

Who are your Neighbors? Neighbor Relationships and Subjective Well-Being in Japan

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Abstract Supportive relationships with neighbors have been shown to positively predict indicators of subjective well-being. Using data from the 2010 Japanese General Social Survey, we examine how neighbor relationships predict subjective well-being. Japan presents an interesting case to examine this question when considering its highly institutionalized neighborhood associations. We find that controlling for the safety and amenity aspects of the neighborhood environment, supportive neighbor relationships significantly increase men and women's life satisfaction, but such relationships have a significant positive effect only on men's happiness. The effects of neighborhood relationships on life satisfaction and happiness are significantly larger for men. Moreover, we find that the social and safety aspects of the neighborhood reinforce each other to increase life satisfaction also only for men. Implications of the gendered pattern of these results are discussed for future research on the association between neighbor relationships and subjective well-being in Japan and beyond.

Keywords Neighbor relationships · Life satisfaction · Happiness · Japan

Neighborhoods have long received much attention in the research on social cohesion and related concepts of interpersonal relationship, civic participation, and the feelings of reciprocity (Bruhn 2005; Devereaux 1960; Fellin and Litwak 1963; Sampson 1988, 1991, 2012). Supportive relationships with neighbors are known to have a positive effect on indicators of subjective well-being including neighborhood satisfaction (Dassopoulos et al. 2012; Lee et al. 1991; Parkes et al. 2002; Sampson 1988, 1991), life satisfaction (Adams 1992; Sirgy and Cornwell 2002), and psychological affect (Robinette et al. 2013). Using data from the 2010 Japanese General Social Survey, we

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examine how relationships with neighbors predict life satisfaction in Japan. Given its tradition of mutual help and cooperation via neighborhood associations (NHAs), Japan presents an interesting case to examine the association between relationships with neighbors and life satisfaction. A large majority of households join an NHA, although participation in NHA activities (e.g., for children and the elderly) varies by demographic characteristics such as age and gender (Taniguchi and Aldikacti Marshall 2015; van Houwelingen 2012). As the country's welfare reform continues against the backdrop of declining fertility rate and an aging population, political actors are increasingly attempting to mobilize mutual assistance among neighbors governed by the NHAs and other similar groups (Pekkanen 2006; Vogt 2010). It is in this context that we examine the effects of relationships with neighbors and other aspects of the neighborhood on life satisfaction in Japan.

Background

Social Relationship and Subjective Well-Being

In most societies, supportive social relationships enhance subjective well-being. Social support offers its recipient feelings of self-worth and of connectedness to others (Sirgy 2012). However, the relational predictor of subjective well-being may be more important in Eastern societies. Uchida et al. (2004) highlight key differences in meanings of happiness in the West and the East. In the West, "personal achievement" is seen as the basis of happiness. Even "social" relationships are viewed as being built on individual choices, and maintaining one's independence is considered key to a high-quality relationship (Kitayama and Markus 2000; Lu and Gilmour 2004). In the East, by comparison, "realization of social harmony" is considered the foundation of happiness (Uchida et al. 2004). "Personal happiness" may be an oxymoron because "happiness is seen as an inter-subjective state that is grounded in mutual sympathy, compassion, and support" (Uchida et al. 2004, p. 226). Happiness, or more broadly, well-being is a social pursuit firmly based on relationships with others. Perhaps, more so in the East, in order to maintain a good relationship, one needs to connect with others and attain interdependence (Kitayama and Markus 2000; Lu and Gilmour 2004). Such abilities appear to matter more to predict subjective well-being of individuals in the East than West. Suh et al. (1998), for instance, found that the ability to fulfill relational commitments better predicts happiness in East Asia than in North America. Similarly, Oishi et al. (2000) showed that Asian Americans predicted their future life satisfaction based less on their own current life satisfaction than factors involving others, while European Americans revealed the opposite pattern. The same study replicated this Asian-European contrast by subliminally priming collectivism and individualism. Given Japan's collectivistic norm, "relational aspects of the self" (Suh et al. 1998, p. 484) is likely to be an important predictor of Japanese subjective well-being.

Relationships with neighbors are one type of social relationships that serve as an important predictor of subjective well-being. Researchers of social support have long argued that the spatial proximity of neighbors facilitates mutual support among them (Unger and Wandersman 1985). Support to neighbors may be tangible (e.g., lend a tool), instrumental (e.g. give a ride), emotional (e.g. commiserate), or informational

(e.g., give a referral). Individuals may feel that if they need help, they can rely on their neighbors, even if the possibility of needing their neighbors' help is low (Unger and Wandersman 1985). Supportive interactions are more likely to occur (or be expected to occur) among next-door neighbors than "more distant" neighbors, if only because of convenience. The breadth of one's neighbor network may depend on one's socioeconomic status. Campbell and Lee (1992), in their study of adults across 81 neighborhoods in Tennessee, USA, showed that high-SES persons had wider neighbor networks, whereas low-SES persons, with narrower networks, had more frequent and intense contact with their neighbors. Other research suggests that SES may affect the relative importance of relationships with neighbors. A study of employees in 11 private and public sector organizations in upper state New York found that among middle-class dual earner couples, interpersonal ties to neighbors were less common than coworkers ties that were not themselves strong (Dahlin et al. 2008).

