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Research article

Sense of Community among Chinese Older Adults in the Greater Chicago Area: Findings from the PINE Study

Xinqi Dong [1,*], E-Shien Chang [1] and Melissa A. Simon [2]

[1] Rush Institute for Healthy Aging, Rush University Medical Center, Chicago, IL 60612, USA
[2] Department of Obstetrics/Gynecology, Feinberg School of Medicine, Northwestern University, Chicago, IL 60611, USA

*** Correspondence:** Email: xinqi_dong@rush.edu; Tel: +1-312-942-3350; Fax: +1-312-942-2861.

Abstract: Background: Sense of community is a concept that has significant implications cross multiple disciplines, particularly in public health practice. However, there exists a knowledge gap in utilizing the sense of community in investigating the health of older immigrant populations. **Objective:** This study aimed to explore the perception of the sense of community among community-dwelling U.S. Chinese older adults. **Methods:** Data were from the PINE study, a population-based survey of U.S. Chinese older adults aged 60 years and above in the greater Chicago area. We administered the Sense of Community Index to measure the levels of sense of community. Socio-demographic information was also collected. **Results:** Our results suggest that Chinese older adults in this study sample reported a strong sense of community. In total, 86.7% of the participants reported satisfaction with the current neighborhood, and 78.4% expressed their desire to continue living in the community as long as possible. In addition, older age (r = 0.11), having higher levels of income (r = 0.08), being female (r = 0.08), being unmarried (r = –0.06), living with fewer people (r = –0.22), having more children (r = 0.11), having been in the U.S. for more years (r = 0.12), longer residency in the community (r = 0.15), higher overall health status (r = 0.18), better quality of life (r = 0.23), and improved health status in the past year (r = 0.11) were significantly correlated with the higher levels of the sense of the community. **Conclusions:** The study investigation provided the basis for generating empirical knowledge for understanding the sense of community among U.S. Chinese older adults. Future research is needed to delineate the mechanisms underlying sense of community and health in the increasingly diverse aging population.

Keywords: older adults; Chinese; community; population-based studies

1. Introduction

Sense of community, or sometimes referred to as "psychological sense of community", is "a

feeling that members have a belonging, a feeling that members matters to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" [1]. Four factors, including the sense of membership, influence, integration, shared emotional connection, formulate the sense of community and have been extensively explored in qualitative and quantitative studies in community psychology [2–5]. Length of community residence was also found as a predictor to the actual sense of community [6].

Studies report that people with a high sense of community are likely to have increased ties to other individuals, and conversely, people with a low sense of community are likely to be social isolated and has fewer ties to other individuals [2,3]. With respect to its impact on health and well-being, a strong sense of community contribute to positive outcomes, including empowerment, sense of efficacy, life satisfaction, improved well-being, and happiness [7,8], whereas lowered levels of the sense of community may induce feelings of loneliness, depression, and suicide [9].

In addition, empirical work has suggested that the salience of community is particularly critical for older adults [10,11]. Where one lives at older age may often provide opportunities for social integration and engagement. Therefore, the impact of the community on health is likely to be greater for older adults because they often have decreasing mobility and likely depend more on the community resources [12,13]. Limited but growing attention has been paid to different racial/ethnic minorities including Korean older adults and Latino older adults [13,14]. However, given the heterogeneity of the Asian populations, the present assessment focused on Chinese American older adults—one of the fastest growing aging populations in the U.S.

Chinese American community is the oldest and largest Asian population in the U.S. [15,16]. It is also amongst the fastest growing U.S. Asian population. From 2000 to 2010, Chinese aging population aged 65 and over has experienced a growth rate almost four times higher than the general U.S. aging population [17]. Similar growth trend is reflected in the segment of older adults. Currently, Chinese older adults aged 60 and over account for 14% of the total Chinese population in the U.S. As the population is Chinese older adults is increasing, Chicago has one of the largest Chinese American communities in the country. The rapidly expanding community may bring an opportunity for community creation and a deepened psychological sense of community which can be a critical component of successful aging. To expand upon existing literature, the current study aimed to 1) examine the sense of community among community-dwelling Chinese older adults in the greater Chicago area; 2) investigate the correlations between socio-demographic factors and sense of community in a U.S. Chinese aging population.

