

Social Support Networks and Quality of Life of Rural Men in a Context of Marriage Squeeze in China

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Abstract

A significant number of rural Chinese men are facing difficulties in finding a spouse and may fail to ever marry due to a relative scarcity of women in the adult population. Research has indicated that marriage squeeze is a stressful event which is harmful to men's quality of life, and also weakens their social support networks. Using data collected in rural Chaohu city, Anhui, China, this study explores the effects of social support networks on quality of life of rural men who experience a marriage squeeze. The results indicate that the size of social contact networks is directly and positively associated with the quality of life of marriage-squeezed men, and moderate the negative effect of age on quality of life. Having no or limited instrumental support network and social contact network are double-edged swords, which have direct negative associations with the quality of life of marriage-squeezed men, and have moderate effects on the relationship between marriage squeeze and quality of life.

Keywords

marriage squeeze, social support networks, quality of life, rural men

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China is among the very few countries in the world with a higher proportion of men than women in its population, especially in some age groups (Li, Jiang, & Feldman, 2014; Ebenstein & Sharygin, 2009; Das Gupta, Ebenstein, & Sharygin, 2010). For instance, among the never-married adults aged 30–39 years old at China's 2010 census, the sex ratio was 278 men to 100 women at national level; while in rural areas, it reached 411 (PCO, 2012). China is thus facing an unprecedented situation in the documented history of human populations, both in scale and its lasting impact on society and individuals (Attané, 2013). A consequence of the high male-to-female ratio in the adult population is a reduced availability of female partners affecting the heterosexual partnership market, since there are more men than women expected to look for a heterosexual partner. Therefore, an assumption is that, in a context of reduced availability of never-married women relative to never-married men, a share of Chinese men may fail to ever find a wife (Das Gupta et al., 2010; Attané, Zhang, Li, Yang, & Guilmoto, 2013). As women tend to marry men of higher socioeconomic status, the men living in remote rural areas and at the lower end of the social strata may be least attractive to women and are

more likely to be squeezed out of the marriage market (Wei & Zhang, 2011).

But the inability to get married is not a trivial issue in contemporary China, where a high value is placed on marriage. The majority of young men and women continue to think that when they reach adulthood, they should marry, to the extent that for Ownby (2002), "In the eyes of the majority of Chinese, a never-married man is neither truly adult, nor truly a man." There is (almost) no alternative to heterosexual marriage which remains a prerequisite for family formation in Chinese society (Yu & Xie, 2015). As marriage conditions access to various family and social prerogatives, thus marking a dichotomy between married and unmarried adults, unmarried men

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and women always undergo social and family pressure to marry (Attané et al., 2013; Eklund, 2013). Celibacy beyond a certain age is socially stigmatized for both men and women (Li et al., 2014). It has been identified that, as a consequence, failure to marry is associated with a wide array of frustrations, including sexual, emotional, familial, and lack of social recognition (Attané et al., 2013; Eklund, 2013; Li, Zhang, Yang, & Attané, 2010). Research in the west has indicated that marriage would provide individuals with better protection through increased economic resources, emotional support, better health, and supervision to live a healthier life (Umberson, 1992; Coyne et al., 2001; Schoenborn, 2004). Thus, as the sex imbalance in never-married population reduces the marriage opportunities of socioeconomically disadvantaged men, this study wants to analyze the relationship between their quality of life and social support variables in a context where marriage remains the prevailing norm (Yu & Xie, 2015).

Literature Review and Research Hypotheses

Quality of life is a comprehensive concept describing individuals' perceptions of various aspects of their personal situation, including their physical health, mental status, self-care ability, social relations, and adaptation to their environment (WHOQOL Group, 1999). Research has indicated that social support promotes individuals' physiological and psychological health outcomes as it influences their health behaviors, or their level of stress and depression (Berkman, 1995; Bajaj et al., 2007). Cohen and Wills (1984) put forward two models to explain the relationship between social support and individual health and well-being: the *main-effect model*, which posits that social support has a direct effect on individuals' health and well-being, regardless of the potentially adverse effects of stressful events, and the *stress-buffering model*, which hypothesizes that social support moderates the negative effects of stressful events on individuals' health and well-being. Most studies indicated that social support had a positive effect on health and well-being, as social relations would moderate the negative effects of stress (Abdallah & Stoll, 2012); relationships with family members, friends, or relatives would thus be strong determinants of a happy life and improved psychological health (Li, 2007; Kroenke et al., 2013). However, some studies suggested that social relationships could also negatively influence individuals' health and well-being, as they could generate pressure, conflicts, and frustration, or provide ineffective assistance (Kawachi & Berkman, 2001; Helgeson, 2003).

Social support is a multidimensional concept. From a social network perspective, it is a set of individuals or

groups who are joined together by relationships that serve as channels through which physical, instrumental, material, or emotional resources may flow (Balaji et al., 2007). Social networks can be measured first, using their structure: size (the number of individuals in network), density (the degree to which an individual's relationships are intertwined with one another), composition (the classification of ties in a network by type, such as friends or family), and homogeneity (the proportion of ties with the same characteristics); and second, using their functional aspects including the provision of resources from networks members (such as instrumental support, emotional support, and informational support) (Helgeson, 2003; Balaji et al., 2007). This study examines both some structure and functional aspects of the social support networks of men who have never been married and who declare that they faced or are facing difficulties in finding a wife (called hereafter the "marriage-squeezed men"); more specifically, it considers instrumental support network and social contact network to evaluate the functions of social support networks and measure the size and composition of these two networks. Instrumental support refers to the tangible aid (goods, money, or services) provided by network members, which can provide the marriage-squeezed men with help, and social contact refers to the act of contacting network members who are expected to accompany them on a variety of activities (Li & Li, 2011).