Individuals may develop community attachment and the sense of the community via informal social networks and formal local institutions at the neighborhood level (Berry and Kasarda 1977; Hummon 1992; Kasarda and Janowitz 1974). The sense of community is defined variously, but its key ingredients are the perception of commonality with others, the acknowledgement of interdependence with others, and the feeling of being "part of a larger dependable and stable structure" (Sarason (1974), cited in Unger and Wandersman (1985), p. 155). Earlier research found a positive association between participation in neighborhood organizations (e.g., block group) and informal interaction among neighbors (Devereaux 1960; Fellin and Litwak 1963; Latessa and Allen 1980; Unger and Wandersman 1983). The association may be bidirectional, but some studies focused on community participation as a key predictor of neighbor interaction. For instance, Unger and Wandersman (1983), in their analysis of longitudinal data, revealed that the extent of neighboring increased among those who joined the block association and stayed the same for those who did not participate.

Japan has long had a custom of mutual aid through neighborhood associations (*jichikai*), and the practice is widespread (see Hastings (1995) for a discussion of the modern roots of the institution). Neighborhood associations are independent entities and work closely with public schools, the police, and municipal halls (Pekkanen 2006; Pekkanen and Tsujinaka 2008; Schmid 2001). Although NHAs vary in size, structure, and the type of activities involved, almost every NHA is made up of blocks (*han*), each of which is composed of a small number of households. The block is the most basic unit of an NHA, and it is in this unit that members collect dues, rotate chores (e.g., cleanup of a garbage site), and circulate a clipboard with information sheets (*kairanban*) about official announcements, neighborhood crime alerts, and community events. These routines are coordinated by the block head, a rotating role in which members serve for a year.

Whereas the routine tasks done at the block level are likely to sustain cooperative values in a relatively narrow community context (van Houwelingen 2012), NHAs also provide opportunities for participation in a broader community context (van Houwelingen 2012, p. 480). NHAs form activity groups for the elderly (*rojinkai*) and children (*kodomokai*). Increasingly, NHA activities bring the elderly and children together, forming intergenerational friendship groups (van Houwelingen 2012). Although not very common, activities may be coordinated across multiple NHAs, forming a federation (*chonaikai rengokai*). The extent of members' participation in

NHA activities at the association and federation levels likely depends on age, gender, and marital and parental status (Taniguchi and Aldikacti Marshall 2015), but NHAs' role in planning disaster response and readiness activities has broad-based interest. Since the Great Hanshin-Awaji Earthquake of 1995, and more recently the Tohoku Earthquake and Tsunami of 2011, the NHAs, along with other civic groups, have been widely recognized for their invaluable contributions in disaster response, recovery, and preparedness (Aldrich 2011; Anheier and Salamon 1999; Honma and Deguchi 1996; Shaw and Goda 2004). A majority of Japanese are quite aware of the importance of cooperation among neighbors to respond to and prepare for inevitable consequences of disasters (Osaka Commerce University 2012).

Aspects of Neighborhood and Life Satisfaction

Various neighborhood characteristics, including safety, amenities, and social ties to neighbors, have been shown to predict subjective well-being or quality of life. The current study focuses on the effect of relationships with neighbors on life satisfaction, while considering the effects of other aspects of the neighborhood.

Neighborhood Safety

Perceived neighborhood safety is an established predictor of various indicators of well-being, such as neighborhood satisfaction (Adams 1992; Lee 1981), mental/psychological well-being (Leslie and Cerin 2008; Robinette et al. 2013), and life satisfaction (Adams 1992). A study of neighborhoods in Maryland, USA, showed that rising rates of aggravated assault and murder reduced housing values, and that a rising residential burglary rate led to more vacant houses (Taylor 1995). It suggested that people consider crime-related neighborhood safety in making residential decisions, and those who have no option but to remain in high crime areas endure neighborhood dissatisfaction. Closely related is the concept of neighborhood disorder. Disorderly neighborhoods are characterized by weak social control over undesired behaviors and are indicated by physical signs such as littering, graffiti, and rundown buildings and by common behaviors such as loitering, fighting, and the illicit use of alcohol and drug on the streets (Kim 2010; Ross 2000; Ross and Mirowsky 2001). The perception of neighborhood disorder, presumably acting as a contextual stressor, has been adversely associated with mental health or subjective well-being (Kim 2010; Ross et al. 2001).

Neighborhood Amenities

In contrast, research has shown that desirable, pleasant features of one's neighborhood are associated with increased subjective well-being. Convenient access to medical and social services, transportation, street lighting, public parks, shopping centers, restaurants, etc. have predicted the subjective well-being of individuals (Gandelman et al. 2012; Zhao and Siu 2014). Certainly, what constitutes desired features are context-dependent. For instance, in a place where access to running household water and sewage is taken for granted, it is unlikely to be a useful predictor of life satisfaction. However, in a society where the coverage of these public services is not universal, it is a robust predictor (Gandelman et al. 2012; World Bank 2012). In an increasingly health-

conscious society, physical attributes of the neighborhood such as “walkability” are considered appealing, and online realty services such as [Zillow.com](https://www.zillow.com) rank residential neighborhoods on that, and other, dimensions. Urban planners and health experts emphasize the importance of creating highly walkable neighborhood environments to increase the physical activity and fitness of residents (Van Dyck et al. 2011). Although there are some exceptions (e.g., Van Dyck et al. 2011), most research has documented the positive association of “positive” physical attributes of the neighborhood with neighborhood satisfaction (Leslie and Cerin 2008; Parkes et al. 2002) or subjective well-being more generally (Cloutier et al. 2014).