2. Methods

2.1. Population and settings

Data were drawn from the Population Study of Chinese Elderly in Chicago (PINE) study, which surveyed approximately 3,159 older adults aged 60 and over in the greater Chicago area. Participants were interviewed via in-person face-to-face between 2012 and 2014. The response rate was 91.9 %. Briefly, the purpose of the PINE study is to collect community-level data of U.S. Chinese older adults to examine the key cultural determinants of health and well-being [18]. The project was initiated by a synergistic community-academic collaboration between Rush Institute for Healthy Aging, Northwestern University, and many community-based social services agencies and organizations throughout the greater Chicago area.

In order to ensure study relevance to the well-being of the Chinese community and enhance community participation, the PINE study implemented extensive culturally and linguistically

appropriate community recruitment strategies strictly guided by community-based participatory research (CBPR) approach. With over twenty social services agencies, community centers, health advocacy agencies, faith-based organizations, senior apartments and social clubs serving as the basis of study recruitment sites, eligible participants were approached through routine social services and outreach efforts serving Chinese Americans families in the Chicago city and suburban areas. Out of 3,542 eligible participants, 3,159 agreed to participate in the study, yielding a response rate of 91.9%.

Based on the available census data drawn from U.S. Census 2010 and a random block census project conducted in the Chinese community in Chicago, the PINE study is representative of the Chinese aging population in the greater Chicago area with respective to key demographic attributes including age, sex, income, education, number of children, and country of origin [19]. The study was approved by the institutional review boards of the Rush University Medical Center.

2.2. Measures

2.2.1. Socio-demographics

Basic demographic information including age, years of education completed, annual personal income (0–$4,999 per year; $5,000–$9,999 per year; $10,000–14,999 per year; $15,000–$19,999 per year; or more than $20,000 per year), marital status (married; separated; divorced; or widowed), number of children, number of grandchildren, years in the community, and years in the U.S. were assessed in all participants. Living arrangement was categorized into four groups: (1) living alone; (2) living with 1–2 persons; (3) living with 2–3 persons; or (4) living with 4 more persons.

2.2.2. Overall health status, quality of life and health changes over the last year

Overall health status was measured by "In general, how would you rate your health?" on a four point scale (1 = poor, 2 = fair, 3 = good, 4 = very good). Quality of life was assessed by asking "In general, how would you rate your quality of life?" also on a four point scale, ranging from 1 = poor to 4 = very good. Health changes over the last year was measured by "Compared to one year ago, how would you rate your now?" on a three point scale (1 = worsened, 2 = same, 3 = improved).

2.2.3. Sense of Community Index

We used the 12-item Sense of Community Index (SCI) instrument to measure the sense of community. SCI is among the most widely used and broadly validated measure of the psychological sense of community [20]; it was developed concurrently with the psychological sense of community theory that stated that a sense of community was a perception the following four components: (a) membership, feelings of emotional security, belonging, and identification; (b) influence, by which the community influences the individual and the individual influences the community, in turn; (c) integration and fulfillment of needs, physical and psychological needs met, thereby reinforcing one's commitment to the group; and (d) shared emotional connection, positive affect and shared history related to community membership [1].

Participants rated their agreement (1 = Strongly disagree, 5 = Strongly agree) with the following 12 statements: 1. I think my neighborhood is a good place for me to live; 2. People in this neighborhood do not share the same values; 3. My neighbors and I want the same things from this neighborhood; 4. I can recognize most of the people who live in my neighborhood; 5. I feel home at this neighborhood; 6. Very few of my neighbors know me; 7. I care about what my neighbors think

of my actions; 8. I have almost no influence what this neighborhood is like; 9. If there is a problem in this neighborhood, people who live here can get it solved; 10. It is very important to me to live in this particular neighborhood; 11. People in the neighborhood generally don't get along with each other; 12. I expect to live in this neighborhood for a long time.

