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Research Article

Longitudinal Evidence for the Effects of Social Group Engagement on the Cognitive and Mental Health of Chinese Retirees

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Abstract

Background: Research investigating the health benefits of social group participation in the retirement transition has provided little insight into the longitudinal effects on cognitive health and the generalizability of these relationships to non-Western samples. The present paper addresses these issues by examining the effects of social group engagement on the cognitive performance and depression symptoms of Chinese older adults followed over 4 years in their transition to retirement.

Methods: Using the China Health and Retirement Longitudinal Study (CHARLS) data, a sample of 1,297 Chinese seniors transitioning to retirement were followed between 2011 and 2013, and then 2 years later (in 2015) after retirement. Group-based social engagement was used to predict retiree cognitive performance and depression symptoms across time.

Results: After controlling for established demographic covariates and close relationship factors at baseline, social group engagement at baseline positively predicted overall cognitive performance and depression symptoms. Moreover, positive change in group engagement was associated with reduced decline in cognitive performance over the 4-year retirement transition period.

Discussion: The current findings demonstrate the generalizability of the health benefits of social group engagement to cognitive health and to a non-Western (Chinese) sample of retirees.

Keywords: Cognitive health, Retirement adjustment, Social identity, Social group

Not all people transition well into retirement. In particular, researchers have observed a 10% drop in people's memory scores after they retire (Bonsang, Adams, & Perelman, 2012; see also Wickrama, O'Neal, Kwag, & Lee, 2013), and 15%–27% of people report a decline in their psychological health after leaving the workforce (Pinquart & Schindler, 2007; Wang, 2007). Increasingly, researchers are

recognizing that successful adjustment to retirement involves far more than having sufficient financial resources (Petkoska & Earl, 2009). Indeed, retirement, like numerous other life transitions, often creates social upheaval due to loss of work-related friendships and ties, in ways that compromise health and well-being (Fletcher & Hansson, 1991; Haslam, Steffens, et al., 2018). This points to the import-

ance of social planning to help older people develop social capital as they transition into retirement.

The present research contributes to this line of research by examining the longitudinal effects of social group participation on cognitive and mental health in the retirement transition. Our proposition is that group-based relationships play a critical role in supporting people's health and well-being in such transitions because these relationships are an important basis for fostering social identities that have demonstrable health effects (Haslam, Jetten, Cruwys, Dingle, & Haslam, 2018). In particular, research has shown that social group belonging and identification reduce mortality risk and enhance well-being and adjustment to retirement (Haslam, Lam, et al., 2018; Steffens, Cruwys, Haslam, Jetten, & Haslam, 2016). As yet, there is little direct evidence regarding the longitudinal association between social group engagement and cognitive health in the retirement transition context, though some studies reveal that it supports cognitive performance in older adults (Haslam et al., 2010; Haslam, Cruwys, & Haslam, 2014). Moreover, much of the work on group engagement and retiree adjustment has been conducted with samples from Western cultures and, where there has been cross-cultural work, it has been mainly limited to cross-sectional studies using psychological well-being and physical health outcomes (Lam et al., 2018). All of these factors limit the generalizability of findings relevant to the impact of social group engagement on change in cognitive health outcomes in retirement. This highlights the need for longitudinal examination using both cognitive and mental health outcomes in wider cultural contexts. These are the issues that the present research addresses.

Social Groups and Health Benefits

The social identity approach to health provides a useful framework to understand the protective effects of social groups on health (Haslam, Jetten, et al., 2018). This approach is derived from social identity (Tajfel & Turner, 1979) and self-categorization (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) theories, which argue that social group membership serves as an important basis for people to define themselves and to connect to a larger collective. The sense of belonging that such group membership enables has positive consequences for health and well-being by providing people with access to various tangible, health-enhancing resources; including, but not limited to, social support, esteem, control, and connection (Greenaway et al., 2015; Greenaway, Cruwys, Haslam, & Jetten, 2016; Haslam, Reicher, & Levine, 2012; Jetten et al., 2015). These psychological resources have been found to be particularly beneficial in helping people cope with a range of challenging life transitions, including commencing university study (Iyer, Jetten, Tsivrikos, Postmes, & Haslam, 2009), becoming a new parent (Seymour-Smith, Cruwys, Haslam, & Brodribb, 2017), recovering from stroke (Haslam et al.,

2008), moving into care (Gleibs et al., 2011) and more recently, retiring from work (Haslam, Lam, et al., 2018).

