SMITH COLLEGE

Smith ScholarWorks

School for Social Work: Faculty Publications

School for Social Work

2021

Extension of Marriage Benefit to Long-Distance Relationship: Comparative Evidence from East Asia

Tidarat Puranachaikere
Mahidol University

Bahareh Sahebi
Northwestern University

Christine M. Aiello
Northwestern University

Shveta Kumaria
Northwestern University, skumaria@smith.edu

Tamara G. Sher
Northwestern University

Follow this and additional works at: https://scholarworks.smith.edu/ssw_facpubs

 Part of the Social Work Commons

Recommended Citation

Puranachaikere, Tidarat; Sahebi, Bahareh; Aiello, Christine M.; Kumaria, Shveta; and Sher, Tamara G., "Extension of Marriage Benefit to Long-Distance Relationship: Comparative Evidence from East Asia" (2021). School for Social Work: Faculty Publications, Smith College, Northampton, MA.
https://scholarworks.smith.edu/ssw_facpubs/30

This Article has been accepted for inclusion in School for Social Work: Faculty Publications by an authorized administrator of Smith ScholarWorks. For more information, please contact scholarworks@smith.edu

Original Article

Extension of Marriage Benefit to Long-Distance Relationship: Comparative Evidence from East Asia

Tidarat Puranachaikere MD[1,2], Bahareh Sahebi PsyD[1], Christine M Aiello MS[1], Shveta Kumaria PhD[1], Tamara G Sher PhD[1]

[1] The Family Institute, Northwestern University, Chicago, IL, USA

[2] Faculty of Medicine Siriraj hospital, Mahidol University, Bangkok, Thailand

Background: Being married is related to better physical and mental health compared to being single or in an unmarried relationship. For those in long-distance relationship (LDR), there are mixed findings in psychological and physical health outcomes when compared to individuals in proximal relationship (PR).

Objective: To explore the health differences between those in LDRs and PRs in a larger and non-Western sample with more health behaviors than had been previously assessed.

Materials and Methods: The present study analyzed the data from the East Asian Social Survey (EASS) comparing health variables and health habits between LDR and PR participants. There were 7,145 respondents including 2,750 in LDR and 4,395 in PR. Physical and mental health were measured using SF-12 version 2, while, the frequency of smoking, drinking alcohol, and engaging in physical activity were used to assess health habits. Univariate analysis of covariance (ANCOVA) was used to control the confounding effect.

Results: The results suggested that PR participants reported better overall mental health, while those in LDRs were healthier in terms of less alcohol use. The overall physical health did not differ across the groups. Moreover, the present study uncovered an unexpected number of LDR couples in China compared to the other countries assessed.

Conclusion: The present study provided further understanding of the connection between LDR and health in a large sample across the countries.

Keywords: Health status, Health behavior, Marital relationship, Marital status, Long-distance relationship

Received 9 July 2020 | Revised 30 September 2020 | Accepted 7 October 2020

J Med Assoc Thai 2021;104(3):402-9

Website: http://www.jmatonline.com

The marriage benefit is a robust finding that being married is associated with better physical and mental health (MH) compared to being single or in an unmarried relationship[1-5]. However, there are many different structures to marriages and a sparse literature that guides the authors' thinking regarding if all marriage structures were equally health protective. The current study assessed if the marriage benefit could be extended to long-distance relationship (LDR) relationships, as compared to proximal relationships (PR).

Correspondence to:

Puranachaikere T.

Department of Psychiatry, Siriraj Hospital, 2 Prannok Road, Bangkok 10700, Thailand.

Phone: +66-2-4197422

Email: tidarat.pua@mahidol.edu

How to cite this article:

Puranachaikere T, Sahebi B, Aiello CM, Kumaria S, Sher TG. Extension of Marriage Benefit to Long-Distance Relationship: Comparative Evidence from East Asia. J Med Assoc Thai 2021;104:402-9.

doi.org/10.35755/jmedassocthai.2021.03.11614

Long-distance relationships

There are several types of LDRs such as dating, commuter, military, and transnational[6], and these relationships are becoming increasingly common in the U.S. and across the globe. A dual-career commuter couple is one that includes both partners as wage earners and live apart, with periodic reunion, in separate geographic locations to advance the career of both partners[7-9]. Other reasons for choosing to maintain a LDR include pursuit of education, military deployment, parental or familial obligations, incarceration, and immigration restrictions in one or both of the members of the couple[10]. More than 40% of college students are in LDRs[6], and approximately 1,000,000 U.S. couples report being in an LDR or part of a dual-career commuter couple[9].