The items with a negative positive valence were reverse-coded (*i.e.,* Item 2, 6, 8 and 11). The total score ranged from 12 to 60, with higher scores reflecting greater levels of sense of community. Overall the SCI as a whole has been a very reliable and valid measure in previous studies with Cronbach's alphas ranged from 0.64 to 0.69 in the adult populations [2,3].

2.3. Data analysis

We conducted univariate descriptive statistics to examine the socio-demographic characteristics, socioeconomic and family compositions of the PINE study participants. Internal consistency of the neuroticism and conscientiousness measure were estimated using Cronbach's alpha. The Pearson correlation coefficients were used to examine the correlations between socio-demographic variables and the levels of sense of community. Statistical analysis was conducted using SAS, Version 9.2 (SAS Institute Inc., Cary, NC), and statistical significance was defined as $P < 0.05$.

3. Results

3.1. Sample characteristics

The characteristics of the study sample were presented in Table 1. Of the 3,159 participants who were enrolled in study, 58.9% were female. The majority of participants had less than a high school education (78.9%) and an annual income less than $10,000 (85.1%). The majority (71.3%) of participants were married. We examined the demographic characteristic of participants by their length of residency in the community. In total, 57.5% lived in the current neighborhood for less than 10 years, 23.5% lived in the neighborhood for 11 to 20 years, 12.3% lived in the neighborhood for 21 to 30 years, and 6.7% lived in the neighborhood for 31 years or more.

Compared to other groups, the proportion of older adults who lived in the community for 31 years or more had the largest proportion of the oldest older adults aged 85 and over (17.6%). This group of older adults also had a largest proportion of female participants (61.9%), and participants who had an annual income higher than 20,000 USD (7.7%), lived alone (33.8%), and widowed (35.8%).

In terms of overall health status and quality of life, persons living in the community for more than 30 years were most likely to report very good or good on overall health status (47.6%) and quality of life (54.8%), in comparison with other groups. Participants living in the community for less than 10 years were most likely to report worsened health during last year (44.9%).

Table 1. Demographic characteristics of study participants by years in the neighborhood.

	0–10 (*N* = 1,811)	11–20 (*N* = 740)	21–30 (*N* = 388)	31+ (*N* = 210)	χ^2	*d*.f.	*P*
Age group, *N* (%)							
60–64	453 (25.0)	137(18.5)	61 (15.7)	28 (13.3)			
65–69	399 (22.0)	151(20.4)	69 (17.8)	22 (10.5)			
70–74	406 (22.4)	109(14.7)	64 (16.5)	27 (12.9)			
75–79	306 (16.9)	150(20.3)	60 (15.5)	40 (19.1)			