While much of the above evidence relates to the importance of group memberships for mental health and well-being, evidence is starting to emerge about the benefits of group membership for cognitive health in the ageing populations. In particular, a longitudinal study of British seniors found that group engagement has more benefits for cognitive health than one-to-one engagement (Haslam et al., 2014). In addition, Glei and colleagues (2005) found that participating in group-based social activities reduced cognitive decline in a sample of older Taiwan Chinese. Older participants who took part in one or two social group activities had lower risk of cognitive decline over a 7-year period than those who did not engage in any activity. Both these studies highlight the importance of social group membership for cognitive health as people age. However, the question remains as to whether these effects play out in the context of an impactful life changing transition, namely retirement.

Social Group Relationships in Retirement

There is limited research that links social group memberships, and associated identities, with retirement adjustment. Indeed, on the question of social relationships, most previous retirement research has focused on the effect of spousal relationships and, to a lesser extent, on relationships with other individuals in one's family (e.g., Coursolle, Sweeney, Raymo, & Ho, 2010; Kim & Moen, 2002; Price & Joo, 2005; Wang & Shultz, 2010). While there is no doubt that these close relationships are important and can contribute to retirement adjustment, these studies do not consider the effect that relating to people in other ways—as members of a given neighborhood, interest, community, or other group—may have on such outcomes.

On this point, there is emerging evidence that engaging in multiple meaningful and valued social groups has beneficial effects on retiree health and adjustment (Haslam, Steffens, et al., 2018). In particular, a longitudinal study of British retirees found that belonging to more social groups improved well-being and reduced the risk of mortality 6 years after retirement (Steffens, Cruwys, et al., 2016). Strikingly, retirees who belonged to two groups before retirement and maintained them only had a 2% risk of premature death in the first 6 years after retirement; yet this risk increased to 5% if they lost one group and to 12% if they lost both groups. Importantly, these effects associated with loss of group membership were found to be equivalent to those of reducing physical activity in the retirement transition.

Subsequent studies have extended these findings to interrogate the particular contribution of new group memberships gained in retirement and possible mechanisms through which those groups supported adjustment. In three studies, Haslam, Lam, and colleagues (2018) demonstrated that new social group memberships that were

acquired following retirement were more important than a range of established predictors of adjustment and psychological well-being of retirees, including financial status and physical health. Further, Steffens, Jetten, C. Haslam, Cruwys, and S. A. Haslam (2016) tested the particular role that social support, enabled through group identification, plays in facilitating retiree adjustment. In line with previous research on the benefits of providing social support (Abolfathi Momtaz, Ibrahim, & Hamid, 2014), these researchers found that it was the social support that retirees provided to (rather than received from) others that was critical in protecting their subjective health, quality of life, and retirement satisfaction (Steffens, Jetten, et al., 2016). Together, these various findings support the claim that, at least in the Western context, group engagement is a critical resource for people who are navigating retirement.

Effects of Social Group Engagement Across Cultures

Evidence of the positive effects that group memberships have on retirement adjustment comes mainly from Western samples, and there is reason to believe that they might not extend to other cultural and socioeconomic contexts. Previous research suggests that people from Asian (e.g., Chinese) backgrounds are less likely to draw on their social relationships for support, even when they are vulnerable or challenged (Kim, Sherman, & Taylor, 2008). This is because people from Asian cultures have concerns about burdening others and, in order to preserve harmony in their relationships, they tend to avoid seeking help from others. This has been demonstrated not only in studies examining perceptions of support from a significant other (Kim, Sherman, Ko, & Taylor, 2006), but also from social groups (Chang, Jetten, Cruwys, Haslam, & Praharso, 2016). In the meta-analysis reported by Chang et al. (2016), the average effects of multiple group memberships on psychological well-being, while significant in both cultures, were weaker for Asian ($r = .13$) than for Western participants ($r = .25$). These studies suggest that social ties and support from others are important in both cultures, but more beneficial to those from Western backgrounds.

