p < 0.001$
Poor	19	16.0	1	0.8	
Moderate	63	52.9	21	16.9	
Good	36	30.3	59	47.6	
Very good	1	0.08	27	21.8	
Excellent	0	0	16	12.9	
Age M(SD)	71.13(5.04)		71.91(5.32)		$t(241) = 1.18$, $p = 0.12$
	Turkish migrants sample (n = 119)		Dutch non-migrants sample (n = 124 for BSC; n = 123 for Well-being scales)		
Study variables	*M*	SD	*M*	SD	*t*
PBSC	13.02	2.26	15.78	3.08	$t(241) = 7.94$, $p < 0.001$
Emotional well-being	3.57	1.05	4.98	0.85	$t(240) = 11.52$, $p < 0.001$
Psychological well-being	3.55	0.79	4.35	1.08	$t(240) = 6.50$, $p < 0.001$
Social well-being	2.54	0.84	3.52	1.05	$t(240) = 8.01$, $p < 0.001$
Overall mental well-being	3.20	0.88	4.19	0.79	$t(240) = -9.26$, $p < 0.001$

Source(s): Authors' own work

Table 2 Reliability of scales and correlations between BSC and well-being scales

Scales	N (items)	*Turkish migrants sample (*n = *119)*		*Dutch non-migrants sample (*n = *124 for BSC;* n = *123 for Well-being scales)*	
		α	r	α	r
PBSC	21	0.84		0.89	
Emotional well-being	5	0.94	0.62*	0.83	0.38*
Psychological well-being	6	0.75	0.70*	0.86	0.35*
Social well-being	3	0.84	0.71*	0.72	0.45*
Overall mental well-being	14	0.92	0.76*	0.93	0.45*

Note(s): r = Pearson's correlation; *$p < 0.001$
Source(s): Authors' own work

Correlations between PBSC and the mental well-being scales were significant ($p < 0.001$) and stronger in the Turkish migrants sample (respectively for emotional, psychological, social well-being and overall mental well-being z-scores were $z = 2.50$, $p = 0.006$; $z = 3.85$, $p < 0.001$; $z = 3.09$, $p < 0.001$; $z = 3.92$, $p < 0.001$).

Measurement invariance

Measurement invariance analysis of the PBSC scale indicated a sufficient configural model fit ($\chi^2(10) = 61.318$, CFI = 0.91, SRMR = 0.05). Metric invariance could not be confirmed ($\chi^2(14) = 78.151$, CFI = 0.89, SRMR = 0.09, ΔCFI = 0.022), as the scores on the category of items measuring how many members of someone's network could be asked for help, was found to be non-invariant across the samples. Not constraining this factor loading resulted in partial metric invariance ($\chi^2(13) = 64.36$, CFI = 0.91, SRMR = 0.07 ΔCFI = 0.002). The CFI of the configural model fit for the MHC-SF did not meet the threshold value ($\chi^2(148) = 329.47$, CFI = 0.89, SRMR = 0.07), making further analysis of metric and scalar invariance for this scale irrelevant (Little, 2013). Implications of these findings will be further debated in the discussion section.

PBSC as predictor of mental well-being

In both samples, higher levels of PBSC were found to be significantly associated with higher levels of respectively emotional well-being ($\beta = 0.50$, $p < 0.001$ for the Turkish migrants sample; $\beta = 0.29$, $p = 0.002$ for the Dutch non-migrants sample), psychological well-being ($\beta = 0.59$, $p < .001$ for the Turkish migrants sample; $\beta = 0.34$, $p < 0.001$ for the Dutch non-migrants sample), social well-being ($\beta = 0.63$, $p < 0.001$ for the Turkish migrants sample; $\beta = 0.46$, $p < 0.001$ for the Dutch non-migrants sample) and overall mental well-being ($\beta = 0.64$, $p < 0.001$ for the Turkish migrants sample; $\beta = 0.43$, $p < 0.001$ for the Dutch non-migrants sample). In Table 3 the unstandardised coefficients and confidential intervals can be found. In the Turkish migrants sample physical health also explained some of the variance of all three sub-dimensions of mental well-being, whilst in the Dutch non-migrants sample physical health was only found to be a significant factor with regard to emotional well-being. Furthermore gender was found to be significant factor in explaining variance in psychological well-being in the Turkish migrants sample, indicating that male respondents reported higher levels of psychological well-being than female respondents. Having a partner or spouse was also significantly positively associated with psychological well-being in this sample.