80–84	165 (9.1)	104(14.1)	69 (17.8)	56 (26.7)			
85 and over	82 (4.5)	89 (12.0)	65 (16.8)	37 (17.6)	222.3		< 0.001
Sex, *N* (%)							
Male	782 (43.2)	297(40.1)	164 (42.3)	80 (38.1)			
Female	1,029(56.8)	443(59.9)	224(57.7)	130(61.9)	3. 4		0. 33
Education level, *N* (%)							
0 year	98 (5.4)	51 (6.9)	33 (8.6)	12 (5.7)			
1–6 years	637 (35.4)	305(41.4)	157 (40.9)	78 (37.1)			
7–12 years	628 (34.9)	254(34.5)	135 (35.2)	81 (38.6)			
13–16 years	383 (21.3)	114(15.5)	46 (12.0)	32 (15.2)			
17 and over	55 (3.1)	12 (13.8)	13 (3.4)	7 (3.3)	39.1	2	< 0.001
Income in USD, *N* (%)							
$0 – $4,999	750 (41.8)	178(24.5)	84 (22.0)	25 (12.0)			
$5,000 – $9,999	818 (45.6)	448(61.5)	227 (59.4)	119(56.9)			
$10,000 – $14,999	153 (8.5)	66 (9.1)	51 (13.4)	40 (19.1)		2	
$15,000 – $19,999	37 (2.1)	15 (2.11)	7 (1.8)	9 (4.3)			
Over $20,000	37 (2.1)	21 (2.9)	13 (3.4)	16 (7.7)	184.1		< 0.001
Marital Status, *N* (%)							
Married	1,375(76.2)	476(65.0)	258(67.0)	124(59.9)			
Divorced	38 (2.1)	19 (2.6)	10 (2.6)	7 (3.4)			
Separated	34 (1.9)	11 (1.5)	10 (2.6)	2 (1.0)			
Widowed	357 (19.8)	226(30.9)	107(27.8)	74 (35.8)	60.1		< 0.001
Number of children (%)							
0	70 (3.9)	29 (3.9)	15 (3.9)	14 (6.7)			
1–2	789 (43.6)	278(37.7)	121(31.4)	81 (38.8)			
3–4	768 (42.5)	326(44.2)	169(43.8)	83 (39.7)			
More than 5	182 (10.1)	105(14.2)	81 (21.0)	31 (14.8)	51.6		< 0.001
Living arrangement, *N* (%)							
Alone	317 (17.5)	195(26.4)	91 (23.5)	71 (33.8)			
With 1–2 person	867 (47.9)	359(48.5)	228(58.8)	121(57.6)			
With 3–4 persons	317 (17.5)	117(15.8)	35 (9.0)	13 (6.2)			
With 5+ persons	309 (17.1)	69 (9.3)	34 (8.8)	5 (2.4)	127.9		< 0.001
Years in the U.S., *N* (%)							
0–10	837 (46.4)	1 (0.1)	1 (0.3)	1 (0.5)			
11–20	561 (31.1)	405(55.0)	1 (0.3)	0 (0.0)			
21–30	279 (15.5)	223(30.3)	264 (68.0)	0 (0.0)			
31+	127 (7.0)	108(14.7)	122 (31.4)	209(99.5)	2294.1		< 0.001
Country of Origin, *N* (%)							
China	1,719(94.9)	688(93.0)	347(89.4)	169(80.5)			
Others	92 (5.1)	52 (7.0)	41 (10.6)	41 (19.5)	66.7		< 0.001
Overall health status, *N* (%)							
Very good	92(5.1)	24 (3.2)	17 (4.4)	7 (3.3)			
Good	576 (31.8)	258(34.9)	166(42.8)	93 (44.3)			
Fair	772 (42.6)	324(43.8)	146(37.6)	77 (36.7)			
Poor	371 (20.5)	134(18.1)	59 (15.2)	33 (15.7)	32.4		< 0.001

Quality of life, *N* (%)							
Very good	144 (8.0)	41 (5.6)	25 (6.5)	6 (2.9)			
Good	780 (43.1)	329(44.5)	161(41.6)	109(51.9)			
Fair	820 (45.3)	353(47.8)	192(49.6)	86 (41.0)			
Poor	67 (3.7)	16 (2.2)	9 (2.3)	9 (4.3)	22.4		0.008
Health changes over the last year, *N* (%)							
Improved	169 (9.3)	63 (8.5)	33 (8.5)	11 (5.2)			
No Change	829 (45.8)	375(50.7)	198 (51.2)	131(62.4)			
Worse	813 (44.9)	301(40.7)	156 (40.3)	68 (32.4)	24.6		< 0.001

3.2. Sense of Community Index reliability and content validity

In our cohort, the alpha coefficient of reliability for the SCI was 0.69. If question "People in this neighborhood do not share the same values", "Very few of my neighbors know me", and "I have almost no influence what this neighborhood is like" were removed from the scale, the alpha would be improved although marginally to 0.70 (Table 2).

With respect to inter-item correlation coefficients, "I can recognize most of the people who live in my neighborhood" and "Very few of my neighbors know me" showed the highest inter-item correlation coefficients (0.56), followed by "I expect to live in this neighborhood for a long time" and "It is very important to me to live in this particular neighborhood" (0.49). All correlations were significant at the 0.001 level.

