

Current Situation of Mental Health of Older Adults: A Case from Henan Province, China

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Abstract

Background: The population ageing process has changed the world's population composition. China's population is ageing rapidly, and many researchers have focused on the psychological problems of older adults.

Objective: To investigate the current state of mental health of older adults in China, understand the current level of mental health of older adults in China and its influencing factors, provide a reference for the formulation of mental health intervention measures, and scientifically protect the mental health of older adults.

Methods: Convenience sampling was used to select 196 older people aged 60 and above in the Central Plains of China as the research objects. The questionnaire survey method was used to investigate the mental health status of older adults.

Results: Among the 196 older people, 145 had no psychological symptoms, accounting for 74.0%; 45 had mild psychological symptoms, accounting for 23.0%; 4 had moderate psychological symptoms, accounting for 2.0%; 2 had severe psychological symptoms, accounting for 1.0%. There were statistically significant differences in the mental health scores among older adults with different ages, marital statuses, number of chronic diseases, and economic income ($P < 0.05$).

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New Voices in Psychology
Volume 14 | Number 1 | 2024 | #15657 | 11 pages

<https://doi.org/10.25159/2958-3918/15657>
ISSN 2958-3918 (Online)
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Conclusion: The mental health status of older adults in China is average. Age, marital status, number of chronic diseases, and income level impact the mental health of older adults. The whole society should pay attention to the mental health of older adults.

Keywords: Chinese elderly; mental health; current situation survey

Introduction

Technological progress in all aspects of human beings and the economy has significantly improved people's quality of life and health. In particular, the development of modern medicine has not only improved the cure rate of diseases but also extended the average life expectancy of the world's population, making the rise of the older adult population a significant trend in social development. In today's society, population ageing has become a significant issue of globalisation and a hot spot that people are generally concerned about. Notably, China, a developing country with a larger population and stricter family planning policies, faces a more difficult ageing situation (Cheng, Y., Lan, J., & Ci, Q. 2023). The problem of population ageing in China is also increasing daily, thoughtfully balancing social and economic development. By 2050, there will be 400 million Chinese citizens aged 65+, 150 million of whom will be 80+ (Fang, E. F et al .,2015). China will have one of the world's highest proportions of older people.

During the development of modern medicine, researchers found that the health of older adults not only refers to physical health but also involves many aspects, such as mental health and good social function(Saracci R., 1997). As individuals age, their physical faculties undergo natural deterioration, making it challenging to adjust to evolving social roles swiftly. Consequently, this gradual decline in physical health often corresponds with a continuous diminishment of mental well-being (Chen, Y. R., & Schulz, P. J. 2016). Therefore, gerontological research considers the mental health of older adults to be an essential topic and conducts in-depth research. The problem of population ageing in the Central Plains of China is severe, and the mental health of older adults also needs to be solved urgently. Actively responding to the ageing of the population and improving the mental health and subjective well-being of older adults is conducive to improving the quality of life of older adults, maintaining social stability, and promoting social development.

The purpose of this study is to understand the current situation of the mental health of older adults, provide a scientific basis for improving community health services for older adults, provide a reference for the formulation of mental health intervention measures, protect their mental health scientifically, and enable them to enjoy their old age better.

Methods

Research Design

Cross-sectional research.

Setting and Samples

Taking a city as the research site, from July to September 2020, 196 older people were selected as the research objects by convenience sampling. Inclusion criteria of the survey subjects: ① Voluntary participation in the survey; ② Aged 60 years and above; ③ Conscious state. Exclusion criteria: ① mentally ill patients; ② recently experienced traumatic events.

Measurement and Data Collection

The survey used a self-designed basic situation questionnaire and symptom self-rating scale (Self-reporting Inventory, SCL-90). The researchers designed the basic situation questionnaire, which included the age, marital status, number of chronic diseases, and economic income level of older adults. The symptom self-rating scale has good reliability and validity (Schmitz N, 2000, Hardt, J., Gerbershagen, H. U., & Franke, P. 2000), including 90 items, comprising ten factors, namely somatisation, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, hostility, terror, paranoia, psychosis, and others. It is divided into five grades, ranging from 1 to 5, corresponding to the mental health level of "never," "mild," "moderate," "very severe," and "severe." The total score is 90-450 points. The higher the score, the lower the level of mental health, the less than or equal to 160 points for no psychological symptoms, 161-200 points for mild psychological symptoms, 201-250 points for moderate psychological symptoms, and more than 250 points for severe psychological symptoms.