Differences between both samples

Consistent with Hypotheses 2, it was found that the interaction variable BSC*sample is a significant factor in the regression models of respectively emotional well-being ($\beta = 0.20$,

Table 3 Results of regression analysis of associations between bonding social capital and mental well-being scales

Dependent variable	*Emotional well-being*			*Psychological well-being*			*Social well-being*		
	B	*95% CI*		*B(SE)*	*95% CI*		*B(SE)*	*95% CI*	
Predictor		*LL*	*UL*		*LL*	*UL*		*LL*	*UL*
Turkish migrants sample (n = 119)									
Gender	−0.08	−0.34	0.18	−0.23*	−0.44	−0.02	−0.10	−0.31	−0.11
Age	0.01	−0.01	0.04	−0.002	−0.02	0.02	0.01	−0.01	0.03
Health	0.39***	0.20	0.59	0.21**	0.05	0.37	0.25**	0.09	0.41
Partner	0.19	−0.06	0.44	0.23*	0.02	0.43	0.10	−0.11	0.30
Education	–	–	–	–	–	–	–	–	–
PBSC	0.60***	0.42	0.78	0.61***	0.47	0.76	0.66***	0.52	0.81
	Adj. $R^2 = 0.45$			Adj. $R^2 = 0.53$			Adj. $R^2 = 0.53$		
	$F(5, 113) = 20.40$, $p < 0.001$			$F(5, 113) = 27.76$, $p < 0.001$			$F(5, 113) = 27.90$, $p < 0.001$		
Dutch non-migrants sample (n = 123)									
Dependent variable	Emotional well-being			Psychological well-being			Social well-being		
	B	95% CI		B	95% CI		B	95% CI	
Predictor		LL	UL		LL	UL		LL	UL
Gender	−0.09	-0.29	0.23	−0.02	−0.45	0.32	−0.10	−0.47	0.28
Age	−0.003	−0.03	0.02	0.04**	−0.07	−0.01	−0.02	−0.05	0.01
Health	0.18*	0.03	0.31	0.05	−0.16	0.25	0.003	−0.18	0.19
Partner	0.12	−0.20	0.40	−0.23	−0.11	0.76	−0.26	−0.63	0.10
Education	−0.08	−0.33	0.18	−0.33	−0.70	0.03	−0.01	−0.35	0.33
PBSC	0.20**	0.09	0.34	0.35***	0.14	0.51	0.44***	0.27	0.61
	Adj. $R^2 = 0.16$			Adj. $R^2 = 0.16$			Adj. $R^2 = 0.19$		
	$F(6, 116) = 4.76$, $p < 0.001$			$F(6, 116) = 4.99$, $p < 0.001$			$F(6, 116) = 5.82$, $p < 0.001$		

Dependent variable	*Turkish migrants sample (n = 119) Overall mental well-being*			*Dutch non-migrants sample (n = 122) Overall mental well-being*		
	B	*95% CI*		*B*	*95% CI*	
Predictor		*LL*	*UL*		*LL*	*UL*
Gender	−0.16	−0.36	0.03	−0.10	−0.44	0.25
Age	−0.01	−0.01	0.03	−0.03*	−0.01	−0.001
Health	0.30***	0.15	0.44	0.06	−0.11	0.23
Partner	0.19	−0.001	0.38	−0.16	−0.49	0.17
Education	–	–	–	−0.15	−0.46	0.16
PBSC	0.69***	0.56	0.83	0.39***	0.23	0.54
	Adj. $R^2 = 0.62$			Adj. $R^2 = 0.22$		
	$F(5, 113) = 40.22$, $p < 0.001$			$F(6, 115) = 6.63$, $p < 0.001$		

Note(s): Model: Enter, *$p = < 0.05$, **$p = < 0.01$, ***$p = < 0.001$. *Gender* (0 = male, 1 = female); *partner* (0 = no, 1 = yes); education (0 = low, 1 = high). *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit
Source(s): Authors' own work

$p < 0.001$), psychological well-being ($\beta = 0.14$, $p = 0.009$), social well-being ($\beta = 0.14$, $p = 0.007$) and overall mental well-being ($\beta = 0.17$, $p < 0.001$). This indicates that the positive associations between PBSC and both overall mental well-being and it's sub-dimensions of mental well-being are stronger for respondents in the Turkish migrants sample than for the Dutch non-migrants sample. In Table 4 the unstandardised coefficients and confidential intervals can be found.