Social Support Networks and Quality of Life for Marriage-Squeezed Men: A Relationship Still Empirically Unexplored in China

The male marriage squeeze empirically proved to be a stressful life event that negatively influences men's quality of life. Han et al. (2014) reported for South Korea that marriage was associated with a better quality of life among never-married men (Han, Park, Kim, Sun, & Park, 2014). Available literature mainly focused on some aspects of the well-being of marriage-squeezed men, such as their life satisfaction, mental health, sexual activity, and quality of life (Li & Li, 2011; Yang, Attané, Li, & Yang, 2012; Yang, Li, Attané, & Feldman, 2016). However, little empirical research examined the relationship between social support and well-being for marriage-squeezed men. To our knowledge, only Li and Li (2011) measured the size and composition of social support networks, and investigated the impact of social support networks on life satisfaction and depression symptoms of rural bachelors aged 28 or above. It was reported that the size and composition were not significantly associated with their life satisfaction, but that their larger instrumental support network and non-kin social contact network could decrease their depression symptoms.

A recent study in China also reported that never-married men aged 28 or above and those who perceived themselves as being marriage-squeezed had a lower quality of life than the other men (Yang et al., 2016). However, the relationship between social support networks and quality of life for marriage-squeezed men is still unexplored in China.

The Size of Social Support Networks and the Quality of Life for Marriage-Squeezed Men

Although the relationship between social support networks and quality of life of marriage-squeezed men in China has not been investigated yet, specific links between social support networks and health outcomes among other groups (e.g., women, older persons, and patients) have been established (Helgeson, 2003; Balaji et al., 2007), which provide some empirical background for this study. In particular, it has been reported that a high level of social integration can directly exert positive psychological states, such as a sense of purpose, belonging, and security, as well as recognition of self-worth. These positive psychological states can contribute to individuals' better health outcomes by improving their adaptive behavior and increasing their motivation for self-care (Caplan, 1974; Kawachi & Berkman, 2001). Generally, the larger size of social support networks, the higher level of integration in a social network. Indeed, the networks size has been identified to be a significant predictor of mental health, life satisfaction, and endocrine responses facing stressful events or other health hazards (Acock & Hurlbert, 1993; Caplan, 1974)

In most relevant studies, larger and more supportive networks are associated with lower levels of stress, with greater sense of psychological well-being and self-efficacy, and higher quality of life (e.g., Balaji et al., 2007; Orwelius et al., 2011; Roick et al., 2014). By contrast, poor social networks or social isolation are associated with a lower quality of life, with worse psychological and physical health, and with higher mortality rate (House & Umberson, 1988; Suchyta, Beck, Key, Jephson, & Hopkins, 2008; Balaji et al., 2007; Roick et al., 2014). From these findings, it can be expected that larger social support networks may be beneficial to the quality of life of marriage-squeezed men in our sample.

Apart from the main-effect of networks size, as noted previously, social support has also been theorized as a kind of protective moderator or buffer, which can prevent or mitigate individuals' responses to stressful events that are harmful to health (Cohen & Wills, 1984; Kołodziej-Zaleska & Przybyła-Basista, 2016). This would also pertain to the marriage-squeezed men in our sample.

Social support networks may play several roles in the pathway between stressful events and their potential

impact on health outcomes. First, the perceived availability of social support when confronted with stressful events may lead to a more optimistic appraisal of the situation, which can decrease the intensity of negative original assessments and prevent producing a series of negative emotional and behavioral responses. Then received support from networks can improve individuals' ability to cope with and adapt to such events, thereby accelerating the recovery process (Kawachi & Berkman, 2001; Myhren et al., 2009; Kołodziej-Zaleska & Przybyła-Basista, 2016). Research that explored the relationships between marital status, social support, and mental health reported that social support had a moderating effect on psychological distress when confronted with marital loss, for example, divorce or widowhood (Hewitt, Turrell, & Giskes, 2012; Soulsby & Bennett, 2015; Kołodziej-Zaleska & Przybyła-Basista, 2016). For instance, Hewitt et al. (2012) reported that high levels of social support could weaken the negative consequences of widowhood on men's mental health, and that conversely low levels of social support exaggerated such negative consequences of widowhood.

For marriage-squeezed men, a larger social support network means that they have more people to rely on or talk to, thereby receiving more support in daily life associated with more frequent connections with their network members; this would make them feel less isolated and lonely due to their inability to get married, thus contributing to the improvement of quality of life. By contrast, smaller network size would make them feel more isolated and lonelier, thus leading to a poorer quality of life as compared to the others (Hewitt et al., 2012). That is, the marriage squeeze may have a differential impact on men's quality of life, depending on the size of their social support networks.

The Composition of Social Support Networks and the Quality of Life for Marriage-Squeezed Men

A social network includes different types of ties between its members, and the characteristic and significance of each tie differ greatly (Kawachi & Berkman, 2001). Member ties in a network can be divided into strong ties (intimate, usually kin ties) and weaker ties (usually non-kin ties) by the tie-strength (Lin, 1999), all of them being positively associated with health outcomes (Balaji et al., 2007; Symoens, Velde, Colman, & Bracke, 2014).