Data Analysis;

SPSS21.0 software was used for statistical processing, and the scores of older adults in a city were analysed. The measurement data were analysed by means \pm standard deviation ($\bar{x} \pm s$) and one-way ANOVA; the count data were statistically described by frequency and composition ratio.

Results

General Demographic Data

200 Older people aged 60 and above were investigated in this study, and 200 questionnaires were recovered, with a recovery rate of 100%. Among them, 196 were valid questionnaires, four invalid questionnaires were excluded, and the effective recovery rate was 98.0%. Its frequency distribution and composition ratio are shown in Table 1.

Table 1: General Demographic Data of Older Adults ($n=196$ %)

Item		Number of cases	Composition ratio
Age	60~69 years old	136	69.4
	70~79 years old	53	27.0
	80~89 years old	6	3.1
	≥89	1	0.5
Marital Status	Married	151	77.0
	Single	2	1.0
	Divorced	8	4.1
	Widowed	35	17.9
Number of chronic diseases	≤1	74	37.7
	2	67	34.2
	3	38	19.4
	≥4	17	8.7
The per capita monthly household income	<500 yuan	46	23.4
	500~1000 yuan	57	29.1
	1001~3000 yuan	65	33.2
	>3000 yuan	28	14.3

Status of Psychological Health of Older Adults

See Table 2, the psychological health of 196 older people above participating in the survey.

Table 2: Psychological Health Status of Older Adults ($n=196$ %)

SCL-90 total score	Number	Composition ratio (%)
≤160	145	74.0
161~200	45	23.0
201~250	4	2.0
>250	2	1.0

The Main Influencing Factor of the Mental Health of Older Adults

Psychological Health Scores of Different Ages and Older Adults

The scores of somatisation, depression, anxiety, and terrorist factors of different ages are different. The difference is statistically significant ($P < 0.05$), as shown in Table 3.

Table 3: Psychological Status Scores of Older Adults at Different Ages ($n=196$, $\bar{x}\pm s$)

	60~69 years old	70~79 years old	80~89 years old	>89 years old	F	P
Somatization	21.52±8.38	23.96±10.15	30.53±14.76	30.80±15.81	7.202	0.043
Depression	20.77±8.55	24.04±10.86	30.45±14.48	31.59±14.89	8.794	0.000
Anxiety	16.83±7.26	18.53±8.19	24.40±12.81	24.53±13.49	6.910	0.020
Terrorist	11.82±5.37	12.55±6.54	17.25±8.91	16.76±9.32	6.060	0.036

Different Marriage Status Scores of the Psychological Health Status of Older Adults

The scores of adults, somatisation, sensitivity, depression, and obsessive-compulsive of older adults in different marriage statuses are distinct. The difference is statistically significant ($P < 0.05$), as shown in Table 4.

Table 4: Psychological Status Score of Older Adults People with Different Marital Status ($n=196$, $\bar{x}\pm s$)

	Married	Single	Divorced	Widowed	F	P
Somatization	21.11±8.00	23.44±5.79	30.06±15.40	32.60±15.81	12.848	0.002
Sensitivity	15.14±6.46	17.89±3.06	21.77±10.43	21.94±12.00	9.400	0.006
Depression	20.93±8.52	24.00±7.21	30.00±14.03	30.29±15.71	10.087	0.001
Obsessive-compulsive	18.05±6.75	19.00±4.82	25.67±12.83	25.91±11.71	10.964	0.035

Different Chronic Diseases of the Psychological Health Status of Older Adults

The scores of older adults, somatisation, anxiety, depression, and psychiatric factors of different chronic diseases are different. The difference is statistically significant ($P < 0.05$); see Table 5.

Table 5: Psychological Status Scores of Older Adults with Different Chronic Diseases ($n=196$, $\bar{x}\pm s$)

	≤1	2	3	≥4	F	P
Somatization	20.28±8.28	24.94±9.67	25.68±13.22	28.83±14.61	5.503	0.001
Anxiety	16.24±6.64	19.33±8.55	20.54±11.56	21.50±12.86	3.507	0.016
Depression	20.03±8.22	24.61±9.99	27.15±13.65	26.39±15.59	4.772	0.003
Psychiatric	15.82±6.60	19.31±8.44	21.44±11.99	20.11±13.14	3.890	0.010

Different economic income elderly psychological health status score

Different economic income, older people have other scores, somatisation, interpersonal sensitivity, depression, and anxiety factors. The differences are statistically significant ($P < 0.05$); see Table 6.