Neighbor Relationships

To reiterate, the current study’s focus is on the effect of relationships with neighbors on life satisfaction. Our work builds on the existing research that has identified neighbor relationship as a reliable predictor of subjective well-being. An observational epidemiological study from Adelaide, Australia, by Leslie and Cerin (2008) showed that the number of acquaintances and friends in neighborhood enhanced mental health, controlling for other neighborhood characteristics such as safety and walkability. A study of residents in Illinois, USA, also found that social ties to neighbors reduced the occurrences of depressed mood and malaise, while considering other factors such as neighborhood disorder (Kim 2010). Moreover, Dassopoulos and her associates (2012), in their study of Las Vegas Metropolitan Area residents, found that social ties to neighbors were particularly important to explain neighborhood satisfaction, although the physical features of the neighborhood such as perceived physical disorder and crimes also mattered. They argued that social connectedness to neighbors would likely take on a greater importance in one’s evaluation of the quality of life in disadvantaged neighborhoods (p. 594).

Sirgy and Cornwell (2002) have presented one of the most elaborate theoretical models linking various aspects of the neighborhood environment and global life satisfaction. Their study showed that although the social, physical, and economic features of the neighborhood are all significant predictors of life satisfaction, only the social features of the neighborhood greatly predicted community satisfaction, which in turn affected overall life satisfaction. By contrast, their study found that the physical and economic amenities of their neighborhood predicted home and housing satisfaction, which then affected life satisfaction. The current study builds on this study in that it highlights the importance of the social aspects of the neighborhood environment in boosting global life satisfaction. In Sirgy and Cornwell’s study, however, the social aspect of neighborhoods was defined broadly, encompassing various features including social interactions with neighbors, crimes in the community, outdoor play space, and the sense of privacy at home. By comparison, this study defines the social aspect of neighborhoods more narrowly by focusing on neighbor relationships (see “[Method](#)”).

Interaction Between Neighborhood Safety and Neighbor Relationships

To be sure, different aspects of neighborhoods may affect one another. For instance, those who feel safer in their neighborhood may engage in more social interactions with

their neighbors. On the other hand, residents of unsafe neighborhoods may use their relationships with neighbors to protect themselves more so than those residents of safer neighborhoods (Dassopoulos et al. 2012, p. 576). Neighbor relationships may also predict life satisfaction differently depending on perceived neighborhood safety. In unsafe neighborhoods, residents' neighboring activities may tend to center around talking about local crimes and participating in neighborhood watch groups, which can lead to vicarious victimization, thus diminishing overall life satisfaction (Skogan and Maxfield 1981; Unger and Wandersman 1985). This line of argument suggests that residents of unsafe neighborhoods gain less from the same amount of interaction with neighbors in the way of global life satisfaction. Conversely, those who live in safer neighborhoods may derive greater satisfaction not only directly from their perceived safety, but also indirectly from interaction with their neighbors.

Research Hypotheses

We consider four hypotheses about the prediction of life satisfaction and happiness by neighborhood safety, neighborhood amenities, and neighbor relationships. First, those who feel safer in their neighborhoods are expected to be more satisfied with life overall or happier (hypothesis 1). Second, those satisfied with the amenity aspect of their neighborhoods will also experience greater life satisfaction or happiness (hypothesis 2). Third, those who have more supportive ties to neighbors are expected to have levels of life satisfaction and happiness (hypothesis 3). Given the undesirable outcome of neighbor relationships concerning vicarious victimization noted above (Skogan and Maxfield 1981), we also examine how the interaction of neighbor relationships with neighborhood safety predicts life satisfaction and happiness. Specifically, the positive effect of neighbor relationships is expected to be larger for those who score higher on the safety aspect of the neighborhood (hypothesis 4).

Method

Data and Sample

The 2010 Japanese General Social Survey (JGSS) is the primary data source. In 2006, the use of modules with two sets of self-administered questionnaires (forms A and B) became a standard. The 2010 JGSS health/well-being module (form B) contains critical items for this study, such as questions on satisfaction with various life arenas, and the safety, amenity, and social aspects of neighborhood environment. The JGSS collected data for a 2-stage random sample, stratified by regional block and population size, of Japanese citizens with the right to vote. The response rate for form B was 62.1 %, and 2496 valid responses were obtained (ICPSR 2013). After deleting cases from the initial sample due to missing data, we obtained an analytical sample of 2407 (1117 men and 1290 women) for the predictive models of life satisfaction, and a sample of 2403 (1116 men and 1287 women) for the predictive models of happiness.