Despite the apparent obstacles and opportunities for relationship strain in LDRs resulting from such factors as significant time spent apart, travel expenses, increased role burden, and decreased physical intimacy, the recent findings on relationship satisfaction and physical health for individuals in LDRs contradict widespread negative perceptions of LDRs as taxing and challenging to sustain[11].

There is widespread support for the fact that those in LDRs have at least as good, if not better, relationship satisfaction as their PR counterparts. In a nationally representative U.S. study, individuals in LDRs reported higher relationship quality across various life domains such as relationship adjustment, love for partner, fun with partner, and conversational quality, when compared to individuals in PRs[10]. More recent research has shown no significant difference when comparing those in LDRs and those in PRs on relationship satisfaction ratings[11,12].

Findings for psychological and physical health outcomes are inconsistent across studies of individuals in LDRs versus PRs. Researchers have examined several health and relationship variables in LDRs, including relationship maintenance, stress, and sex[12] as well as attachment and relationship maintenance behaviors[13]; and psychological and relational health[14]. Results of a recent study revealed there were no significant differences in psychological distress when comparing individuals in LDRs to individuals in PRs[15]. In contrast, Du Bois et al[12] found that for married couples, those in LDRs reported less anxiety, depression, and fatigue and better health habits such as diet and exercise than those in PRs.

Definitions of LDRs vary across the existing literature, resulting in different LDR populations across the studies such as dating, co-habitating, committed, and married. Various studies define LDRs using time or distance spent apart, frequency of visits, or amount of in-person contact as markers to delineate LDR status[15]. The different definitions of LDRs[15] could account for the variations in the literature on health outcomes between those in LDRs and PRs. Several studies have been conducted to examine dating populations and committed relationships, yet few have included married LDR participants exclusively. Moreover, the information about LDR in Asia, such as amount of people being in LDR, their relationship quality, and related health outcome, is still lacking. Long-distance married relationships, especially those with a transnational or non-American sample, remain relatively unexplored in the current literature. Thus, more examination of married LDR individuals and couples across broader life and relationship contexts is needed.

The present study

Research on whether the marriage benefit extends to a population of individuals in LDRs is in its infancy. The authors designed the present study to address divergent findings between studies and several limitations in the literature on LDRs. In terms of the latter, studies on LDRs have focused on long-term or committed dating relationships, with few selecting married populations only. Furthermore, several of these studies were conducted with relatively small sample sizes and most were conducted using North American or Western samples. Few researchers have assessed individual health status in LDRs versus PRs using a more geographically diverse sample. The aim of the present study was to extend the previous findings that there were health differences between those in LDRs and PRs to a larger and non-Western sample with more health behaviors than had been previously assessed. To achieve this aim, the authors analyzed several health variables as they related to LDR versus PR status in a sample of several Asian countries.

Materials and Methods

Data

The current study used several steps for finding the right large database from which the research questions could be applied. First, the authors consulted Inter-university Consortium for Political and Social Research (ICPSR) to determine to which extent large data base might include the most health and relationship structure variables relevant to the authors' current questions. ICPSR provided more than 250,000 files of research data collection in the social and behavioral sciences. The authors used the terms "living together" and "health" to search ICPSR for possible data sets from which to extract relationship and health data. This resulted in 112 possible data series. The authors then assessed each series to determine which data set included marital status, living or not living with spouse, and health variables. The East Asian Social Survey (EASS), Cross-National Survey Data Sets: Health and Society in East Asia, 2010 (ICPSR 34608) was identified as having the most relevant primary variables including health variables and couple-level demographic data. EASS is a biennial social survey project conducted through a cross-national network of four General Social Surveys in East Asia, including the Chinese General Social Survey (CGSS), Japanese General Social Survey (JGSS), Korean General Social Survey (KGSS), and Taiwan Social Change Survey (TSCS)[16]. IRB review was not required for the analysis of secondary data from the ICPSR. The original collector of the data, the ICPSR, and the relevant funding agency endured no responsibility or influence for the use and interpretations of the data.