Specifically, strong ties are the most reliable and dependable relationship, as they are the source of spontaneous support. They can benefit health outcomes by improving individuals' coping abilities and life satisfaction, and decreasing their feelings of depression (Balaji et al., 2007; Symoens et al., 2014). Although less efficient than

strong ties, weak ties can also provide a sense of belonging and social identity, and increase a sense of control over the situation, thereby promoting the psychological well-being (Burt, 1987; Kawachi & Berkman, 2001). Strong ties and weak ties are complementary. Strong ties (usually kin ties) tend to be more homogenous, whereas weak ties (usually non-kin ties) are more diverse regarding their resources and exchange channels (Lin, 1999).

Some studies reported that strong ties and weak ties had an independent influence on individuals' mental health (Lin, 1999; Kawachi & Berkman, 2001). Furthermore, Litwin (2001) derived five different member compositions in a network: diverse, friend focused, neighbor focused, family focused, and restricted. Subsequent studies reported that the individuals with diverse networks had the best health, while those with restricted networks had the poorest mental health, the least physical activity, and the highest level of mortality (Litwin, 2003; Litwin & Shiovitz-Ezra, 2006; Fiori, Antonucci, & Cortina, 2006; Cheon, 2010). From these findings, it can be expected that marriage-squeezed men with both kin and non-kin ties in their social support networks would report a better quality of life, while those with only kin or non-kin support, or with no support at all, would report a lower quality of life.

There is also little research demonstrating the moderating role of support from extended family and friends on the relationship between marital status and psychological well-being (Edwards, Nazroo, & Brown, 2016; Pateraki & Roussi, 2012; Kołodziej-Zaleska & Przybyła-Basista, 2016). Edwards et al. (1998), and Pateraki and Roussi (2012) reported that people with a low level of marital satisfaction who received a significant social support from the extended family members or friends were less likely to experience depressive symptoms. Kołodziej-Zaleska and Przybyła-Basista (2016) also reported that individuals who received supports from their family or friends after divorce were in better psychological shape and had fewer health problems.

For marriage-squeezed men in our sample, it can be assumed that those who receive support and accompaniment from family members, relatives, or friends, would face less anxiety and depression symptoms due to their difficulty in getting married, thereby contributing to an improved quality of life as compared to the others. In other words, the composition of instrumental support and social contact networks may influence the relationship between marriage squeeze and quality of life of rural men in our sample.

This study aims to examine whether the size and composition of instrumental support network and social contact network would be related to the quality of life of marriage-squeezed men; and whether the relationship between marriage squeeze and quality of life would be

influenced by these two networks' size and composition. Therefore, based on the above discussion and inferences, four hypotheses are proposed:

Hypothesis 1: *The size of instrumental support and social contact networks has a direct and positive impact on the quality of life of marriage-squeezed men.*

Hypothesis 2: *A larger size of instrumental support and social contact networks would moderate the negative effects of marriage squeeze on men's quality of life in our sample.*

Hypothesis 3: *In instrumental support and social contact networks, when men have only kin or non-kin members, or have no support at all, there is a direct and negative impact on their quality of life, which is expected to be worse than for those who having both kin and non-kin members in their networks.*

Hypothesis 4: *Compared with having both kin and non-kin members in instrumental support and social contact networks, having only kin or non-kin, or having neither of them can exacerbate the negative effects of marriage squeeze on men's quality of life.*

Methods

Survey and Procedures

The survey was conducted in January 2015 in Chaohu City, Anhui. Chaohu City has a medium level of economic development in comparison to the rest of China. In 2013, Chaohu includes about 0.78 million permanent residents, with the sex ratio of 106.3 men for 100 women in total population and of 155.2 men for 100 women in the never-married population aged 15 and above.

The survey used stratified sampling methods. First, the 18 sub-towns of Chaohu City were gathered into four groups based on their levels of economic development. A single town was selected in each of these four groups, and then, six villages were randomly selected in each town. The age of 28 years is considered as a threshold for rural men beyond which their marriage opportunities decline significantly, as indicated by other studies (Yang, Attané, Li, & Yuan, 2011). Respondents were then divided into four groups: married and never-married men aged 20–27 years, and married and never-married men aged 28–65 years.

Chaohu Health and Family Planning Bureau and the four town governments gave considerable support to the survey process, such as providing venues, vehicles, and a list of names of never-married men aged 28 years old and above (there are only about nine never-married men aged 28–65 years in every village, so as much as possible, the investigators tried to invite them all). All potential respondents were invited to local schools or villages'

activity rooms, where they were informed about the contents of the questionnaire and survey aims, as well as their right to cancel participation at any time. After giving their consent, the investigators administered a questionnaire, which they were asked to complete and return immediately. If respondents had any questions about the questionnaire as they filled it out, they could ask the investigators. None of the questionnaires asked for private information, such as respondents' names or telephone numbers. Small gifts were prepared for every respondent to express the investigators' gratitude. Ultimately, 1,053 valid questionnaires were received; the sample characteristics are presented in Table 1.

Measurements

Quality of life. To measure the quality of life in our sample, this study used WHOQOL scale (WHOQOL-BREF), which has been widely used among various populations and has a high internal consistency (Webster, Nicholas, Velacott, Cridland, & Fawcett, 2010; Krägeloh et al., 2013). This scale includes 26 items, of which 2 measure the overall quality of life and health. The remaining 24 items are classified into 4 domains: physical health (seven items), psychological health (six items), social relationships (three items), and issues related to environment (eight items). After the reversal of scoring of the three negatively worded items, all items were summed up to a total ranging from 39 to 130, with higher scores indicating a better quality of life. The Cronbach's α coefficient (Coef.) in this study was 0.864, indicating a good reliability.