Table 6: Psychological Status Scores of Older Adults with Different Incomes
($n=196$, $\bar{x}\pm s$)

	<500 yuan	500~ 1000yuan	1001~ 3000yuan	> 3000yuan	<i>F</i>	<i>P</i>
Somatization	23.86±12.23	23.83±11.46	22.68±10.32	22.0±9.46	1.042	0.033
Interpersonal sensitivity	17.81±9.29	17.71±6.93	17.22±8.78	15.41±6.85	0.824	0.042
Depression	24.98±12.25	23.46±11.72	23.11±9.48	22.07±9.61	0.602	0.010
Anxiety	20.25±10.63	18.25±7.33	18.19±9.37	17.78±8.08	0.778	0.038

Discussion

Analysis of the Current Situation of Mental Health of Older Adults

The survey found that among the 196 older people aged 60 and above, 145 had no psychological symptoms, accounting for 74.0%; 45 had mild psychological symptoms, accounting for 23.0%; and 4 had moderate psychological symptoms, accounting for 2.0%; 2 people with severe psychological symptoms, accounting for 1.0%. The mental health of older adults is at a moderate level. About 15% of adults aged 60 and over have a mental illness.

Older adults are more susceptible to diseases due to cell ageing, tissue and organ decline, and weakened immunity. Most conditions are chronic diseases, causing older adults to feel negative for a long time. At the same time, often due to changes in social roles, the surrounding interpersonal relationships have undergone tremendous changes, and personal value cannot be measured by labour or contribution, resulting in a sudden drop in the sense of social value.

Analysis of the Main Influencing Factors of Mental Health of Older Adults

The Influence of Age on the Mental Health of Older Adults

There were differences in the scores of somatisation, depression, anxiety, and terror factors among older adults of different ages, and the difference was statistically significant ($P<0.05$), as shown in Table 3. The main reason for the analysis is that older adults's physical function declines, their emotions become increasingly hostile, and negative psychology, such as self-closure and escape from life, gradually emerges. At the same time, due to the decline of physical strength, loss of appetite, sleep disorders, increasing prevalence and association, and fear of death, older adults are more likely to have hypochondriacal tendencies. The research of An, H. Y., et al. (2019) confirmed that physical activity is significantly related to the life satisfaction and happiness of the elderly. After retirement, the social circle of older adults has changed, and the relationship between colleagues has also decreased. The vibrancy of life has transitioned from its former richness to a present state of emptiness, which may also manifest as feelings of monotony and disinterest. If you cannot change your mind as soon as possible and adapt to the change of roles, it is easy to appear worthless. Psychological

symptoms such as anxiety and depression are caused. Secondly, it may be related to the gradual weakening of older adults's self-care ability, the aggravation of physical discomfort, the gradual increase of dependence on family members, and the need for family members to provide more help in daily life. Fear that when an accident or illness occurs, family members will not be able to detect and provide support in time, which will lead to a decrease in older adults's sense of security, an increase in fear and anxiety, and adversely affect their mental health.

The Influence of Marital Status on the Mental Health of Older Adults

The scores of somatisation, interpersonal sensitivity, depression, and obsessive-compulsive symptoms of older adults with different marital statuses were other, and the difference was statistically significant ($P < 0.05$), as shown in Table 4. The findings are consistent with Becker C. et al. (2019). Marriage can provide both spouses with a sense of belonging and security. Older people with spouses can get more help from their spouses in life. Having a fixed object to talk to can make older adults depend on each other in spirit, care for each other in life, and reduce loneliness (Zhang H et al. 2017). Older people with spouses can use talking to relieve negative emotions when encountering bad things in their lives, thereby reducing the incidence of depression. Being widowed or divorced in old age means lacking these spiritual comforts. When something unsatisfactory occurs, it is easy to get into the horns, resulting in the growth of negative emotions (Turana, Y. et al. 2021). After widowhood, older adults lose their psychological support, lose a sense of security and dependence, and then have despair in life, which can easily lead to the emergence of psychological problems such as depression, loneliness, and interpersonal sensitivity. The study by Liu X. et al. (2022) showed that the mental health of widowed elderly people is poor.