Participants

The authors analyzed data for 7,145 married participants out of a total 10,137 participants. Participants who answered "Yes" for married and "Yes" for having a spouse in the household were defined as PR partners, and participants who answered "Yes" for married and "No" for having a spouse in the household were defined as LDR partners. People indicating "Separated" for marital status were excluded from analyses.

Measures

Health status: The SF-12 version 2 (SF12v2) is a health-related quality of life questionnaire consisting of 12 questions that assess physical and MH across eight domains represented in subscales. The eight subscales are General Health (GH) describing self-health rating in general, Physical Functioning (PF) describing limitations in moderate activities and climbing several flights of stairs, Role Physical (RP) describing accomplishing less and limitations in work or activities because of physical health; Body Pain (BP) describing pain interference with work inside or outside the home, Vitality (VT) describing having a lot of energy, Social Functioning (SF) describing the interference of physical health or emotional problems with social activities, Role Emotional (RE) describing accomplishing less and not being careful in work or activities because of emotional problems, and MH describing the feeling of being calm and peaceful and the feeling of being downhearted and blue. The instrument has been widely used and determined to be a valid measurement of health-related quality of life across several chronic diseases and conditions with good internal consistency and reliability[17]. Respondents rate each question using a 5-point Likert scale to indicate their health functioning and well-being during the past four weeks. Scores from the eight health domains were used to create two composite scores, the physical health composite scale (PCS) and mental health composite scale (MCS), with scores ranging from 0 to 100 for each scale[18]. Individual subscales could also be used separately for analyses. Across all scales and subscales, higher scores represented better health.

Hopelessness: Hopelessness was assessed by asking to what extent participants agree or disagree with two statements: "The future seems to be hopeless, and I can't believe that things are changing for the better", and "I feel that it is impossible for me to reach the goals that I would like to strive for". Both answers were rated using a 5-point Likert scale (1=Strongly agree, 2=Somewhat agree, 3=Neither agree nor disagree, 4=Somewhat disagree, and 5=Strongly disagree). Higher scores indicate less hopelessness, or psychological better health.

Health habits: The authors assessed health habits using four domains: obtaining regular health checkups, exercise, drinking, and smoking. The participants were asked how often they smoke, how often they drink alcoholic beverages, and how often they engage in physical activity for at least 20 minutes that made them sweat or breathe more heavily. Questions used a five-point Likert scale (1=Daily, 2=Several times a week, 3=Several times a month, 4=Several times a year or less often, and 5=Never). Higher scores represented better health habits for the drinking and smoking questions. The exercise questions were reversed scored to maintain consistency so that again, higher scores represent better health habits. For the health checkup variable, the participants were asked, "During the last three years, did you have any health checkup?". Respondents could choose one of three answer choices: Yes, regularly=3, Yes, but not regularly=2, and No=1.

Sociodemographic data: Sociodemographic data included age, sex, country, education, and employment.

Statistical analysis

The authors compared health variables between LDR and PR participants using Stata Statistical Software, version 15 (StataCorp LLC, College Station, TX, USA). The authors used descriptive statistics, frequency, and percentages for nominal/ordinal data, and used means and standard deviations for continuous data to describe the distribution of the dependent and independent variables. Sociodemographic characteristics were compared by relationship group, using a chi-square test or t test as appropriated. Mann-Whitney U test was used to compare between groups for non-normally distributed data. For health variables, regression models were used to compare the scale score between the LDR and PR groups. Comparison between the LDR and PR groups using unadjusted linear regression models were completed first. To control the confounding effect, if there were significant sociodemographic differences such as age, education, region, gender, and employment, observed in univariate analysis at a level of p-value less than 0.10, a second model adjusting for those factors between groups were conducted. Note that due to the large sample size, effect size in Eta-squared (η^2) was reported, along with p-values.