Marriage squeeze. Yang et al. (2016) pointed out that marriage squeeze is a macro-level concept that can hardly be defined at the individual level. However, research in social psychology has provided a method for converting a macro-level concept into an individual-level concept: namely, the social cognitive theory, which explains how individuals' cognitions are closely related to their surrounding environment (Bandura, 1986). Therefore, this study used the "perceived marriage squeeze" as a proxy of individuals' perceptions of their surrounding environment related to marriage squeeze. As marriage opportunities decline sharply after the age of 28 (Yang et al., 2011), this study considers that the never-married men aged 28 or above are more likely to be squeezed out of the marriage market. In total, three variables were used for measuring the marriage squeeze:

Age. This was a binary variable, scored as 0 if the individual was aged 20–27, and 1 if the individual was aged 28–65.

Table 1. Sample Characteristics ($n = 1,053$).

	Frequency	Percentage (%)
Age		
20–27	392	37.23
28–65	661	62.77
Marital status		
Never married, live alone	427	40.55
Never married, live with parents or others	25	2.37
Never married, but have a fiancée	11	1.04
Married	555	52.71
Remarried	12	1.14
Divorced	17	1.61
Widowed	6	0.57
Educational attainment		
No education	45	4.42
Primary school	163	15.66
Junior high school	396	38.04
Senior high school	259	24.88
Undergraduate and above	177	17.00
Income		
Less than ¥5,000	232	22.48
¥5,000–10,000	118	11.43
¥10,000–20,000	215	20.83
¥20,000–30,000	160	15.50
¥30,000–40,000	95	9.21
¥40,000–50,000	92	8.91
¥50,000–60,000	63	6.10
¥60,000–80,000	33	3.20
¥80,000–100,000	15	1.45
more than ¥100,000	9	0.87

Marital status. This was a binary variable, scored as 0 = *married* (including married, divorced, and widowed) and 1 = *never married*.

Perceived marriage squeeze. This was determined by asking participants to answer *no* (scored as 0) or *yes* (scored as 1) to the following questions: "Do you feel that it is difficult for you to get married?" to never-married men and "have you ever felt that it was difficult for you to get married?" to married men.

Social support networks. The questionnaire used for this study is inspired from Van der Poel (1993) for measuring social support networks. The instrumental support and social contact networks were used to measure the functions of social support networks. These two networks were measured using the questions: "If you want to borrow something (like money, pliers, or daily necessities) or seek help (like for moving furniture or

buying groceries), whom do you usually go to?” “If you want to chat, drink, play cards, or watch movie, with whom do you usually go?” respectively. Then the size and composition of these two networks (from the perspective of network structure) were measured as follows:

Network size. This was a continuous variable measuring the total number of persons that respondents usually sought out for help (instrumental support) or accompaniment (social contact).

Network composition. The respondents were asked to choose the items describing the composition of their instrumental support and social contact networks from eight options: family members and relatives, fellow villagers, friends and online friends, leaders and workmates, and others. The first two sets of individuals were grouped as “kin” and the remaining ones were grouped as “non-kin.” The composition of each network was measured as 0 = *have both*, 1 = *only kin*, 2 = *only non-kin*, and 3 = *neither*.

Control variables. Educational attainment and annual income—commonly used measure of socioeconomic variables—were also included as control variables. Educational attainment was a categorical variable measured as follows: 0 = *primary school and below*, 1 = *junior high school*, and 2 = *senior high school and above*. Annual income was also a categorical variable, measured as 0 = *less than ¥10,000*, 1 = *¥10,000–30,000*, and 2 = *more than ¥30,000*.

Analysis Strategies

First, the cross-tabulation tables, Pearson’s χ^2 test, analysis of variance (ANOVA), and independent sample *t*-test were used to report the current quality of life and social support networks of marriage-squeezed men in our sample.

This study uses moderation analyses to identify the role of social support networks in the relationship between marriage squeeze and quality of life. Moderation analyses test the buffering hypotheses to see if the direction and strength of the causal relationship between marriage squeeze and quality of life vary depending on the social support networks. Moderation is indicated by the significant effect of XZ when X and Z are controlled (Baron & Kenny, 1986). Quality of life was used as the dependent variable (Y), marriage squeeze as a predictor variable (X), and social support networks as the potential moderating variable (Z).

This study employed ordinary least squares regression and created six models. Specifically, Models 1 and 2 were benchmark models: Model 1 estimated the influence of

educational attainment and annual income on quality of life, while Model 2 examined the influence of marriage squeeze on quality of life after controlling for educational attainment and annual income. Then, to avoid multicollinearity, separate models for each type of support network were constructed (Models A3 and A4, B3 and B4). Model A3 added the size and member composition of instrumental support network to the variables in Model 2 in order to measure the direct effect of instrumental support network on quality of life among marriage-squeezed men. By contrast, Model A4 added the interaction terms between marriage squeeze and instrumental support network to examine the moderate role of instrumental support network in marriage squeeze-quality of life relationship. Models B3 and B4 were the same as Models A3 and A4, except they included social contact network variables and their interactions. In these models, the networks size was centered by subtracting their means, given that they were continuous variables.

Results

Quality of Life and Social Support Networks of the Marriage-Squeezed Men

Table 2 reports the current quality of life and social support networks for marriage-squeezed men in our sample.