A recent study tested this claim in the retirement context, drawing on data from a cross-sectional sample of over 10,000 retired individuals from 50 countries (Lam et al., 2018). The researchers found that multiple group membership and identification were positively and significantly associated with physical health and life satisfaction in both Western and non-Western cultures, though the strength of these associations was stronger in the Western culture. The importance of social engagement in promoting psychological well-being has also been examined in several other studies with non-Western retirees, but these studies are cross-sectional and only examine well-being indicators (e.g., Kuo, Chew, & Hooi, 2007; Zhang, Tao, Ueda, Wei, & Fang, 2013). To better understand the effects that social group engagement has on cognitive health over time, longitudinal research examining cognitive test performance is required.

The Present Study

The present study was designed to explore two unanswered questions concerning the association between social group engagement and health in retirement. First, whereas social group engagement has been found to affect mortality, mental health, and well-being in retirement, their particular contribution to cognitive health in transitioning retirees is less clear. Greater interrogation of this aspect of health in retirees would extend the current evidence on social engagement and cognitive health in the ageing literature (Haslam et al., 2014). Second, most of the research pointing to the health benefits of social engagement to date has been based on retiree samples drawn from Western populations. While there is some evidence that group-based relationships contribute to retiree health in diverse cultures, the cross-sectional nature of previous research limits the conclusions that can be drawn about the protective role of social group participation in retiree health over time (Lam et al., 2018). To avoid potential bias in generalizing from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) samples (Henrich, Heine, & Norenzayan, 2010) and from cross-sectional research, longitudinal examination of these effects in a non-Western sample of transitioning retirees is needed.

To tackle these two questions, we drew on data from the China Health and Retirement Longitudinal Study (CHARLS), in which respondents were recruited from a broad range of socioeconomic backgrounds across China (Zhao, Hu, Smith, Strauss, & Yang, 2014). In China, the relatively low mandatory retirement age (between 50 and 55 years for females and 60 years for males) poses great challenges to the social security systems that support retired individuals and allow them to continue to live well into retirement. As people are living longer, government and institutional reforms have been introduced to better support Chinese retirees, but they largely prioritize their financial needs (Chen & Liu, 2009). Nevertheless, there is growing recognition of the additional need to support the health and psychological well-being of retirees (Aegon Retirement Readiness Survey, 2018) and this points to the importance of better understanding factors that influence these outcomes.

The CHARLS data were collected from representative samples of Chinese older adults aged over 45 years, and included information relevant to health, cognition, employment, and relationships, among other measures, over time. From these data, we were able to identify a group of individuals who were transitioning from work to retirement, and to examine the impact of social group engagement on cognitive and mental health in the retirement transition.

Our main hypothesis was that, engagement in group-based social activities would positively predict cognitive performance and negatively predict depression symptoms. We controlled for established demographic covariates, namely, age, gender, education, physical health, and income in our analyses (see Steffens, Cruwys, et al., 2016). In addition, close relationship factors—partnership status, contact with children, and interaction with friends—were included in our model to demonstrate the unique contribution of social group engagement, over these close social ties, in predicting health outcomes (see Haslam et al., 2014; Sani et al., 2012).

Method

Participants and Procedure

The CHARLS is a large-scale longitudinal study of Chinese older adults, which was modeled after the Health and Retirement Study (HRS) in the United States. The CHARLS launched its first wave of national data collection in 2011 (Wave 1). Nationally representative samples of adults over 45 years in households were interviewed, and were then followed up in 2013 (Wave 2), 2014 (Wave 3), and 2015 (Wave 4). The initial sample comprised over 17,500 individuals sampled from 10,000 households in China.

The dataset is publicly available and can be accessed at http://charls.pku.edu.cn/en.[1] For the current analysis, only data from Waves 1, 2, and 4 were used, due to the availability of the variables in which we were interested (and which we subsequently label as T1, T2, and T3, respectively). Moreover, we selected individuals whose retirement status changed from non-retired to retired between T1 and T2, in order to target those who were transitioning to retirement in the 2-year period. We also removed respondents who were younger than 50 years given the greater likelihood they would re-enter the labor force later. The final sample comprised 1,297 respondents in 1,166 households (see Supplementary Appendix A regarding sample selection). Demographic information is summarized in Table 1.