Discussion

This study aimed to contribute to a better understanding of the association between PBSC and mental well-being in older populations, with a specific focus on first-generation labour migrants from collectivistic cultures, living in an individualistic host country. Associations were found between bonding social capital and mental well-being, as well as it's subdimensions emotional, psychological and social well-being in an older Turkish

Table 4 Results of moderation analysis with sample as moderator of the association between bonding social capital and mental well-being scales in the total sample ($n = 241$)

Dependent variable	*Emotional well-being*			*Psychological well-being*			*Social well-being*			*Overall mental well-being*		
	B	95% CI		B	95% CI		B	95% CI		B	95% CI	
Predictor		LL	UL		LL	UL		LL	UL		LL	UL
Gender	−0.08	−0.27	0.11	−0.16	−0.39	0.06	−0.12	−0.33	0.09	−0.14	−0.34	0.05
Age	0.003	−0.01	0.02	−0.03*	−0.05	−0.01	−0.01	−0.03	0.01	−0.01	−0.03	0.003
Health	0.26***	0.14	0.37	0.09	−0.04	0.22	0.08	−0.05	0.21	0.14*	0.02	0.26
Partner	0.16	−0.02	0.35	0.04	−0.18	0.25	−0.06	−0.26	0.15	0.04	−0.15	0.23
Education	−0.09	−0.34	0.16	−0.29*	−0.58	0.01	−0.01	−0.29	0.27	−0.16	−0.41	0.10
PBSC	0.41***	0.30	0.52	0.49***	0.36	0.62	0.56***	0.44	0.69	0.55***	0.44	0.66
Sample	−0.54***	−0.81	−0.26	−0.38*	−0.70	−0.05	−0.29	−0.60	0.01	−0.43**	−0.71	−0.14
PBSC*sample	0.45***	0.25	0.65	0.32**	0.08	0.55	0.31**	0.09	0.53	0.38***	0.18	0.59
	Adj. $R^2 = 0.57$			Adj. $R^2 = 0.39$			Adj. $R^2 = 0.46$			Adj. $R^2 = 0.54$		
	$F(8, 232) = 40.58$, $p < 0.001$			$F(8, 233) = 20.01$, $p < 0.001$			$F(8, 232) = 26.27$, $p < 0.001$			$F(8, 232) = 36.81$, $p < 0.001$		

Note(s): Model: Enter, *$p = < 0.05$, **$p = < 0.01$, ***$p = < 0.001$ *Gender* (0 = male, 1 = female); *partner* (0 = no, 1 = yes); *education* (0 = low, 1 = high); *sample* (−0.5 = Dutch non-migrants sample, 0.05 = Turkish migrants sample). *CI* = confidence interval; *LL* = lower limit; *UL* = upper limit

Source(s): Authors' own work

first-generation labour migrant sample and an older Dutch non-migrant sample, both living in the Netherlands. In both samples higher scores on PBSC were associated with higher levels of (subdimensions of) mental well-being, supporting the first hypothesis of this study. Moderation analyses then revealed that these associations were stronger for respondents in the Turkish migrants sample than for their peers in the Dutch non-migrants sample, in line with the second hypothesis.

These results correspond with previous research in older populations indicating positive associations between bonding social capital and mental well-being outcomes (e.g. Chipps and Jarvis, 2016; Haslam *et al.*, 2018; Norstrand and Xu, 2012; Simons *et al.*, 2020, 2023). PBSC contains resources that can support effective social functioning, a sense of coherence and belonging (e.g. Van Sint Fiet *et al.*, 2022) and offer opportunities for positive experiences, social participation, social support (e.g. Forte, 2009; Simons *et al.*, 2023), autonomy and self-realisation (Putnam, 2000). The alignment of these concepts the basic psychological needs – autonomy, competence and relatedness – may help explain this association as they have been found to be significant predictors of mental well-being (Deci and Ryan, 2000, 2008) and can be challenged in later life due to ageing processes (Ferrand *et al.*, 2014). Consequently, having sufficient social capital can be assumed to help maintain a level of mental well-being in later life.