Quality of life. Among the four groups of men defined by age and marital status, the mean WHOQOL-BREF scores of never-married men aged 28–65 were significantly lower than those of the other three groups ($F = 28.44$, $p < .001$). The mean WHOQOL-BREF scores of men who perceived a marriage squeeze were also significantly lower than those of men who did not perceive such a marriage squeeze ($t = 9.39$, $p < .001$).

Size of social support networks. For instrumental support network and social contact network, the mean size of that of never-married men aged 28–65 was significantly smaller than that of the other three groups (Instrumental: $F = 4.19$, $p < .01$; Social contact: $F = 6.60$, $p < .01$). The mean network size of men who perceived a marriage squeeze was also significantly smaller than that of men who did not perceive such a marriage squeeze (Instrumental: $t = 0.86$, $p < .01$; social contact: $t = 4.21$, $p < .001$).

Composition of social support networks. Overall, for instrumental support and social contact networks, the percentage of men having both kin and non-kin was significantly lower among never-married men aged 28–65 than that of the other three groups, whereas the percentages of those having only kin or non-kin or no

Table 2. The Comparison of Quality of Life and Social Support Networks Among Men by Marriage Squeeze Variables.

	Men aged 20–27		Men aged 28–65		Perceived marriage squeeze	
	Married	Never married	Married	Never married	No	Yes
Quality of life	92.10 (13.43)	94.70 (13.16)	90.84 (12.09)	83.98 (13.69)	93.14 (12.77)	85.02 (12.82)
<i>F/t-test</i>	$F = 28.44^{***}$				$t = 9.39^{***}$	
Instrumental support network	6.81 (7.37)	7.28 (10.40)	5.69 (7.24)	4.62 (7.37)	6.56 (8.38)	4.89 (7.99)
<i>F/t-test</i>	$F = 4.19^{**}$				$t = 0.86^{**}$	
Composition: both kin and non-kin	114 (77.03%)	186 (78.15%)	262 (61.79%)	89 (41.40%)	476 (70.31%)	153 (49.51%)
Only kin	16 (10.81%)	18 (7.56%)	77 (18.16%)	64 (29.77%)	94 (13.88%)	73 (23.62%)
Only non-kin	18 (12.16%)	33 (13.87%)	78 (18.40%)	46 (21.40%)	99 (14.62%)	68 (22.01%)
Neither	0 (0.00%)	1 (0.42%)	7 (1.65%)	16 (7.44%)	8 (1.18%)	15 (4.85%)
χ^2 test	$\chi^2 = 103.92^{***}$				$\chi^2 = 45.36^{***}$	
Social contact network	7.51 (10.95)	6.59 (8.97)	5.20 (4.91)	4.35 (5.42)	6.28 (8.21)	4.38 (4.93)
<i>F/t-test</i>	$F = 6.60^{**}$				$t = 4.21^{***}$	
Composition: both kin and non-kin	65 (43.92%)	106 (45.30%)	163 (38.63%)	54 (24.88%)	285 (42.41%)	89 (28.71%)
Only kin	6 (4.05%)	7 (2.99%)	47 (11.14%)	30 (13.82%)	52 (7.74%)	33 (10.65%)
Only non-kin	77 (52.03%)	119 (50.85%)	198 (46.92%)	107 (49.31%)	323 (48.07%)	159 (51.29%)
Neither	0 (0.00%)	2 (0.85%)	14 (3.32%)	26 (11.98%)	12 (1.79%)	29 (9.35%)
χ^2 test	$\chi^2 = 82.33^{***}$				$\chi^2 = 42.09^{***}$	

Note. Significance level: ***0.1%. **1%. *5%. + 10%.

support at all were relatively higher (instrumental: $\chi^2 = 103.92$, $p < .001$; social contact: $\chi^2 = 82.33$, $p < .001$). The percentage of men who perceived a marriage squeeze having both kin and non-kin was also all significantly lower than the percentage among men who did not perceive such a marriage squeeze. By contrast, the percentages of those having only kin or non-kin members or having no support at all among the former group were all significantly higher than these among the latter group (instrumental: $\chi^2 = 45.36$, $p < .001$; social contact: $\chi^2 = 42.09$, $p < .001$).

Influence of Social Support Networks on Quality of Life for Marriage-Squeezed Men

The Relationship Between Marriage Squeeze and Quality of Life of Rural Men. The results of the regression analysis are presented in Table 3. In Model 1, educational attainment and annual income were significantly and positively associated with quality of life. The marriage squeeze variables were included in Model 2. After controlling for educational attainment and annual income, age and perceived marriage squeeze appeared to be significantly and negatively associated with the quality of life of rural men. The WHOQOL-BREF scores of men aged 28–65 were lower than those of men aged 20–27 (Coef. = -1.79 , $p < .1$), and the WHOQOL-BREF scores of men who

perceived a marriage squeeze were lower than those of men who did not (Coef. = -6.18 , $p < .001$).

Then the size and composition of instrumental support and social contact networks were added to Model A3 and Model B3, respectively. The relationship between age and quality of life became nonsignificant, whereas the relationship between perceived marriage squeeze and quality of life remained almost unchanged in terms of the regression coefficient, significance, and direction (Model A3: Coef. = -6.48 , $p < .001$; Model B3: Coef. = -6.38 , $p < .001$).

Hypothesis 1 tested. In Model A3 and Model B3, only the size of social contact network was significantly and positively associated with quality of life; the larger size of social contact network, the better quality of life (Coef. = 0.14 , $p < .1$).

Hypothesis 2 tested. The interactions between marriage squeeze and instrumental support network variables (size and composition) were involved in Model A4, as well as in Model B4 the interactions between marriage squeeze and social contact network variables were included.