Measures

Dependent Variables Although there are various ways of defining subjective well-being (SWB), researchers generally agree that it is individuals' affective and cognitive evaluation of their lives (Pavot and Diener 2013). The affective aspect of SWB is about one's emotions and feelings, while the cognitive aspect (e.g., life satisfaction) concerns the perception of the discrepancy between one's aspiration and achievement (Pavot and Diener 2013). Some treat the two aspects interchangeably given that they both indicate "the degree to which one judges the quality of one's life favorably" (Veenhoven 1995, p.34). The affective aspect tends to at least moderately correlate with the cognitive aspect, suggesting that individuals' emotions are likely to influence the evaluations of their life circumstances, which may in turn evoke their emotional reactions (Pavot and Diener 2013). Other researchers distinguish the affective and cognitive aspects of SWB (Cummins 1995; Raibley 2012) and, in doing so, have further advanced our understanding of the "unique contributions to the overall understanding of the experience of SWB" (Pavot and Diener 2013, p. 135).

Although global life satisfaction would be an ideal dependent variable, given the studies focusing on neighborhood-related predictors of SWB noted above, the 2010 JGSS did not administer a single-item measure of life satisfaction. Instead, the JGSS asked its respondents to rate the level of satisfaction with the (a) area of residence, (b) leisure activities, (c) family, (d) finance, (e) friendship, and (f) health on a scale ranging from 1 (highest) to 5 (lowest). We draw on all but the first item because that variable overlaps considerably with our predictors of primary interest. Exploratory factor analysis was performed to assess the dimensionality of these five items with principal axis factoring, and derived a single factor (eigenvalue=2.75) on which the five items had a factor loading ranging from .68 to .80. The reliability coefficient was .79. Once the unidimensionality of life satisfaction was established, we estimated a single factor model and obtained predicted factor scores.

For a comparison, we consider happiness as an alternative dependent variable. It is measured with a single-item question where general happiness was rated on a 5-point scale ("very happy" to "very unhappy"). The original codes were reversed so that higher scores indicate more happiness. The zero-order correlation between life satisfaction and happiness was .61 for both genders.

Independent Variables The 2010 JGSS used a 6-item question to assess respondents' perceptions of their neighborhood environment including their assessments of physical safety, access to amenities, as well as social interactions. The JGSS instructed respondents to think about the area 1 km (about 15 min on foot) around their home and used the term *kinjo no hito* (people living in a close place) for neighbors. Respondents rated, on a scale from 1 (strongly agree) to 5 (strongly disagree), their agreement/disagreement with each of the statements: "The neighborhood is suitable for doing exercise such as jogging or walking"; "A large selection of fresh fruits and /or vegetable is available in my neighborhood"; "The neighborhood has adequate public facilities (community center, library, park, etc.); "The neighborhood is safe"; "The neighbors are mutually concerned for each other"; "The neighbors are willing to provide assistance when I am in need." The scale is reversed for the higher score to indicate more approving perceptions of neighborhood environment. The first three items are averaged

to measure perceptions of amenities in the neighborhood. The fourth item is used to measure safety. The last two items are averaged to measure relationships with neighbors which is the variable of most interest in this study.

Our measure of neighborhood safety is a rough proxy based on the concept of *anshin*¹. The term *anshin* connotes more emotion than the term *anzen* (literally meaning safety or security). Although neither *anshin* nor *anzen* exclusively means the lack of crimes—just like the English word safety is not limited to crime-related safety—a preliminary analysis indicated a significant and moderate difference ($p = .000$ (rounded), Cohen's $D = .33$) in the mean score on neighborhood safety between those who reported (3.83) and who did not report (4.08) “any area within 1 km of their home where they would be afraid to walk alone at night.” Nonetheless, estimated effects of neighborhood safety and its interaction with neighbor relationships on life satisfaction (or happiness) should be interpreted with caution.

Before forming an interaction variable of neighborhood safety and relationships with neighbors (to examine hypothesis 4), each variable was centered by subtracting the mean from each score to mitigate the problem of multicollinearity.

Other Variables Potentially related to neighbor relationships, face-to-face contact with friends is included as it is also likely to positively predict life satisfaction. It is measured on a scale from 1 (almost every day) to 7 (never). The original codes are reversed so that higher scores indicate more frequent contact. Other control variables include age (age squared), marital status, the presence of children by age group, and relative income. [Appendix 1](#) summarizes the studies that led to the choice of these controls. Age is measured in years. Marital status (1 = married; 0 = single) and children by age group (1 = presence; 0 = absence) are dichotomous variables. Relative income is measured by the respondents' perception of their family income compared to “the average” on a scale from 1 (far below average) to 5 (far above average). This measure was chosen over the measure of actual family income that had many missing responses. Twenty-eight percent of the respondents indicated that they either did not want to answer the question, did not know their family income, or simply did not respond².

There is to no consensus in the literature about whether to include self-rated health as an indicator or predictor of SWB (Lindert et al. 2015). Nonetheless, to weigh in on this discussion, our additional analysis included health as a candidate predictor of subjective well-being. The models were thus estimated with self-rated health measured on a 5-point scale ranging from “poor” to “excellent.” The inclusion of health only raised the R^2 by .03 to .05. The variance of life satisfaction uniquely associated with health is thus small. Self-rated health is also highly likely to be an endogenous regressor that entails a correlation between residuals and regressors and produces biased and

¹ In the original Japanese questionnaire, the statement reads: “I can live without any worry in the neighborhood (*anshin shite seikatsudekiru*).”