Several measures were done to inspect content validity of the SCI. The bilingual research team first translated the original English version of SCI into Chinese. Due to the vast linguistic diversity of our study population, the Chinese version was then back translated by bilingual and bicultural investigators fluent in dialects including Mandarin and Cantonese to confirm consistency in the meaning of the Chinese version with the original English version. Both written scripts (traditional and simplified Chinese characters) were subsequently examined. A group of community stakeholders led by an experienced bilingual and bicultural geriatrician then went over the wording of the Chinese versions to ascertain that the meanings of the items in Chinese conveyed the meanings to Chinese older adults and to ensure validity.

3.3. Endorsement of Sense of Community Index

With respect to specific endorsement to the SCI, 86.7% felt that their neighborhood was a good place to live, 81.9% reported that they felt home at the current neighborhood, 78.4% of the participants expected to live in this neighborhood for a long time, and 73.2% felt that the people in this neighborhood generally got along with each other (Table 3). In addition, 61.9% of the participants felt that their neighbors and themselves wanted the same thing from the neighborhood, 58.9% reported that if there was a problem in the neighborhood, people who lived there could get it solved, and 56.9% of the participants reported that neighbors knew them.

Table 2. Sense of Community Index item-total correlations and correlation coefficients.

Items	Alpha†	1	2	3	4	5	6	7	8	9	10	11	12
1	0.65	1.0											
2	0.70	-0.04*	1.0										
3	0.67	0.24***	0.01	1.0									
4	0.64	0.24***	0.06**	0.19***	1.0								
5	0.65	0.43***	-0.04*	0.21***	0.31***	1.0							
6	0.65	0.19***	0.06***	0.07***	0.56***	0.25 ***	1.0						
7	0.70	-0.13***	0.27***	-0.01	0.03	-0.09***	-0.02	1.0					
8	0.70	-0.06***	0.26 ***	-0.08***	0.06	-0.07***	0.11***	0.37***	1.0				
9	0.66	0.22***	0.05**	0.28***	0.25***	0.17***	0.18***	0.09***	0.07***	1.0			
10	0.65	0.41***	-0.07***	0.28***	0.26***	0.44***	0.19***	-0.08***	-0.09***	0.25***	1.0		
11	0.66	0.20***	0.05**	0.19***	0.30**	0.22***	0.33***	-0.06***	-0.03	0.24***	0.24***	1.0	
12	0.65	0.37***	0.01	0.23***	0.21***	0.39***	0.16***	-0.01	0.01	0.20***	0.49***	0.17***	1.0

† Alpha if item deleted.

3.4. Correlation between socio-demographic factors and the sense of community

Age, female gender, income, number of children, years in the U. S., years in the community , overall health status, quality of li fe, health changes over the last year, were positively correlated with stronger s ense of the community. However, marital status and num ber of people living in the same household were negatively correlated with levels of the sense of community among participants (Table 4).

Older age (r = 0.11, P < 0.001), being female (r = 0.08, P < 0.001), living with fewer people (r = –0.22, P < 0.01), having higher levels of income (r = 0.08, P < 0.001), being unmarried (r = –0.06, P < 0.001), having more children (r = 0.11, P < 0.001), having been in U.S. for more years (r = 0.12, P < 0.001), longer residency in the community (r = 0.15, P < 0.01), higher overall health status (r = 0.18, P <0.001), better quality of life (r = 0.23, P <0.001), and improved health in the past (r = 0.11 P < 0.001) were significantly correlated with the higher levels of the sense of community.

Table 3. Endorsement of sense of community index.