Table 1. Sociodemographic data by relationship group

Characteristic	Relationship group; mean±SD		p-value
	LDRs (n=2,750)	PRs (n=4,395)	
Age (year)	48.3±13.03	52.0±14.6	<0.001*
Region; n (%)			<0.001*
China	2,596 (94.4)	465 (10.6)	
Non-China	154 (5.60)	3,930 (89.4)	
• South Korea	66 (2.4)	928 (21.1)	
• Japan	35 (1.3)	1,768 (40.2)	
• Taiwan	53 (1.9)	1,234 (26.3)	
Sex; n (%)			0.22
Male	1,307 (47.5)	2,155 (49)	
Female	1,443 (52.5)	2,240 (51.0)	
Employment; n (%)			<0.001*
Employed	1,826 (67.0)	2,735 (62.4)	
Unemployed	898 (33)	1,650 (37.6)	
Education: years of schooling	8.7±4.3	11.5±4.0	<0.001*

LDRs=long-distance relationship partners; PRs=proximal relationship partners; SD=standard deviation

Age and education between groups was compared using unpaired t-test; categorical variables were compared using Pearson's chi-square tests as appropriate.

* p≤0.05 were considered statistically significant

Results

Sociodemographic data

Data were extracted for 7,145 total respondents. These included 2,750 in LDR defined relationships and 4,395 in PR. Table 1 lists the demographic data for all participants, by group. There was no difference in gender between the two groups (p=0.22). The majority of the LDR participants were in China (94.4%), whereas the PR participants were spread over four regions, with the highest representation in Japan (40.2%). Group differences existed for age, with those in PR's being older, region, with those in LDR's based primarily in China, and education, with those in PR's being better educated. In addition, there was a group difference for employment, with those in PR's more likely to be employed. However, that difference was expected because it is likely that the PR relationship is based upon employment situations. Since there were significant differences on age, education, region, and employment between LDR and PR groups (p<0.10), the authors included those confounding factors in second adjusted model when comparing health status, hopelessness, and health habits between groups.

Health status

Health status was only available for participants in China, Japan, and South Korea because the SF12v2 information was not available for Taiwanese participants. Thus, on this measure, data existed for 5,725 participants, 2,633 participants in LDRs and 3,092 participants in PRs. Data were analyzed in the aggregate as opposed to based on country of origin. Although the overall physical health (PCS) and overall mental health (MCS) scores were higher for those in LDRs compared to those in PRs in an unadjusted model, in the adjusted model, there was no statistically significant difference on physical health scores between groups. However, participants in PRs had significantly higher MH overall scores than LDR participants (p=0.013) with effect sizes η^2=0.001, shown in Table 2.

According to Cohen et al[19], the interpretation of eta-squared in multiple regression was as follow, 0.02 small effect size, 0.13 medium effect size, and 0.26 large effect size. Although there was a statistical difference in the MCS scores between participants in LDRs and PRs on the total score, the effect size was quite small. Thus, the authors compared groups on each subscale, adjusting for age, education, region, and employment. Each subscale had a score range of 0 to 100, with higher scores representing better health. The result showed that there were statistically significant differences between participants in LDRs and PRs on the Bodily Pain, SF, Role Emotion, and Mental Health subscales (see Table 3), with PR participants indicating better health than LDR participants in all subscales, all with small effect size (η^2=0.001). The subscale scores were consistent with the MCS score revealing that PR participants were healthier, especially on the MCS, compared to LDR participants.

Hopelessness

Statistical differences in hopelessness between participants in LDRs and PRs were demonstrated for the variable "Future seems to be hopeless" in adjusted analyses as shown in Table 2. However, there was no statistically significant difference between groups for the second question "Impossible to reach the goals". Thus, in addition to better mental health, PR participants tended to be less hopeless compared to LDR participants in term of views of the future.

Health habits

There were no statistical differences between participants in LDRs and PRs for all four health habit variables in adjusted analyses except for the use of

Table 2. SF12v2 physical health composite scale and mental health composite scale compared between LDRs and PRs

Scale	LDRs (n=2,750)		PRs (n=4,395)		Adjusted mean difference (95% CI)	p-value	Eta-squared
	Mean	SD	Mean	SD			
Physical health composite scale	49.6	10.5	49.1	9.6	−0.51 (−1.31 to 0.30)	0.22	-
Mental health composite scale	49.0	9.3	48.9	9.9	−1.08 (−1.94 to −0.23)†	0.01*	0.001
Hopelessness							
Future seems to be hopeless	4.0	1.1	3.7	1.1	−0.09 (−0.18 to −0.01)†	0.04*	0.001
Impossible to reach the goals	3.7	1.1	3.6	1.0	−0.01 (−0.09 to 0.08)	0.89	-
Health habits							
Having health checkup in last three years	1.8	0.8	2.3	0.8	0.03 (−0.03 to 0.10)	0.33	-
Smoking	3.8	1.8	4.1	1.6	0.02 (−0.13 to 0.17)	0.80	-
Drinking	4.1	1.4	3.5	1.5	0.14 (0.02 to 0.26)	0.02*	0.001
Exercise	2.3	1.6	2.7	1.5	−0.01 (−0.13 to 0.12)	0.94	-