² On the household income question, respondents were asked to consider the before-tax income. Respondents chose their income on a 19 point scale ranging from 1 (none) to 19 (¥ 23 million+).

inconsistent ordinary least squares (OLS) estimates. The oft-noted sources of endogeneity, i.e., omitted variables, measurement errors, and simultaneity, are all likely problems with treating health as exogenous. Omitted variables (e.g., health history) are likely to affect current health and life satisfaction. Somewhat conversely, errors in self-reported health may reflect the respondent's health history to an unknown extent, resulting in measurement error. Besides, the growing body of literature points to subjective well-being as a key contributor to physical health (e.g., Piazza et al. 2013; Tsenkova et al. 2014). We thus report results below from the analysis excluding self-rated health (see [Appendix 3](#) for results from the models with self-rated health).

Analytic Strategy

We estimate OLS regression models by gender to examine the research hypotheses noted above. In our preliminary analysis, we ran the models with the combined sample of men and women while controlling for gender. This analysis detected violations of the OLS assumptions of no model misspecification and homoscedastic residuals. These problems were greatly mitigated when the models were estimated separately by gender. Moreover, Chow tests suggested that effects of the independent variables significantly differ between men and women ($p = .000$ (rounded), the baseline model).

Findings

Bivariate Analysis

Neighborhood safety, neighborhood amenities, and neighbor relationships are significantly and moderately correlated to men's life satisfaction with coefficients of .34, .25, and .29, respectively. The corresponding correlation coefficients for women are somewhat weaker at .27, .18, and .21 (see Table 1). Among other predictors, relative income has a non-negligible correlation to life satisfaction ($r_m = .20$; $r_f = .28$, not tabled), followed by the frequency of contact with friends ($r_m = .16$; $r_f = .24$, not tabled). [Appendix 2](#) shows descriptive statistics of the study variables. A similar, though somewhat weaker, pattern is in the associations of the neighborhood characteristics with happiness.

Regression Analysis

Table 2 shows results from the predictive models of life satisfaction. As expected (hypothesis 1), neighborhood safety significantly and positively predicts life satisfaction regardless of gender. Standardized beta coefficients on neighborhood safety are .21 (model 1) and .19 (model 3), respectively (beta coefficients not tabled). Meanwhile, the amenity aspect of the neighborhood is an insignificant predictor, thus not supporting hypothesis 2. Consistent with hypothesis 3, neighbor relationships have a significant positive effect on life satisfaction for both genders, but this effect is significantly larger for men ($p < .01$). Beta coefficients on neighbor relationships are .19 for men (model

Table 1 Bivariate correlations between selected study variables

	Life satisfaction analysis									
	Men (<i>n</i> = 1117)					Women (<i>n</i> = 1290)				
	1	2	3	4	5	1	2	3	4	5
1. Life satisfaction	1.000					1.000				
2. Neighborhood safety	.339***	1.000				.272***	1.000			
3. Neighborhood amenities	.254***	.597***	1.000			.184***	.600***	1.000		
4. Neighbor relationships	.291***	.453***	.364***	1.000		.209***	.407***	.333***	1.000	
5. Contact with friends	.159***	-.008	-.012	-0.002	1.000	.243***	.023	.020	.037	1.000
	Happiness analysis									
	Men (<i>n</i> = 1116)					Women (<i>n</i> = 1287)				
	1	2	3	4	5	1	2	3	4	5
1. Happiness	1.000					1.000				
2. Neighborhood safety	.294***	1.000				.208***	1.000			
3. Neighborhood amenities	.236***	.597***	1.000			.146***	.600***	1.000		
4. Neighbor relationships	.260***	.454***	.365***	1.000		.150***	.407***	.333***	1.000	
5. Contact with friends	.097**	-.008	-.012	.037	1.000	.134***	.023	.021	.037	1.000

* $p < .05$; ** $p < .01$; *** $p < .001$ two tailed

1) and .068 for women (model 3), respectively. The interaction effect of neighborhood safety and neighbor relationships is significantly positive only for men (model 2), but not for women (model 4). The significant interaction effect found for men is small, and it is interpreted that the effect of neighbor relationships increases from .14 to .23 (in beta coefficients) as the neighborhood safety score shifts from one standard deviation below the mean to one standard deviation above the mean. The gender difference in the interaction of neighborhood safety and neighbor relationships is insignificant. Hypothesis 4 is thus only partly supported.