Measures

Cognitive performance

Cognitive tests were taken from the HRS and tapped episodic memory and mental status that are recognized as being important for the cognitive functioning of older adults (McArdle, Fisher, & Kadlec, 2007; Ofstedal, Fisher, & Herzog, 2005). The tests comprised immediate and delayed memory recall of a 10-item word list, the serial 7s (a working memory or mental processing test requiring people to subtract 7 from 100 for five trials), orientation to time (reporting day, month, year and day of the week), and the pentagon drawing test (a test of visuospatial function requiring people to copy and draw two overlapping pentagons). The five cognitive measures were summed to create a global index that ranged from 0 to 30 (Luo, Pan, & Zhang, 2019), with higher scores indicating better cognitive performance.

Depression symptoms

This was assessed with the 10-item version of the Center for Epidemiological Studies Depression scale (CES-D; Radloff,

Table 1. Descriptive Statistics for Measures Across Time Points

Measures	Range	T1 M (SD)/% (n)	T2 M (SD)/% (n)	T3 M (SD)/% (n)
Demographics				
Age	50–94	63.21 (8.39)		
Gender	—	53% women (n = 692)		
Education	—	8% high school or above (n = 110)		
Physical health	1–5	2.87 (0.90)		
Income (in ¥1,000 CNY)	0–150.75	7.17 (14.29)		
Social factors				
Partnership status	—	83% partnered (n = 1,080)		
Contact with children	—	89% having weekly contact with children (n = 1,154)		
Interaction with friends	—	37% having monthly interaction with friends (n = 447)		
Social group engagement	0–3	0.24 (0.47)	0.31 (0.55)	0.28 (0.52)
Health				
Cognitive performance	0–30	11.51 (5.93)	11.57 (6.06)	10.92 (6.06)
Depression symptoms	0–30	9.04 (6.54)	8.64 (6.26)	8.73 (6.77)

[1]Analysis syntax are available by contacting the first author (ben. lam@uq.edu.au). The analyses were not pre-registered.

1977), which has established psychometric properties for Chinese seniors (Boey, 1999; Cheng & Chan, 2005). Items were rated on a 4-point scale ranging from 0 to 3 with the total score range between 0 and 30. Higher scores indicated greater depression symptoms.

Group-based social engagement

Participants were asked to indicate whether they took part in a list of activities in the last month (0 = no, 1 = yes). These group activities were (a) playing ma-jong/chess/cards, or going to a community club, (b) going to a sport, social, or other kind of club, and (c) taking part in a community-related organization.[2] These were summed to provide an index of the extent to which respondents participated in social group activities (range = 0 to 3), with higher scores representing more group engagement. The mean rate of participation in any group activity in the current study was between 22% and 26% across the time points, and this rate was consistent with the observations in prior research of Chinese older adults (Glei et al., 2005).

Covariates

Several covariates measured at baseline were included: respondents' age, gender (0 = female, 1 = male), education level (0 = below high school, 1 = high school or above), subjective physical health, income, partnership status (0 = not partnered, 1 = partnered), weekly contact with children (0 = no contact, 1 = have contact), and monthly interaction with friends (0 = no interaction, 1 = have interaction). In particular, physical health was assessed by the question "Would you say your health is very good, good, fair, poor, or very poor?" (ranging from 1 = *very good* to 5 = *very poor*). The original scores were reversed so that higher scores indicated better physical health. Income was assessed by summing participants' yearly income from diverse sources, then divided by 1,000 for easier interpretation (i.e., multiples of ¥1000 CNY).[3]

Analytic Approach

We used linear mixed-effects models to handle the nested structure in the data (repeated measures nested within individuals) and missing data across waves. Analyses were performed using the lme4 package in R (Bates, Maechler, Bolker, & Walker, 2015), and $p < .05$ was considered as indicating statistical significance. Power analysis conducted using the sjstats package (Lüdecke, 2019) suggests that a sample of 401 participants measured across three time points would be adequate to identify an effect of $r = .13$ (Chang et al., 2016), with power of .90, alpha of .05, and average correlation among repeated measures of .50.