Only in Model B4, the results reported that the interaction between age and social contact network size was marginally significant and positive (Coef. = 0.30 , $p < .1$). Because age was a dummy variable, its coefficient represented a mean difference. When the size of social contact

Table 3. The Impact of Marriage Squeeze and Social Support Networks on Quality of Life Among Rural Men.

	Model 1	Model 2	Model A3 (instrumental)	Model A4 (instrumental)	Model B3 (contact)	Model B4 (contact)
Educational attainment (reference: primary school and below)						
Junior high school	2.61*	0.69	-0.02	-0.05	-0.004	0.04
Senior high school and above	7.18***	3.93**	2.92*	2.86*	3.00*	3.02*
Annual income (reference: less than ¥10,000)						
¥10,000–¥30,000	2.61**	2.29*	2.34*	1.89+	2.57*	2.55*
More than ¥30,000	6.25***	5.22***	5.09***	4.80***	5.37***	5.20***
Age (reference: 20–27) 28–65		-1.79+	-1.20	0.65	-1.08	-1.28
Marital status (reference: married) never married		1.39	1.57	2.33+	1.77	1.51
Perceived marriage squeeze (reference: no) yes		-6.18***	-6.48***	-6.94***	-6.24***	-7.56**
Network size			0.02	0.03	0.14+	-0.08
Network composition (reference: have both kin and non-kin)						
Only kin			-3.23*	-6.77**	-3.02+	-0.64
Only non-kin			-0.74	-2.86	-1.68+	-0.69
Neither			-2.93	-0.65	-0.30	5.85+
<i>Marriage squeeze * Network size</i>						
Age * Size				0.09		0.30+
Marital status * Size				-0.03		0.18
Perceived marriage squeeze * Size				-0.07		-0.001
<i>Marriage squeeze * Network Composition</i>						
Age * Only kin				-9.60**		-11.60**
Age * Only non-kin				-3.95		1.68
Age * Neither				30.83+		-1.06
Marital status * Only kin				-2.25		-1.63
Marital status * Only non-kin				-3.14		0.13
Marital status * Neither				43.24**		1.58
Perceived marriage squeeze * Only kin				-0.08		7.42+
Perceived marriage squeeze * Only non-kin				1.78		0.05
Perceived marriage squeeze * Neither				-26.88*		13.48*
_cons	83.71	88.71	90.39	89.48	90.30	90.90
R ²	0.092	0.133	0.139	0.169	0.136	0.163
Adjusted R ²	0.088	0.127	0.128	0.145	0.124	0.139

Note. Significance level: ***0.1%. **1%. *5%. +10% (Except for the first column, in which * represents the interaction terms).

network was 0 (i.e., the mean value, 5.68), the difference in quality of life scores between men aged 28–65 and men aged 20–27 was -1.28. Then to better understand the effects of social contact network size, according to the suggestions of Aiken and West (1991), 0 was set as 5.68–7.27 (i.e., the mean - 1 SD) and 5.68 + 7.27 (mean + 1 SD) again, namely by subtracting the values 5.68–7.27 and 5.68 + 7.27 from the original network size to form two new network size variables. Then these two variables were used to compute the regression equation respectively. The results reported that when 0 corresponded to

the value 5.68–7.27, the mean difference in quality of life scores between the two age groups was -3.44; by contrast, when 0 corresponded to 5.68 + 7.27, the mean difference was 0.87. Taken together, the results indicated that with increasing size of social contact network, the negative effect of age on quality of life decreased.

Hypothesis 3 tested. In Model A3, the composition of instrumental support network was significantly and negatively associated with quality of life. Compared with men who had both kin and non-kin members in this network,

the WHOQOL-BREF scores among men with only kin were significantly lower (Coef. = -3.23 , $p < .05$).

In Model B3, the member composition of social contact network was also significantly related to quality of life. Compared with men who had both kin and non-kin in this network, men who had only kin or non-kin tended to have lower quality of life (kin: Coef. = -3.02 , $p < .1$; non-kin: Coef. = -1.68 , $p < .1$).

Hypothesis 4 tested. In Model A4, for instrumental support network, the interaction between age and only kin was significant and negative (Coef. = -9.60 , $p < .01$), suggesting that when men had only kin in their instrumental support network, the WHOQOL-BREF scores of men aged 28–65 were significantly lower than were those of men aged 20–27. The interaction between age and neither was significant and positive (Coef. = 30.83 , $p < .1$), indicating that among men whose instrumental support network contained neither kin nor non-kin (i.e., who had no such network), the WHOQOL-BREF scores were significantly higher among men aged 28–65 than among men aged 20–27. The interaction between marital status and neither was also significant and positive (Coef. = 43.24 , $p < .01$), which indicated that among men who reported neither kin nor non-kin in instrumental support network, the WHOQOL-BREF scores were significantly higher among never-married men than among married men. The interaction between perceived marriage squeeze and neither was significant and negative (Coef. = -26.88 , $p < .05$); that is, among men who reported neither kin nor non-kin, the WHOQOL-BREF scores of men who perceived a marriage squeeze were significantly lower than were the scores of men who did not. The adjusted R^2 visibly increased from 0.128 in Model A3 to 0.145 in Model A4.