The models of happiness generate similar results, although some differences emerge. Because in the happiness models, the main variables are measured on the same 5-point scale, unstandardized coefficients are more interpretable. Consistent with hypothesis 1, neighborhood safety has a significant positive effect on happiness of both genders. A one-point increase in safety is associated with an increase in men's happiness by a .19 point (model 5) and an increase in women's happiness by a .16 point (model 7). As in the analysis of life satisfaction, neighborhood amenities are an insignificant predictor, inconsistent with hypothesis 2. Somewhat different from results from the life satisfaction models, although the effect of neighbor relationships is positive for both genders, it is significant for men, but not for women. The gender in the effect of neighbor relationships is significant ($p < .001$). With a one-point increase in neighborhood relationships, there is an increase of men's happiness by a .16

Table 2 Unstandardized Coefficients from the OLS Models of life satisfaction and happiness

	Life satisfaction				Happiness			
	Men (n = 1117)		Women (n = 1290)		Men (n = 1116)		Women (n = 1287)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Neighborhood safety	.185*** (.032)	.204*** (.032)	.173*** (.033)	.173*** (.034)	.192*** (.042)	.209*** (.042)	.164*** (.040)	.168*** (.040)
Neighborhood amenities	.030 (.034)	.025 (.034)	.011 (.030)	.011 (.030)	.056 (.042)	.051 (.041)	.023 (.039)	.023 (.039)
Neighbor relationships	.145*** (.025)	.140*** (.025)	.049*b (.021)	.048*b (.022)	.156*** (.031)	.151*** (.031)	.032b (.027)	.028b (.027)
Neighbor relationships x safety		.044* (.021)		.008 (.024)		.041 (.029)		.034 (.031)
Face-to-face contact with friends	.069*** (.016)	.070*** (.016)	.109*** (.015)	.109*** (.015)	.044* (.021)	.045* (.021)	.072*** (.019)	.071*** (.019)
Age	-.038*** (.008)	-.037*** (.008)	-.019* (.008)	-.018* (.008)	-.032*** (.010)	-.031** (.010)	-.039*** (.011)	-.038*** (.011)
Age squared	.000*** (.000)	.000*** (.000)	.000* (.000)	.000* (.000)	.000** (.000)	.000** (.000)	.000*** (.000)	.000*** (.000)
Married	.296*** (.056)	.298*** (.056)	.059b (.053)	.058b (.053)	.568*** (.068)	.570*** (.068)	.238***c (.068)	.235***c (.068)
Young child/children	-.086 (.071)	-.081 (.071)	.072 (.069)	.073 (.069)	.230* (.090)	.234** (.090)	.167 (.091)	.169 (.091)
School age child/children	.062 (.060)	.059 (.060)	-.016 (.053)	-.015 (.053)	.139 (.080)	.136 (.080)	.037 (.072)	.041 (.072)
Teenage child/children	-.201*** (.060)	-.196** (.060)	-.151** (.055)	-.151** (.055)	-.223** (.080)	-.219** (.080)	-.082 (.076)	-.084 (.076)
Relative income	.077*** (.022)	.077*** (.022)	.185***c (.022)	.185***c (.022)	.118*** (.029)	.118*** (.029)	.234***b (.028)	.233***b (.028)
R-squared	.227	.230	.196	.196	.250	.252	.150	.151
F-statistic	29.58***	28.68***	26.90***	24.68***	36.51***	33.58***	21.25***	19.72***

Different lowercase letters (a, b, c): Gender difference is significant at the .05, .01, and .001 level, respectively
 * $p < .05$; ** $p < .01$; *** $p < .001$ two tailed

point. Hypothesis 3 thus receives partial support. The interaction effect of neighborhood safety and neighbor relationships is insignificant for men (model 6) or women (model 8), inconsistent with hypothesis 4.

The effects of the controls are largely consistent with previous studies based in Japan. The frequency of contact with friends has a significant positive effect on life satisfaction and happiness, regardless of gender, but this effect is larger (although not significantly so) for women. A U-shaped relationship exists between age and either life satisfaction or happiness, consistent with Tiefenbach and Kohlbacher (2015). The marriage premiums in life satisfaction and

happiness are both significantly larger for men. Having teenagers at home significantly and negatively predicts both men and women's life satisfaction, but it has a significant negative effect only on men's happiness. Relative income significantly increases life satisfaction or happiness for both genders, while it does so to a significantly greater extent for women.

Discussion

Neighborhoods are an important life arena that enable individuals to form social relationships, develop a sense of community, and have a better quality of life (Sirgy and Cornwell 2002; Dassopoulos et al. 2012). In Japan, where neighborhood associations are highly institutionalized, the notion of supportive neighbor relationship is widely shared. As the country's welfare reform continues to address the rising costs of health care and support services associated with population aging, political actors are increasingly trying to mobilize supportive relationships among neighbors governed by the neighborhood associations and other local organizations (Pekkanen 2006; Pekkanen et al. 2014; Vogt 2010). With this context in mind, this study examines the association between the perception of neighborliness and life satisfaction in Japan.

Neighbor relationships have a positive effect on life satisfaction (or happiness) in Japan. This effect is significantly stronger for men than women. It is also only for men that we see neighbor relationships and neighborhood safety mutually increase life satisfaction, although this gender difference is statistically insignificant. These gender differences are inconsistent with the notion that relationship harmony better predicts subjective well-being for women than men (Reid 2004). Nonetheless, research has demonstrated that social relationships, including neighbors, develop differently depending on one's gender (Barbee et al. 1993; Liebler and Sandefur 2002). Neighbor relationships are perhaps more obligatory than voluntary for women. As discussed above, the block-level NHA activities, such as cleanup chores, are required of member households. Women are likely to perform these activities as an extension of household chores. By contrast, men may rather engage with neighbors either directly through their voluntary participation, or indirectly and abstractly through the tasks accomplished by their family members (e.g., wives). As a result, men may be better able to translate their supportive interaction with neighbors into subjective well-being. This speculation is in line with a recent study by Tiefenbach and Holdgrün (2015) showing that only voluntary, and not involuntary or obligatory, participation in NHA activities significantly and positively contributes to happiness in Japan.