LDRs=long-distance relationship partners; PRs=proximal relationship partners; SD=standard deviation; CI=confidence interval

Linear regression was used to compare the difference on each scale between LDRs with PRs as a reference group with adjusting for age, education, region, and employment. Higher scores indicate better health. Effect size were reported in Eta-Squared.

* p≤0.05 were considered statistically significant; † After adjusting for age, education, region and employment, the adjusted mean difference has changed to be negative meaning that participants in PR group had higher score than participants in LDR group with statistical significance

Table 3. SF12v2 subscales compared between LDRs and PRs

Subscale	LDRs (n=2,633)		PRs (n=3,092)		Adjusted mean difference (95% CI)	p-value	Eta-squared
	Mean	SD	Mean	SD			
General health	70.4	28.00	60.00	26.90	−0.15 (−2.41 to 2.10)	0.90	-
Physical functioning	83.7	27.00	84.40	26.40	−2.14 (−4.37 to 0.01)	0.05	-
Role physical	75.01	26.20	78.40	25.70	−2.09 (−4.26 to 0.08)	0.06	-
Body pain	75.70	29.90	77.50	27.90	−2.93 (−5.36 to −0.49)	0.02	0.001
Vitality	67.00	26.60	57.70	27.30	−1.23 (−3.56 to 1.10)	0.30	-
Social functioning	75.90	25.90	84.00	23.20	−2.79 (−4.91 to −0.68)	0.01	0.001
Role emotional	76.30	22.10	80.20	23.60	−2.58 (−4.59 to −0.57)	0.01	0.001
Mental health	72.00	20.60	69.10	21.10	−2.38 (−4.21 to −0.55)†	0.01	0.001

LDRs=long-distance relationship partners; PRs=proximal relationship partners; SD=standard deviation; CI=confidence interval

Linear regression was used to compare the difference on each scale between LDRs with PRs as a reference group with adjusting for age, education, region, and employment. Higher scores indicate better health. Effect size were reported in Eta-Squared.

* p≤0.05 were considered statistically significant; † After adjusting for age, education, region and employment, the adjusted mean difference has changed to be negative meaning that participants in PR group had higher score than participants in LDR group with statistical significance

alcohol ($p<0.022$), as reported in Table 2. Participants in LDRs reported significantly less alcohol use compared to those in PRs, again with a small effect size ($\eta^2=0.001$). In other words, on health habits, those in LDR's reported better habits than those in PR's in terms of alcohol use but not other variables.

Discussion

Using nationally representative data from China, Japan, South Korea, and Taiwan from the 2010 EASS[16], the authors compared health variables and health habits between a sample of individuals in LDRs and those in PR. Overall physical health did not differ across the groups indicating that the marriage benefit can be extended to those in LDRs suggesting that the proximity of a partner cannot explain the physical health benefits of being married. In terms of mental health, PR participants reported having better mental health, based on the overall MCS as well as on several more specific MCS such as Role emotion subscale, and being less hopeless compared to the LDR participants. These results were consistent with previous research[12], which found that LDR individuals reported more individual and relationship

stress. Perhaps, this is caused by the specific stressors experienced in LDR individuals. Some individuals in LDR may spend a lot of their time traveling, causing fatigue, travel related stress, and extra expenses. Some may also experience role overload, whether they were the travelling spouse or the one at home. That is, the at home parent may experience greater family responsibilities during the times the travelling partner is away, and the traveling partner may experience more family responsibilities while at home to 'make up for' being gone on the other days. The others may feel lonely from decreased physical intimacy.