In Model B4, for social contact network, the interaction between age and only kin was significant and negative (Coef. = -11.60 , $p < .01$), suggesting that when this network contained only kin, quality of life was significantly lower among men aged 28–65 than among men aged 20–27. The interaction between perceived marriage squeeze and only kin was marginally significant and positive (Coef. = 7.42 , $p < .1$), indicating that among men who had only kin, quality of life was higher among men who perceived a marriage squeeze than among men who did not. The interaction between perceived marriage squeeze and neither was significant and positive (Coef. = 13.48 , $p < .05$); that is, when men had neither kin nor non-kin in their social contact network, quality of life was significantly higher among those who perceived a marriage squeeze than among those who did not. The adjusted R^2 increased from 0.124 in Model B3 to 0.139 in Model B4.

Discussion and Conclusions

Marriage Squeeze is Detrimental to the Quality of Life of Rural Men

Table 2 preliminarily suggested that the never-married men aged 28–65 and those who perceived themselves as being marriage-squeezed would experience worse quality of life. In Table 3, Models 1 and 2 reported that scores of quality of life of men aged 28–65 were lower than those of the younger men (aged 20–27). The difference in quality of life between married and never-married men was not significant. The results are partially consistent with the expectations, and suggest that it is necessary to explore the influence of marital status on quality of life from a life course perspective. This is because, with increasing age, the relationship between marital status and quality of life changes (Schoenborn, 2004; Zella, 2017). A study in Canada examined the relationship between marital status transitions and health outcomes (including physical and mental health, which are two domains of quality of life), and identified that the transition from single to married had significant positive effects on men's health outcomes. However, as time passed, these positive effects gradually declined (Zella, 2017). The regression analysis indicated that perceived marriage squeeze had a significant negative effect on quality of life among rural men, which also conforms to the expectation. This finding implies that men who perceived a marriage squeeze may be more likely to perceive themselves as unmarriageable, which in turn negatively influence their psychological health and quality of life (Li & Li, 2012).

Marriage Squeeze Suppresses the Social Support Networks of Rural Men

For the networks size, the results in Table 2 indicated that the never-married men aged 28 or above and those who perceived themselves as being marriage-squeezed had smaller instrumental support and social contact networks. This result suggests that marriage squeeze would hamper men from getting social support as they would lack the benefits derived from their wife and children, which is consistent with previous findings (Li, Li, Wei, & Jiang, 2010). Indeed, wives generally play a dominant role in constructing and maintaining interpersonal relationships by attending various social occasions (e.g., weddings and funerals). This means that their absence would further reduce men's social contact circle. Men who cannot find a partner usually experience considerable pressures from society, such as discrimination, prejudice, and social exclusion, which may also cause them to avoid social interactions.

For the networks composition, the results of Table 2 reported that never-married men aged 28 or above and men who perceived a marriage squeeze had less frequently both kin and non-kin ties. By contrast, they were more likely to have only kin or only non-kin or neither of the two. These results suggest that the composition of social support networks of men who are not marriage-squeezed tend to be more diverse than those of men who are marriage-squeezed; among the latter group, the composition is more singular and unbalanced. Additionally, more marriage-squeezed men choose “non-kin” as a source of social support. This suggests that marriage-squeezed men may build more relations with non-kin as a substitute for the absence of wives and their relatives (Pinquart, 2003; Pateraki & Roussi, 2012).

Influence of Networks Size on Quality of Life for Marriage-Squeezed Men (Hypothesis 1 and Hypothesis 2)

In Table 3, Models A3 and A4 indicated that the size of instrumental support network had no direct or moderate effects on the quality of life for marriage-squeezed men, which do not support the Hypotheses 1 and 2 for the size of instrumental support network. One possible reason is that men’s quality of life does not benefit from the quantity of their network members but from the actual support offered in these relationships as instrumental support is more a situational factor that arises in response to stressful events. Its effective mechanism on health is mainly whether individuals can receive the specific supports and appropriate responses provided by network members (Uchino, 2009).

Models B3 and B4 indicated that the size of social contact network had a direct positive effect on men’s quality of life, and buffered the negative effect of age, which support the Hypotheses 1 and 2 for the size of social contact network. These results emphasize the importance of having sufficient people with which they can contact. Generally, social isolation is a risk to individuals’ well-being. The size of social contact network of marriage-squeezed men is larger, which means that their social integration is higher. This can help them pass the time and ease their loneliness, thereby improving their quality of life (Fiori et al., 2006; Golden, Conroy, & Lawlor, 2009).

Influence of Networks Composition on Quality of Life for Marriage-Squeezed Men

Effects of networks composition on the quality of life of marriage-squeezed men (Hypothesis 3). In Model A3, compared with having both kin and non-kin in instrumental

support network, having only kin was significantly and negatively associated with men’s quality of life; however, the negative relation between having only non-kin and quality of life was not significant. These results imply that the instrumental supports from non-kin are more important for men’s quality of life. This is probably because the homogeneity of kin networks tends to be higher and their resources are similar and often limited (Bian & Zhang, 2013). The negative association between having neither kin nor non-kin in this network and men’s quality of life was also not significant, possibly because the proportion of men with neither form of relations in the total sample was very small. Overall, the Hypothesis 3 for the composition of instrumental support network is partially supported.

In Model B3, compared with having both kin and non-kin in social contact network, having only kin or only non-kin was negatively associated with men’s quality of life, which again emphasizes the importance of having a wide range of social contacts. It is generally believed that building relationships with family, friends, and others can help individuals create a happy life, as having close connections with others can improve rural men’s coping ability and life satisfaction, which in turn can improve their quality of life (Balaji et al., 2007). The relation between having neither kin nor non-kin and quality of life was not significant, perhaps also because men with neither kin nor non-kin in their social contact network was a very small part in the current sample. Overall, the Hypothesis 3 for the composition of social contact network is partially supported.