Although it makes sense for political actors to tap into the existing social connectedness in neighborhoods as part of an effort to strengthen the country's social safety net, feel-good concepts such as supportive neighbor relationships should be approached critically by researchers examining the effect of social capital on life outcomes including subjective well-being. As mentioned above, the effect of neighbor relationships on life satisfaction is likely gendered. Perceiving supportive neighbor relationships seems to benefit men more.

Moreover, in the increasingly neoliberal political economic climate (under which Prime Minister Abe's administration has been seeking to deregulate labor markets), Japanese are likely to become more divided along class lines on the meanings and purposes of neighbor relations. What sort of support activities are useful or desired in neighbor relationships largely depends on individuals' financial needs, resources, abilities/skills, and time constraints which themselves are close correlates of socioeconomic class. As the trend since the 1980s of rising income inequality in Japan intensifies, scholars of Japanese neighbor relations need to pay closer attention to how social class affects the type of neighborly activities, which in turn predicts the quality of neighbor relationships, and moreover, the overall quality of life.

One potentially important issue not addressed in this study is the effect of interaction between citizens and non-citizen residents on subjective well-being. Foreign nationals in Japan comprise about 2 % of its population (Ministry of Internal Affairs and Communications 2015). Because in Japan, naturalization is rare, the JGSS's sampling frame limited to citizens with voting rights openly excludes not only foreign-born residents but also native residents of non-Japanese descent (e.g., Korean and Chinese), compromising the representativeness of data about people living in Japanese society. Certainly, this is not to say that administering the survey to a more inclusive sample will immediately improve data quality. Many general social surveys administered elsewhere (e.g., US, Europe) try to include the foreign-born and ethnic minorities, but still face methodological challenges, most notably, the substantially lower response rates from these groups (Font and Mendez 2013). Nevertheless, the broadening of the JGSS's sampling frame will be a move in the right direction.

This study has some limitations. First, the 2010 JGSS asked questions about neighbors and neighborhoods in separate modules. For instance, questions about NHA participation were covered in one module (form A), and questions about the perception of neighborhood environment in the other (form B). Due to this limitation, our study is unable to examine questions such as how NHA participation positively predicts neighbor relationships, and whether supportive neighbor relationships predict life satisfaction differently depending on the level of NHA participation. Second, for this study, no data were available to measure other types of interpersonal ties, such as friendships, and thus the frequency of contact with friends is used as a proxy. The gender difference in the effect of neighbor relationships found in this study should be examined more carefully in the context of other interpersonal relationships that this dataset did not permit. Third, this is a single country study. Comparing how neighbor relationships affect life satisfaction across countries in and outside East Asia will be useful to understand how institutional factors (e.g., the prevalence and type of neighborhood community organizations) moderate the effect of neighbor relationships on subjective well-being.

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Appendix 1

Table 3 Studies based in Japan with multivariate evidence that led to the control variables

	Dependent variable	Key independent variables
Age	<ul style="list-style-type: none"> ✓ U-shaped association between age and happiness (Kaufman and Taniguchi 2010; Tiefenbach and Kohlbacher 2015) ✓ Those in 50s are significantly more “unhappy” than those in 20s (Tokuda and Inoguchi 2008) ✓ Those aged “25-39” are happier than those “40-59” or “60-79” (Oshio and Kobayashi 2010) 	<ul style="list-style-type: none"> ✓ Positive association between age and participation in NHA activities (Nakano 2000; Taniguchi and Aldikacti Marshall 2015; van Houwelingen 2012)
Marital status	<ul style="list-style-type: none"> ✓ Married people are happier than singles (Kaufman and Taniguchi 2010; Oshio and Kobayashi 2010; Tiefenbach and Kohlbacher 2015) ✓ Those with no spouse are more likely to be “unhappy” (Tokuda and Inoguchi 2008) 	<ul style="list-style-type: none"> ✓ Married people are more likely to participate in NHA activities regularly than singles (Nakano 2000; Taniguchi and Aldikacti Marshall 2015; van Houwelingen 2012)
Children	<ul style="list-style-type: none"> ✓ Positive association between having young children and happiness (Tiefenbach and Kohlbacher 2015) 	<ul style="list-style-type: none"> ✓ Having children aged 6–12 has a positive effect on the probability of regular NHA participation (Taniguchi and Aldikacti Marshall 2015) ✓ Having teenage children has a positive effect on the probability of regular NHA participation (Taniguchi and Aldikacti Marshall 2015)
Income	<ul style="list-style-type: none"> ✓ Positive association between income and happiness (Tiefenbach and Kohlbacher 2015) ✓ Low income people are significantly more “unhappy” than high income people (Tokuda and Inoguchi 2008) 	<ul style="list-style-type: none"> ✓ Negative association between income and failing (vs. managing) to receive emotional support from family members, neighbors, friends, etc. (Date 2013) ✓ Positive association between savings and community participation (Herbez et al. 2013)