The results of present study were inconsistent with prior research indicating that being in LDR predicted better habits such as exercise behaviors[12]. The results indicated that it was only in the use of alcohol that the health habits of the LDR group were better than those in the PR group. The present study also found that according to SF subscale, LDR participants' health problems seemed to interfere more with their social activities. Drinking is seen as a social activity in Asian culture. In China, most alcohol drinking occurs with meals in different social situations including festivals, special recreational events, cerebrations, and business occasions[20,21]. Moderate drinking in special occasions is seen as social norm in Chinese culture. Drinking alcohol is also believed to strengthen relationships between friends and colleagues. In addition, social drinking is encouraged in Chinese cultural norm while solitary drinking is discouraged[21,22]. It is possible that those involved in LDRs have less time for social drinking compared to those in PRs due to traveling or role burden from family responsibilities. Travel frequency in LDR individuals could also prevent them from social gathering with friends and families. Simultaneously, drinking can also be seen as a couple level social activity leading to PR individuals drinking more. The cultural differences may play a role in the indistinctiveness of exercise and health checkup regularity between LDRs and PRs, resulting in the inconsistency with the previous data[12].

Some limitations of the current study need to be considered when interpreting the study's findings. First, according to Du Bois et al[12], individuals in LDRs reported seeing their partners less than daily in a typical month and spending three or more full days weekly more than 50 miles apart. In the current study, a LDR was defined by whether the individuals lived with their married partner or not, which might not be an adequate proxy for this type of relationship. The authors also did not explore the reasons participants were in LDRs, which might be culturally specific, making collapsing data across countries inappropriate. Second, the participants from China were disproportionately represented in the LDR group. Approximately 90% of the LDR participants were from China, compared to 1% to 3% in Japan, South Korea, and Taiwan. This disproportion can affect interpretation of the results, but in unknown ways. However, the authors had adjusted for regional factor in the regression analysis to control the confounding effect. Since analyzing the data from only China or Non-China regions caused the unbalanced number of participants between LDR and PR groups, the authors did not look at the data from each region separately. Third, due to the limitation of the study design, the present study neither measured the quality of the relationships nor able to determine if the responder was the person travelling away from home or the person staying at home. Both variables could have important implications for interpreting the findings. Finally, the data used in the present study were from the 2010 EASS and might not be as relevant to today's couples as a more recent dataset.

Implications of findings

There are both research and clinical implications to these findings. In terms of research, the present study uncovered an unexpected cultural difference in the number of LDR couples in China compared to the other countries assessed. China is the world's most populous country with a population of more than one billion people[23]. It is also the third- or fourth-largest country by total area. Future research is needed to explore if there was a cultural explanation for the large number of LDRs. Consequently, there might be more societal and cultural support for the LDR couple in China, which can mitigate the stressors on these couples, in much the same way that a military population is different from a non-military one in other countries. Results also suggest that LDR's might not be very different from PR's when it comes to GH but are different on mental health variables. However, future research needs to ask more questions about the LDR relationships such as 'who is doing the traveling' and 'for what reason is the traveling happened'.

Clinically, the authors might need to better understand LDRs in terms of both culture and health if the researchers hope to work with couples across diverse living situations on health and health habits. Understanding the direction of the relationship between health and living arrangement and the

explanation for the findings would be beneficial to promote better health in different relationship contexts.

Conclusion

The present study furthered understanding about the Marriage Benefit in LDRs within a large, non-Western sample. Findings were both convergent and divergent with the only known other health and LDR study. In terms of consistent findings, it is becoming clearer that those in LDR's report worse mental health, along several dimensions compared to those in PR's, with the exception of the use of alcohol. However, in contrast with previous studies, there were no differences on physical health between the two groups, indicating that, in fact the health benefits of being married can be extended to LDRs. Although it is difficult to generalize these results to those with Western samples due to multiple cultural differences, results do extend the knowledge about the benefits and costs of increasingly popular LDRs.

What is already known on this topic?

According to the marriage benefit, there are mixed findings in psychological and physical health outcomes for individuals who were in LDRs when compared to those in PR.

What this study adds?

The present study extended the previous findings that there are health differences between those in LDRs and PRs to a larger sample from East Asian Social Survey. The results suggested that PR participants reported better overall mental health, while the overall physical health did not differ across the groups. This indicated that the marriage benefit can be extended to those in LDRs, suggesting that the proximity of a partner cannot explain the physical health benefits of being married.

Acknowledgement

There was no financial support received for the present study. The authors thank Stephen J. Kerr, HIV-NAT, The Thai Red Cross AIDS Research Centre for assistance with research analyses.