Two sets of hierarchical linear mixed models were conducted to predict cognitive performance and depression symptoms (see Supplementary Appendix B for model equations). Each model specified a random intercept at the participant level (i.e., level 2). In Step 1, we entered a time variable (coded as T1 = 0, T2 = 1, T3 = 2) to model linear change in the outcome and specified a random slope for the variable. In Step 2, we entered our five demographic covariates—age, gender, education, physical health, and income—as well as the three close relationship factors at baseline—partnership status, contact with children, and

Table 2. Correlations Between Social Group Engagement, Cognitive Performance, and Depression Symptoms

	1. T1 Social group engagement	2. T2 Social group engagement	3. T3 Social group engagement	4. T1 Cognitive performance	5. T2 Cognitive performance	6. T3 Cognitive performance	7. T1 Depression symptoms	8. T2 Depression symptoms	9. T3 Depression symptoms
1.	—								
2.	.47***	—							
3.	.46***	.49***	—						
4.	.24***	.29***	.20***	—					
5.	.27***	.36***	.23***	.60***	—				
6.	.23***	.29***	.27***	.62***	.68***	—			
7.	−.17***	−.15***	−.07*	−.30***	−.24***	−.23***	—		
8.	−.14***	−.16***	−.10**	−.19***	−.21***	−.17***	.50***	—	
9.	−.17***	−.15***	−.13***	−.19***	−.19***	−.23***	.47***	.53***	—

Note: *$p < .05$, **$p < .01$, ***$p < .001$.

[2]The survey assessed other social activities (e.g., doing voluntary or charity work, and attending an educational or training course) for which it is not clear whether or not they took place in a group context. Accordingly, to avoid conflating this measure with individual-based social engagement, these were not used in the current study.

[3]Although income was positively skewed, additional analyses using log-transformed income scores did not change the results. For this reason, we only report the findings from the analysis of the untransformed data.

Table 3. Models Predicting Change in Cognitive Performance

	Step 1			Step 2			Step 3		
	b	β	*SE*	*b*	β	*SE*	*b*	β	*SE*
Fixed effects									
Time	−0.43***	−0.06	0.08	−0.45***	−0.06	0.08	−0.46***	−0.06	0.08
Age				−0.22***	−0.30	0.02	−0.22***	−0.30	0.02
Gender				1.68***	0.14	0.27	1.56***	0.13	0.26
Education				2.99***	0.14	0.51	2.68***	0.12	0.51
Physical health				0.76***	0.11	0.14	0.67***	0.10	0.14
Income				0.07***	0.16	0.01	0.06***	0.14	0.01
T1 Partnership				0.63	0.04	0.35	0.57	0.04	0.35
T1 Contact with children				0.24	0.01	0.41	0.23	0.01	0.40
T1 Interaction with friends				0.80**	0.06	0.26	0.53*	0.04	0.26
T1 Social group engagement							1.56***	0.12	0.28
Time-varying social group engagement							0.61**	0.05	0.21
χ² difference				Δχ² (df = 8) = 462.23***			Δχ² (df = 2) = 39.51***		

Note: T1 = Time 1.
*p < .05, **p < .01, ***p < .001.

Table 4. Models Predicting Change in Depression Symptoms

	Step 1			Step 2			Step 3		
	b	β	*SE*	*b*	β	*SE*	*b*	β	*SE*
Fixed effects									
Time	−0.05	−0.01	0.11	−0.03	−0.004	0.11	−0.02	−0.002	0.11
Age				0.01	0.01	0.02	0.01	0.01	0.02
Gender				−0.95**	−0.07	0.29	v0.88**	−0.07	0.29
Education				−0.85	−0.04	0.56	−0.68	−0.03	0.56
Physical health				−2.38***	−0.32	0.16	−2.33***	−0.32	0.16
Income				−0.04**	−0.08	0.01	−0.03**	−0.06	0.01
T1 Partnership				−1.00*	−0.06	0.39	−0.97*	−0.06	0.39
T1 Contact with children				−0.33	−0.02	0.45	−0.32	−0.02	0.45
T1 Interaction with friends				−0.73*	−0.05	0.29	−0.58*	−0.04	0.29
T1 Social group engagement							−0.85**	−0.06	0.31
Time-varying social group engagement							−0.46	−0.04	0.27
χ² difference				Δχ² (df = 8) = 287.31***			Δχ² (df = 2) = 10.81**		

Note: T1 = Time 1.
*p < .05, **p < .01, ***p < .001.

interaction with friends—to account for their effects on the outcome. In Step 3, we included group-based social engagement at baseline and as a time-varying predictor. The time-varying group engagement predictor was group-mean centered to reflect intraindividual variation over time (Hedeker & Gibbons, 2006). Other numeric predictors were grand-mean centered to facilitate interpretation.