	Strongly disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly agree (%)
I think my neighborhood is a good place for me to live	11 (0.4)	114 (3.6)	291 (9.3)	1,878 (59.9)	841 (26.8)
People in this neighborhood do not share the same values	27 (0.9)	727 (25.2)	821(28.5)	1,006 (34.9)	303 (10.5)
My neighbors and I want the same things from this neighborhood	7 (0.2)	410 (14.1)	695(23.8)	1,300 (44.6)	504 (17.3)
I can recognize most of the people who live in my neighborhood	160 (5.1)	780 (25.0)	484(15.5)	1,326 (42.4)	375 (12.0)
I feel home at this neighborhood	41 (1.3)	214 (6.8)	312(10.0)	1,784 (57.0)	778 (24.9)
Very few of my neighbors know me	328 (10.6)	1,417 (45.8)	541(17.5)	671 (21.7)	135 (4.4)
I care about what my neighbors think of my actions	1,046 (33.6)	1,256 (40.4)	310(10.0)	447 (14.4)	52 (1.7)
I have almost no influence what this neighborhood is like	69 (2.2)	431 (13.9)	279(9.0)	1,563 (50.3)	768 (24.7)
If there's a problem in the neighborhood, people living here can get it solved	27 (0.9)	430 (14.4)	765 (25.7)	1,507 (50.6)	248 (8.3)
It is very important to me to live in this particular neighborhood	23 (0.7)	215 (6.9)	419 (13.4)	1,727 (55.3)	738 (23.6)
People in this neighborhood generally don't get along with each other	421 (13.7)	1,834 (59.5)	416 (16.5)	360 (11.7)	52 (1.7)
I expect to live in this neighborhood for a long time	50 (1.6)	214 (6.8)	413 (13.2)	1,220 (39.0)	1,235(39.4)

Table 4. Correlations between the levels of sense of community and socio-demographic variables.

	Age	Sex	Edu	Income	MS	Living	Children	Yrs in U.S.	Yrs in Com	Origin	OHS	QOL	HC	Comm.
Age	1.0													
Sex	0.01	1.0												
Edu	-0.12***	-0.21***	1.0											
Income	0.05**	0.00	0.01	1.0										
MS	-0.33***	-0.32***	0.22	-0.03	1.0									
Living	-0.35***	-0.07***	0.02	0.16***	0.24 ***	1.0								
Children	0.32***	0.09 ***	-0.38***	0.00	-0.13***	-0.07***	1.0							
Yrs in U.S.	0.35 ***	0.03	-0.10***	0.35***	-0.2***	-0.31***	0.15***	1.0						
Yrs in com	0.23 ***	0.02	-0.11***	0.24***	-0.13***	-0.18***	0.10 ***	0.66***	1.0					
Origin	0.04*	-0.01	-0.08***	-0.20	0.05 **	0.05**	0.04*	-0.2***	-0.15***	1.0				
OHS	0.08***	0.06 **	-0.06***	-0.12***	-0.05**	0.00	0.00	0.01	-0.05*	0.03	1.0			
QOL	-0.06***	-0.05**	-0.09***	-0.08***	0.03	0.01	-0.04*	0.00	0.02	0.04*	0.32***	1.0		
HC	0.11***	0.03	-0.02	-0.05**	-0.07***	-0.01	0.02	0.04*	-0.03	0.00	0.35***	0.15***	1.0	
Comm.	0.11***	0.08***	-0.03	0.08***	-0.06***	-0.22***	0.11***	0.12***	0.15***	0.02	0.18***	0.23***	0.11***	1.0

Notes: Edu = Education; Children = Number of children; MS = Marital status; Living = Living arrangement; Yrs in U.S. = Years in the US; Yrs in com = Years in the community; Origin = Country of origin; OHS = Overall health status; QOL = Quality of life; HC = Health changes over the last year; Comm= Sense of community. *$P < 0.05$, **$P < 0.01$, ***$P < 0.001$.

4. Discussion

The PINE study represents the first lar ge scale population–based epidemiological study that exam ined the psychological sense of comm unity among community-dwelling U.S. Chinese older adults. Our fi ndings indicate that older age, being fe male, having higher levels of incom e, being unmarried, longer residency in the community, better self-reported health were p ositively correlated with higher se nse of community in the study population.