Appendix 2

Table 4 Descriptive statistics of study variables

For the models of life satisfaction	Men (<i>n</i> = 1117)		Women (<i>n</i> = 1290)	
	Mean	SE	Mean	SE
Life satisfaction [-2.295, 1.200]	-.051	.021	.059	.020***
Neighborhood safety [1,5]	3.929	.024	3.939	.022
Neighborhood amenities [1,5]	3.783	.023	3.829	.022
Neighbor relationships [1,5]	3.326	.028	3.417	.028*
Face-to-face contact with friends [0,6]	2.425	.043	2.555	.039*
Age [20, 89]	50.440	.572	52.598	.568*
Married [0,1]	.697	.015	.668	.014
Young child/children [0,1]	.123	.011	.096	.009
School age child/children [0,1]	.120	.010	.132	.009
Teenage children [0,1]	.104	.009	.123	.009
Relative income [1,5]	2.601	.028	2.634	.024
For the models of happiness	Men (<i>n</i> = 1116)		Women (<i>n</i> = 1287)	
	Mean	SE	Mean	SE
Happiness [1,5]	2.644	.027	2.750	.025**
Neighborhood safety [1,5]	3.930	.024	3.938	.022
Neighborhood amenities [1,5]	3.784	.023	3.827	.022
Neighbor relationships [1,5]	3.325	.028	3.417	.028*
Face-to-face contact with friends [0,6]	2.424	.043	2.554	.040*
Age [20, 89]	50.457	.573	52.589	.569**
Married [0,1]	.697	.015	.668	.014
Young child/children [0,1]	.123	.011	.096	.009
School-aged child/children [0,1]	.119	.010	.133	.009
Teenage children [0,1]	.103	.009	.122	.009
Relative income [1,5]	2.601	.028	2.634	.024

Numbers in brackets indicate ranges of possible values

* $p < .05$; ** $p < .01$; *** $p < .001$ two tailed (for gender difference)

Appendix 3

Table 5 Unstandardized coefficients from the OLS models of life satisfaction and happiness (with health included)

	Life satisfaction				Happiness			
	Men (<i>n</i> = 1117)		Women (<i>n</i> = 1288)		Men (<i>n</i> = 1116)		Women (<i>n</i> = 1285)	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Neighborhood safety	.155*** (.032)	.174*** (.032)	.152*** (.032)	.152*** (.033)	.153*** (.040)	.171*** (.040)	.130*** (.039)	.133*** (.039)
Neighborhood amenities	.034 (.032)	.028 (.032)	.011 (.030)	.011 (.030)	.060 (.040)	.056 (.040)	.017 (.038)	.018 (.038)
Neighbor relationships	.138*** (.025)	.132*** (.024)	.039b (.021)	.039b (.021)	.146*** (.030)	.141*** (.030)	.021b (.026)	.019b (.026)
Neighbor relationships x safety		.045* (.020)		.002 (.023)		.042 (.029)		.022 (.029)
Face-to-face contact with friends	.053*** (.015)	.055*** (.015)	.094*** (.015)	.094*** (.015)	.024 (.019)	.026 (.020)	.049** (.019)	.049** (.019)
Age	-.031*** (.008)	-.030*** (.008)	-.016 (.008)	-.016 (.008)	-.022* (.009)	-.021* (.009)	-.037*** (.010)	-.037*** (.010)
Age squared	.000*** (.000)	.000*** (.000)	.000* (.000)	.000* (.000)	.000* (.000)	.000* (.000)	.000*** (.000)	.000*** (.000)
Married	.266*** (.055)	.267*** (.055)	.048b (.052)	.048b (.052)	.528*** (.066)	.529*** (.066)	.221***c (.066)	.219***c (.066)
Young child/children	-.111 (.071)	-.106 (.070)	.059 (.068)	.059 (.068)	.198* (.088)	.202* (.088)	.136 (.089)	.138 (.088)
School age child/children	.080 (.060)	.077 (.059)	-.005 (.051)	-.005 (.051)	.161* (.082)	.158* (.081)	.048 (.069)	.051 (.069)
Teenage child/children	-.211*** (.059)	-.207*** (.059)	-.144** (.052)	-.144** (.052)	-.240** (.078)	-.236** (.078)	-.072 (.073)	-.073 (.073)
Relative income	.060** (.021)	.061** (.021)	.162***b (.022)	.162***b (.022)	.096*** (.028)	.097*** (.028)	.201***b (.028)	.200***b (.027)
Self-rated health	.187*** (.027)	.187*** (.027)	.172*** (.025)	.172*** (.025)	.243*** (.032)	.243*** (.032)	.259*** (.031)	.258*** (.030)
R-squared	.270	.273	.230	.230	.295	.297	.202	.202
F-statistic	33.86***	32.38***	27.37***	25.60***	38.61***	35.65***	26.81***	24.66***

Different lowercase letters (a, b, c): Gender difference is significant at the .05, .01, and .001 level, respectively
 * $p < .05$; ** $p < .01$; *** $p < .001$ two tailed

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