The studied associations were even stronger in the migrant sample. Earlier it was argued that migrants face extra challenges that may increase their dependence on assistance and support provided by their PBSC. Although the experience of additional challenges in comparison to the non-migrant sample was not examined, it was found that the migrant sample was less educated, rated their physical health lower and scored lower on the mental well-being scales than the non-migrant sample. Although no firm conclusion can be drawn, these differences could indirectly indicate the experience of more difficulties or challenges and correspond with previous research findings. The differences between samples regarding educational level and physical health and mental well-being align with findings from previous studies from the Netherlands (e.g. Blok *et al.*, 2022; Snijder *et al.*, 2017; Van Tilburg and Fokkema, 2021) and other Western European countries (Kristiansen *et al.*, 2016). The lower score on bonding social capital is more difficult to explain as it suggests that migrants have

fewer close friends and family members with whom they share trustworthy and reciprocal relationships. This outcome seems to contradict the concept of familism, a key characteristic of collectivist culture, emphasises a strong identification and solidarity with family members (Knight and Sayegh, 2010; Schwartz, 2007) and that trust is especially found in close-knit circles (Realo and Allik, 2009). However, in later life, people are more often faced with the loss of loved ones, what can result in a decrease in bonding social capital (Forsman *et al.*, 2013; Wrzus *et al.*, 2013). Strong bonding social ties or a dense network of close family members can prevent individuals from forming new ties and relationships outside the community (e.g. Ellison *et al.*, 2014; Torrejón and Martin-Matthews, 2022). As a result older migrants may have had fewer opportunities or desire to expand their social network during earlier years and have therefore limited alternative networks to develop new meaningful relationships.

The hypotheses were also confirmed across the individual subdimensions of mental well-being. PBSC was found to be positively associated with emotional, social and psychological well-being when examined separately. Although the research literature on the association between PBSC and both social and psychological well-being is limited, some potential scenarios can be explored. Two recent studies found that both bonding and bridging social capital were positively associated with social well-being in later life (Simons *et al.*, 2020; Simons *et al.*, 2023), suggesting that both types of social capital facilitate opportunities for social participation – such as volunteering – which can foster feelings of social contribution and effective social functioning (e.g. Haski-Leventhal, 2009; Li and Ferraro, 2006). As discussed earlier, first-generation older labour migrants often worked in low-status jobs and faced language barriers in their host country, which hindered social integration (e.g. Warnes and Williams, 2006). Consequently, while their native peers may have access to a wider range of social networks (bridging social capital) supporting experiences of social coherence and contribution, older labour migrants may depend more heavily on family and friends for their sense of belonging and social participation. This reliance may strengthen the importance of bonding social capital for their social well-being.

Furthermore, Simons *et al.* (2023) recently explained the stronger association between bonding social capital and mental well-being in older individuals compared to younger ones using the socioemotional selectivity theory (e.g. Carstensen *et al.*, 2006). According to this theory, older adults prefer intimate social relationships that contribute to the experience of positive emotions. Luong *et al.* (2011) illustrated in their review that as people age, they indeed tend to select social interactions that are emotionally rewarding and may end relationships that are not or less so. Consequently an individual's social network becomes less varied and more close-knit (Luong *et al.*, 2011). As discussed above, this mechanism may result in even smaller social networks on which the older migrant has to rely for the experience of positive emotions and a sense of purpose. This in turn may strengthen the association between bonding social capital and respectively emotional and psychological well-being.

Critical notes

The differences between the studied samples are both the subject of research and a cause for critical remarks. Because of the nature of our two samples, varying in cultural background, migrant status and – though not initially intended – mode of data collection (online versus paper), measurement invariance analyses were conducted. For the bonding social capital scale, partial metric invariance was found, indicating that (most) factor loadings are equivalent for both samples, allowing for comparing associations (Steinmetz, 2013; Van de Schoot *et al.*, 2012). No measurement invariance was found for the mental well-being scale. This may imply that the difference in association found

between bonding social capital and mental well-being in both samples could be either somewhat overestimated or underestimated. The included mental well-being scale however, relies on a substantial theoretical framework (e.g. Iasiello *et al.*, 2022; Westerhof and Keyes, 2010) for which invariance has been established in previous studies (e.g. Joshanloo *et al.*, 2013). It is suggested that as the underlying theoretical models of the measurements are solid, results on non-invariance can still be considered sufficient reliable to compare associations between variables (Cieciuch *et al.*, 2019; Davidov *et al.*, 2014). Therefore, even though caution should be exercised, it is assumed that the results of the current study do indeed support the hypotheses.

The Turkish migrants sample indicated lower levels of mental well-being and bonding social capital. Although, as illustrated in the previous section, earlier studies reported similar results regarding differences in mental well-being (e.g. Blok *et al.*, 2022; Kristiansen *et al.*, 2016; Van Tilburg and Fokkema, 2021) and lower levels of bonding social capital can be understood as the result of fewer opportunities to initiate new connections outside close-knit circles of family and fellow migrants network during earlier years, no firm conclusions should be drawn regarding these differences in mean scores, since no scalar measurement invariance was found for these variables (Little, 2013; Van de Schoot *et al.*, 2012).