The moderate effects of networks composition in marriage squeeze-quality of life relationship (Hypothesis 4). In models A4 and B4, for never-married men aged 28 years and above, the quality of life of men aged 28–65 was worse than that of men aged 20–27 when they all had only kin, regardless of the function of two networks. Having only kin in two networks would exacerbate the negative effect of age on quality of life. These results support the Hypothesis 4. As their age increases, rural men tend to have less contact with the community members; their social circle gradually stabilizes and even shrinks (Molton & Jensen, 2010; Wolff, Schmiedek, Brose, & Lindenberger, 2013; Jensen et al., 2014). Compared with men aged 20–27, men aged 28–65 who only have kin to provide instrumental support and contact may be at a significant risk of poor quality of life (Fiori & Jager, 2012). Most of those with neither kin nor non-kin in instrumental support network were men who were experiencing a marriage squeeze. When having neither kin nor non-kin (compared with having both) in their instrumental support network, men aged 28–65 tended to have better quality of life than did men aged 20–27 and the quality of life among never-married

men was also better than among married men. These results are contrary to the Hypothesis 4, perhaps because the negative effects of instrumental support network. For never-married men aged 28–65, the instrumental support network is a double-edged sword. They can receive tangible aids from network members, while they also need to provide tangible aids for other members. However, generally, their socioeconomic status are relatively lower and they own less resources. They may undertake heavy economic pressure and psychological burden, and the psychological gap resulting from interpersonal comparison during the process of providing mutual support. By contrast, having neither kin nor non-kin may avoid these negative effects, thereby contributing to their quality of life (Helgeson, 2003; Uchino, 2009; Li, Li, & Liu, 2015).

For men who perceived a marriage squeeze, having neither kin nor non-kin in their instrumental support network increased the negative effect of perceived marriage squeeze on quality of life (compared with having both kin and non-kin). This result is consistent with the Hypothesis 4, mainly because the positive effects of instrumental support network. Men who perceived a marriage squeeze receive instrumental support from network members, which can strengthen their confidence and reduce their perceived psychological pressure (Shumaker & Brownell, 1984; Fiori & Jager, 2012). By contrast, having no instrumental support network may increase their negative cognitions concerning lives, thus are detrimental to their quality of life. Having neither kin nor non-kin or having only kin in social contact network could decrease the negative effect of perceived marriage squeeze on quality of life. These results are contrary to the Hypothesis 4. Men who have only kin or have neither kin nor non-kin in their social contact network will likely have less frequent contact with others and a greater level of social isolation. This may reduce the pressure of interpersonal interaction and interpersonal comparison for men who perceived a marriage squeeze, thus contributing to improved quality of life (Li & Li, 2012).

From the above discussion, it can be concluded that, first, marriage squeeze, especially perceived marriage squeeze is an important stressful event that is detrimental to rural men's quality of life, and also weaken their social support networks. Second, for the size of social support networks, only the size of social contact network directly and positively influence the quality of life of marriage-squeezed men, and moderate the negative effect of age on men's quality of life. Third, for the composition of social support networks, compared with having both kin and non-kin, having no or limited instrumental support network and social contact network are double-edged swords. As for instrumental support network, compared with having both kin and non-kin, having only kin is directly and negatively associated with quality of life for

marriage-squeezed men. Having only kin would exaggerate the negative effect of age on men's quality of life, and having neither kin nor non-kin would exacerbate the negative effect of perceived marriage squeeze on men's quality of life. Nonetheless, having neither kin nor non-kin can moderate the negative effects of age and marital status on quality of life yet. As for social contact network, compared with having both kin and non-kin, having only kin or non-kin all are directly and negatively associated with quality of life for marriage-squeezed men, while having only kin also can exacerbate the negative effect of age on men's quality of life. However, having only kin and neither of them two would moderate the negative effect of perceived marriage squeeze on men's quality of life.

Limitations and Prospects

This study explored the effects of social support networks on quality of life for marriage-squeezed men. The conclusions imply that it is important to focus not only on the well-being of never-married men who fail to marry, but also the well-being of those who had experienced or are experiencing difficulties in finding a wife. Marriage-squeezed men have poor social support networks. Their quality of life can be improved by creating and expanding their social connections, as well as providing external instrumental supports for them.

This study has two limitations. One limitation is that data were collected in rural Chaohu, Anhui, which may not fully reflect the situation of the rest of China. Anhui province located in the east of China, with a higher economic growth and a lower degree of men's difficulty in getting married in comparison to the western provinces of China. By contrast, the marriage squeeze is more serious in less developed western rural areas (Das Gupta et al., 2010); for instance, the sex ratio among never-married population aged 15 and above in Shaanxi is 158.3 men per 100 women. The marriage-squeezed men in these areas have poorer living conditions. The social support networks thus may play a more important role in improving their quality of life. Another limitation concerns the description of the composition of social support networks, as this study only distinguished between kin ties and non-kin ties with no possibility to disaggregate the sample further (for instance, the kin ties could not be classified by whether they are close or distant).

Further analysis is needed: (a) to compare the results of the effects of social support networks on quality of life for marriage-squeezed men by using data collected in other parts of the country (west and central China); (b) to investigate the relationship between other social support variables (e.g., perceived social support and formal support) and quality of life of marriage-squeezed men, and

therein will involve other possible pressures resulting from marriage squeeze.


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