Results

Descriptive statistics for variables are presented in Table 1. Bivariate correlations between social group engagement and outcomes across time points are presented in Table 2.

Group-based social engagement was positively related to cognitive performance (*rs* = .23–.36) and negatively related to depression symptoms (*rs* = −.13 to −.17) over time. Importantly, the strength of these associations was comparable at the different time points.

Main Analysis

Results for cognitive performance are summarized in Table 3. The first model showed that there was a significant linear decrease in performance over time (β = −0.06, *p* < .001). In the next step, we found that participants who were younger (β = −0.30, *p* < .001), male (β = 0.14, *p* < .001), better educated

($\beta = 0.14$, $p < .001$), in better physical health ($\beta = 0.11$, $p < .001$), better off financially ($\beta = 0.16$, $p < .001$), and able to interact with friends on a monthly basis ($\beta = 0.06$, $p < .01$), had better cognitive performance. In the final step, respondents' level of engagement in social group activities at baseline predicted cognitive performance ($\beta = 0.12$, $p < .001$). This effect was comparable to that of gender, education, physical health, and income, but weaker than the effect of age. Furthermore, change in group engagement was positively associated with change in cognitive performance during the retirement transition period ($\beta = 0.05$, $p < .01$).

Mixed-effects models for depression symptoms are summarized in Table 4. There was no significant linear change in depression symptoms over time ($\beta = -0.01$, $p = .64$). Gender ($\beta = -0.07$, $p < .01$), physical health ($\beta = -0.32$, $p < .001$), income ($\beta = -0.08$, $p < .01$), partnership status ($\beta = -0.06$, $p = .01$), and interaction with friends ($\beta = -0.05$, $p = .01$) all significantly predicted depression symptoms. Participants who were female, in poorer physical health, worse off financially, and had no partner or monthly interactions with friends, experienced more symptoms of depression. Further, level of social group engagement at baseline predicted respondents' depression symptoms ($\beta = -0.06$, $p < .01$). The size of this group engagement effect was comparable to that of gender, income, partnership status, and interaction with friends, but weaker than the effect of physical health. Unexpectedly, change in group engagement was not significantly associated with change in depression symptoms ($\beta = -0.04$, $p = .09$).

Additional Analyses

To test the robustness of our findings, several additional analyses were conducted. First, we explored whether respondents' initial level of social group engagement predicted different patterns of change in cognitive performance and depression symptoms by including the cross-level interactions between time and baseline social group engagement. These were not significant predictors of cognitive performance or depression symptoms ($ps > .05$). Second, to account for the shared variance that might result from individuals being nested within households, we conducted three-level linear mixed models. Taking the effect of household into account did not change the findings significantly. Finally, we repeated our analyses by examining lagged effects of group engagement (see Supplementary Appendix C). These findings provided further support for our predictions in showing that change in social group engagement between T1 and T2 significantly predicted subsequent cognitive performance ($\beta = 0.07$, $p < .01$) and depression symptoms ($\beta = -0.08$, $p < .01$) at T3.

Discussion

While evidence from studies revealing the benefits of social groups in retirement is accumulating, its generalizability to wider aspects of health outcomes and to non-Western cultures has not been demonstrated. The present study addressed this gap in the literature by examining this longitudinal relationship in a representative sample of Chinese retirees to determine whether engagement in group-based activities confers any cognitive and mental health benefits during the retirement transition. Supporting our primary prediction, we found that social group engagement was beneficial to transitioning retirees as its baseline level was associated with better overall cognitive performance, and importantly, positive change in social group engagement was associated with reduced decline in cognitive performance over time. Testing this relationship longitudinally in a sample whose levels of education and financial resources were low and from a non-Western culture provides evidence of the generalizability of our proposition.

We did not observe a significant longitudinal association between social group engagement and symptoms of depression, although more group engagement at baseline predicted lower overall number of depression symptoms in the sample. It is noteworthy that in this Chinese sample the correlations between social group engagement and depression across waves were weaker (average $r = .15$) than those between social group engagement and cognitive performance (average $r = .28$). Nevertheless, the size of the former effects is consistent with previous studies that have examined the relationship between social group memberships and psychological well-being outcomes in Asian participants ($r = .13$; Chang et al., 2016).