The initially unintended difference in survey mode has likely influenced the geographical distribution of the samples. The Turkish migrants sample was personally approached by the researcher within a specific geographical area, whereas the data collection strategy for the Dutch non-migrants sample was not location-specific. While not ideal, the direct and personal approach in the Turkish migrants sample was necessary to include this group and obtain a sufficient number of respondents. For practical reasons the researchers did not choose to collect the data from the Dutch native sample in a similar way. However as discussed above measurement invariance analyses indicate that found associations can be compared between both samples, although again, caution should be exercised when comparing means.

A set of demographic variables was included in the analyses to account for potential influences related to sample characteristics. While not exhaustive, this set provided relevant information to compare both groups and several covariates could be included in the analyses. Some differences between the samples, such as educational level and physical health, align with findings from previous studies (e.g. Blok *et al.*, 2022; Snijder *et al.*, 2017; Van Tilburg and Fokkema, 2021). However, the inverse gender distribution across the two samples is not representative and may have affected the reliability of the results. In particular, gender was found to be a significant predictor of psychological well-being within the Turkish migrant sample with male respondents reporting higher levels of psychological well-being than female respondents. Although gender was not a significant factor in the other analyses, achieving a more balanced gender distribution across both groups would enhance the robustness of the results. It is important to acknowledge the potential influence of gender, which cannot be fully understood based on the findings of the present study.

Finally, emphasis should be placed on the cross-sectional design of the study, which does not allow any conclusion about causality. The results of this study illustrate associations between variables, but do not provide insight into the direction of the associations found.

Theoretical and practical implications

This study stresses the importance of bonding social capital for the mental well-being of older adults and especially among older migrants. Previous studies indicated that the construct of social capital is related to someone's ethnicity or cultural background

(Fietz *et al.*, 2017; Warnes *et al.*, 2004) as cultures can differ in interpretation of social relationships and family connections (Albert, 2021; Realo and Allik, 2009). The results of the current study correspond with these notions, as differences in the importance of bonding social capital between migrants and non-migrants were observed that may be associated with characteristic of the collectivistic cultural background of the migrant sample. In addition, challenges associated with migrant status, such as disparities in education, socioeconomic situation and health, are also likely to have contributed to the observed differences. Although caution must be exercised comparing mean scores of mental well-being between the migrant and non-migrant sample, the observed differences in mental well-being align with other studies (e.g. Spijker *et al.*, 2004; Ten Kate *et al.*, 2020; Van Tilburg and Fokkema, 2021), which report lower levels of mental well-being in older migrant populations. Further research on the possible interplay of psychological, social, health and demographic factors that may lead to reduced mental well-being of the significant population of older first generation labour migrants from collectivist cultures living in individualistic northern and western European countries should be on the research agenda of ageing studies.

From a practical perspective, the current and follow-up studies should be helpful in gaining insight into factors on which interventions can focus to enhance the mental well-being of older migrants. For example, their greater dependence on family and friends and fewer connections outside their community may hinder their integration and participation in society, as well as accessing government-provided services and subsidies. Furthermore, when bonding social capital is or becomes limited and lacks sufficient socio-emotional resources or reciprocal, trustworthy relationships, there is little alternative for establishing new meaningful connections and experiencing positive social interactions. Intervention should be tailored to meet the perceived need for social resources and support, either by directly providing these resources, improving their accessibility or creating opportunities for older migrants to expand their network and establish new meaningful connections. In doing so, it is essential to consider the above mentioned interplay of cultural, demographic and psychosocial factors.

Conclusion

The current study highlights the essential role of bonding social capital in supporting the mental well-being of older first-generation labour migrants with a collectivistic cultural background, living in an individualistic society. Findings suggests that these migrants tend to rely more heavily on close-knit homogeneous social networks for socioemotional support and assistance. This can be explained by cultural values emphasising family solidarity and that trust within intimate circles, along with challenges they face in social integration. At the same time, while ageing inherently brings challenges, this cohort of older migrants may encounter additional difficulties stemming from disparities in education, socioeconomic status and health. These combined challenges increase their need for support, making them extra vulnerable in old age, especially when their bonding social capital lacks sufficient resources and alternative sources of support are either unavailable or unknown to them. These considerations should be integrated into future ageing research and the development of interventions aimed at improving the mental well-being of the rapidly growing and increasingly diverse older populations.

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