Conflicts of interest

The authors have each complete the International Committee of Medical Journal Editors Form for uniform Disclosure of Potential Conflicts of Interest. No authors have any potential conflict of interest to disclose.

References

1. Brown SL, Bulanda JR, Lee GR. The significance of nonmarital cohabitation: marital status and mental health benefits among middle-aged and older adults. J Gerontol B Psychol Sci Soc Sci 2005;60:S21-9.
2. Kiecolt-Glaser JK, Newton TL. Marriage and health: his and hers. Psychol Bull 2001;127:472-503.
3. Kiecolt-Glaser JK, Wilson SJ. Lovesick: How couples' relationships influence health. Annu Rev Clin Psychol 2017;13:421-43.
4. Robles TF, Slatcher RB, Trombello JM, McGinn MM. Marital quality and health: a meta-analytic review. Psychol Bull 2014;140:140-87.
5. Stack S, Eshleman J. Marital status and happiness: A 17-nation study. J Marriage Fam 1998;60:527-36.
6. Merolla A. Relational maintenance and noncopresence reconsidered: conceptualizing geographic separation in close relationships. Commun Theory 2010;20:169-93.
7. Farris A. Commuting. In: Rapoport R, Rapoport RN, Bumstead JM, editors. Working couples. New York: Harper & Row; 1978. p. 100-7.
8. Govaerts K, Dixon DN.... until careers do us part: Vocational and marital satisfaction in the dual-career commuter marriage. Int J Adv Couns 1988;11:265-81.
9. Rhodes AR. Long-distance relationships in dual-career commuter couples: A review of counseling issues. Fam J 2002;10:398-404.
10. Kelmer G, Rhoades GK, Stanley S, Markman HJ. Relationship quality, commitment, and stability in long-distance relationships. Fam Process 2013;52:257-70.
11. Goldsmith K, Byers E. Perceived and reported romantic and sexual outcomes in long-distance and geographically close relationships. Can J Hum Sex 2018;27:1-13.
12. Du Bois SN, Sher TG, Grotkowski K, Aizenman T, Slesinger N, Cohen M. Going the distance: Health in long-distance versus proximal relationships. Fam J 2016;24:5-14.
13. Pistole M, Roberts A, Chapman M. Attachment, relationship maintenance, and stress in long distance and geographically close romantic relationships. J Soc Person Relat 2010;27:535-52.
14. Ruhlmann LM, Nelson Goff BS, Novak JR, Fuss C, Gnagi T, Schiferl M. Psychological and relational health profiles of soldiers in committed romantic relationships. J Fam Psychol 2018;32:1057-67.
15. Dargie E, Blair KL, Goldfinger C, Pukall CF. Go long! Predictors of positive relationship outcomes in long-distance dating relationships. J Sex Marital Ther 2015;41:181-202.
16. Iwai N, Li L, Kim SW, Chang YH. East Asian Social Survey (EASS), cross-national survey data sets: Health and society in east Asia 2010 (ICPSR 34608). Ann Arbor, MI: Inter-university Consortium for Political and Social Research; 2014.
17. Huo T, Guo Y, Shenkman E, Muller K. Assessing the

reliability of the short form 12 (SF-12) health survey in adults with mental health conditions: a report from the wellness incentive and navigation (WIN) study. Health Qual Life Outcomes 2018;16:34.
18. Ware JE, Kosinski M, Turner-Bowker DM, Gandek B. How to score version 2 of the SF-12 Health Survey (with a supplement documenting version 1). Lincoln, RI: Quality Metric; 2002.
19. Cohen J. Statistical power analysis for the behavioral sciences. Hillsdale, NJ: Lawrence Erlbaum Associates; 1988.
20. Wang S, Newman IM, Shell DF. Cultural orientation and its associations with alcohol use by university students in China. PLoS One 2016;11:e0165858.
21. Hao W, Young D. Drinking pattern and problems in China. J Subst Use 2009;5:71-8.
22. Hao W, Chen H, Su Z. China: alcohol today. Addiction 2005;100:737-41.
23. United Nations, Department of Economic and Social Affairs, Population Division. World population prospects: The 2019 revision [Internet]. 2019 [cited 2020 Mar 1]. Available from: https://population.un.org/wpp/DataQuery/.

View publication stats