Also in line with previous research, we found that physical health and income were consistent predictors of cognitive and mental health of transitioning retirees, a well-established finding in the retirement literature (Wang & Shultz, 2010). What is more important is the fact that the effect of social group engagement on cognitive performance was comparable to that of physical health and income. Furthermore, engagement in social groups uniquely contributed to the prediction of retirees' cognitive performance, after accounting for the effects of relationships with partners, children, and friends. This finding is consistent with some previous research that points to the particular role that social groups play in health enhancement (Haslam et al., 2014; Jetten et al., 2015; Sani et al., 2012). In the present case, group engagement was found to promote cognitive health in the transitional period of retirement when people are experiencing life change. The social identity approach suggests that where group interaction provides the basis for a meaningful and valued identity, then it serves to stimulate mental activity, and afford access to psychosocial resources (e.g., enhanced support, control, belonging, etc.) that promote positive coping with the challenges people might face in this transition (Haslam et al., 2014; Haslam, Steffens, et al., 2018). Clearly though, we can only hypothesize about possible underlying mechanisms in the present research, given that this line of enquiry was not tested directly and should clearly be a focus for future research. It

is important to note too that we observed consistent effects of monthly social interaction with friends on retiree cognitive and mental health outcomes. However, we can say little about the quality of these relationships because this was not measured in CHARLS. This is clearly an issue to explore using more sensitive measures in future research.

The present findings have important implications for improving retirement planning practice. What they highlight is that, irrespective of whether retirees have a Western or non-Western cultural background, it is as important to prepare for the social upheaval that retirement brings as it is to engage in financial planning. While financial planning programs are well established, recent development of a social identity-based intervention program, Groups for Health: Retirement (G4H: Retirement), could address this issue. This program educates people about the importance of group-based relationships and helps them develop strategies to build their group-based resources in ways that support health in the lead up to retirement (Haslam, Steffens, et al., 2018). Tests of this program are currently underway with Western samples, and adaptations to this program would be necessary to capture the culturally shaped beliefs and values about social relationships (e.g., reflecting Chinese people's views on relating to group members) and retirement in the non-Western context. Additionally, research that builds the evidence base in cross-cultural samples would clearly be needed to meet the requirements of such an adaptation.

Limitations and Future Direction

The major limitation of the present study is that, reflecting the scope of the CHARLS database, the test of our hypothesis was based on a pre-defined list of variables, such that the measures of social group engagement and other constructs were limited. For instance, while the group activities we used to index engagement were relevant within the Chinese cultural context (e.g., playing ma-jong), there are other meaningful social group activities that may have been overlooked (e.g., engaging in organizations for older persons, or clan associations). Future research will benefit from using a more comprehensive list of social group activities. In a related vein, future research will benefit from including measures of social group identification that the social identity approach predicts to be key in driving health-related benefits. This will provide a more rigorous test of this approach and answer other important questions, such as how compatibility between multiple groups and associated identities might affect retirement adjustment (Haslam, Steffens, et al., 2018). It is obviously the case too that the current data are longitudinal, not experimental, and that this limits our ability to make causal inferences. Controlled experimental studies are therefore necessary to establish causality regarding the effects of social group engagement on retirees' health (e.g., Mortimer et al., 2012). Last but not least, while our investigation relied on a Chinese sample of transitioning retirees, this by no means suggests that

the current findings are relevant only within the Chinese context. Future research might extend this by investigating people who are adjusting to retirement using longitudinal retirement datasets developed in other countries.

Conclusion

Social identity theorizing suggests that social group engagement affords people the opportunity to interact with others on the basis of shared group identity and thereby to draw on critical resources that help them cope with stressful life transitions, in ways that ameliorate cognitive decline and psychological distress. The present research sought to test this hypothesis longitudinally in the context of transitioning to retirement using data from a population-based, panel study of Chinese transitioning retirees, and found that social group engagement supported cognitive performance once people had ceased formal employment. It thus appears that maintaining an active group life may be a particularly potent way for older people to live according to the Chinese saying: *being old in age, but young at heart* (rén lǎo xīn bù lǎo).

Supplementary Material

Supplementary data are available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

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Conflict of Interest

None reported.

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