Our results suggest that Chinese older adults in this study sa mple reported a strong sense of co mmunity. When exa mining older a dults' overall sense of community in their neighborhood, and their overall sense of satisfaction via their desire to continue living in the neighborhood,

78.4% expressed their desire to continue living in the community as long as possible, and 86.7% of the participants reported satisfaction with the current neighborhood. In addition, previous study on minority older adults also suggest that immigrant older adults who had a shorter stay in the U.S. had more negative perception of health and the community [14]. Conversely, in a community–dwelling sample of Italian adults and older adults, the years of residence was positively correlated with the sense of community ($r = 0.09$, $P < 0.05$) [8]. Building on previous findings, our study support the notion that Chinese older adults' longer length of residence in the community were significantly correlated ($r = 0.15$) with stronger sense of community. Taken together, our findings contribute to searching for ways to strengthen the social fabric within development of sense of community, and that the sense of community can be utilized as a tool for fostering greater social bonding [21]. Where community means more than the residency outside of a geographic boundary, strategies can be introduced to allow therapeutic benefits of community to allow empowerment among Chinese older adults.

Consistent with previous studies, our results further suggest that there exist positive correlations between sense of community and self-reported health. Existing studies among older adults suggest that the sense of community belongingness influence older adults self-perceived health, including aspects in both physical and mental health [12,22,23]. With respect to racial/ethnic older adults, a study with Korean American older adults in New York City pointed out that the subjective perceptions of the community environment affected older adults' self-reported physical and mental health, and that older adults who are less satisfied with their neighborhood environment were more likely to have negative perceptions of health and depressive symptoms [14]. The results of the present study among U.S. Chinese older adults confirm earlier findings that the older adults' psychological sense of community was closely correlated with three subjective self-reported health variables, among which correlation with the quality of variable showed strongest correlation strength ($r = 0.23$). In-depth investigations are needed not only to understand the mechanisms underlying sense of community and health, but also disentangle associations with different aspects of physical, mental, and social well-being of U.S. Chinese older adults.

Although the present study contributes to the nascent literature on the sense of community, the result of this study should be interpreted with limitations. First, the PINE study sample is representative of Chinese older adults in the greater Chicago. Caution is advised when generalizing from these findings to other Chinese American older populations in the country or in Asian societies. In addition, the present study used quantitative methodology and cannot explore the subjective experiences of the sense of community among community-dwelling older adults. Future research employing mixed-method approach is needed to enlighten the cultural conceptualization of community among U.S. Chinese older adults. Third, this study is cross-sectional designed, and we could not postulate on the potential temporal relationships. Future longitudinal studies are called for to examine the risk/protective factors and outcomes associated with the sense of community in Chinese older adults.

Our study has several practice implications. First, community has the potential to enhance older adults' overall health and well-being. Our study results suggest that neighborhood characteristics should be taken into consideration in developing community-based policies for racially/ethnically diverse populations. In addition, further empirical research should explore racial/ethnic-specific mechanisms, including cultural beliefs and values, that may help illuminate how community is associated with specific components of self-perceived health.

Second, previous studies have identified the important role that neighborhood context may play in the development of the sense of the community. Evidence suggests that a commonly held sense of

community may occur within a specific urban neighborhood and specific contexts [3,5]. However, to date we know very little regarding the relationship between an immigrant neighborhood and the psychological sense of community in the Chinese communities in Chicago. The present study suggests that relationship between the sense of community and health merits greater theoretical and empirical attention.

Third, from the perspectives of community empowerment, involving older adults in community-based participatory research design and collaboration may not only contribute to a sense of community co-ownership, but also help foster the sense of membership and influence, in which both are the core elements of the sense of community. We further postulate this novel research module may have the potential to call for a paradigm shift in designing and implementing population-based aging research pertaining to the racially/ethnically diverse populations, and may contribute to a new generation of population-based study design [24,25].

5. Conclusions

The study investigation provided the basis for generating empirical knowledge for understanding the sense of community among U.S. Chinese older adults. Future longitudinal studies are needed to explore the risk/protective factors and health outcomes associated with the sense of community in the increasing diverse aging populations.

Conflict of Interest

The authors report no conflict of interest associated with this research article.

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