The Influence of the Number of Chronic Diseases on the Mental Health of Older Adults

There were differences in the scores of somatisation, anxiety, depression, and psychotic factors among older adults with different numbers of chronic diseases. The difference was statistically significant ($P < 0.05$), as shown in Table 5. The findings are consistent with those of Turana Y. et al. (2021). The "triple burden" of an ageing population, high blood pressure, and mental health issues make older Asians even more vulnerable. Evidence suggests a bidirectional relationship between mental health and high blood pressure, leading to lower quality of life, lower treatment adherence, and higher mortality in older adults. A cross-sectional study from China with a sample size of 4115 showed that the percentage of poor mental health status was significantly higher in patients with anaemia, diabetes, hyperlipidemia, cataract/glaucoma, ischemic heart disease, cerebrovascular diseases, nasopharyngitis, chronic gastroenteritis/peptic ulcer, liver diseases, cholecystitis/gallstone, arthritis, or chronic low back pain (Wang et al., 2016). Chronic diseases are expensive to treat, take a long time to heal, and cause significant damage to bodily functions, not only causing damage to various tissues and organs of the human body but also causing various problems to the patient's family. Due

to the physical decline and the disconnection from society, older adults often feel more lost and become more sensitive and suspicious. Due to the generally poor ability to accept and master new things such as the Internet, the way for older adults to acquire knowledge is very narrow. When suffering from multiple diseases, it is more likely to cause inner panic and accumulation of negative emotions due to the lack of relevant knowledge and understanding of the disease. The therapeutic effect of drugs is often accompanied by side effects and adverse reactions, coupled with long-term suffering from diseases and paying expensive medical expenses, making them psychologically fragile and constantly worried. The mental pressure brought by chronic diseases, lack of evacuation methods, and correct psychological guidance are more likely to cause anxiety, depression, and psychosis in older adults.

The Influence of Economic Income on the Mental Health of Older Adults

There were differences in the scores of somatisation, interpersonal sensitivity, depression, and anxiety among older adults with different incomes, and the difference was statistically significant ($P < 0.05$), as shown in Table 6. The findings are consistent with the findings of Bandeenroche et al. (2015). Older adults with better economic status have a higher quality of life in their later years and can enjoy better services; they have less social and economic pressure and less burden; their family and their social status are relatively high, and they are more likely to get their family's attention and care. To a certain extent, it satisfies the desire of older adults to be respected. With the improvement of the economic level, the community infrastructure will be perfect, and older adults will have a more colourful life in their later years. They can stimulate their love for life through community activities such as square dancing and Tai Chi, thereby reducing psychological problems. Older adults facing financial hardship are more prone to experiencing psychological symptoms such as anxiety, low self-esteem, and depression. Studies have shown that public policy proposals to change retirement benefits for older adults may have a meaningful impact on the mental health of older adults.

Countermeasures

Strengthening Medical Service Guarantee

Higher economic income guarantees the enjoyment of high-quality medical and health services. For older adults with chronic diseases who need long-term medication, the drugs for chronic diseases are expensive and must be taken for life. Therefore, it is difficult to see a doctor and treat an infection. In response to this phenomenon, we call on the government to strengthen the guarantee of medical and health services, further improve endowment insurance and medical insurance, establish a relief fund for the economically poor elderly to enhance their economic level and ensure the basic needs of daily life (Golberstein E., 2015); focus on to ensure the physical and mental health of older adults, free psychological consultation rooms are opened; regular follow-up visits are provided to provide material and spiritual help to older adults, thereby improving the overall living standard of older adults.

Strengthen the Construction of the Community System

Older adults have a high demand for social services. Establish community-based elderly activity centres to facilitate cultural and sports engagement for older adults through collective activities such as calligraphy competitions, recitation contests, painting exhibitions, and more; encourage and guide older adults to participate in community activities actively, strengthen the connection between older adults, help older adults restores vitality and enriches life in old age (Bai, Y. et al.,2020). Establish community elderly care facilities centred on an older adult service system to create a high-quality elderly care environment. Studies have shown a negative correlation between physical activity levels and mental health problems (Gruzieva, T. S., et al.,2021). Society should encourage volunteers to provide fitness and exercise guidance for older adults, help them avoid physical damage caused by inappropriate exercise, and help older adults exercise scientifically. Health education on chronic diseases can be effectively conducted through multimedia presentations, pictorial speeches, distribution of health handbooks, and organising knowledge contests focused on disease prevention. These initiatives aim to empower older adults and their families with a deeper understanding of prevention and treatment measures for chronic diseases, encouraging them to adopt healthier lifestyles and dietary habits. By reducing the incidence of complications associated with chronic illnesses, such efforts contribute to enhancing the overall mental well-being of older adults. (Maynou L. et al.,2021).

Create a Family Support System

A good family atmosphere is essential in maintaining and promoting older adults' physical and mental health. With age, family is increasingly important to people, and family members are undoubtedly the primary psychological support for older adults. Understanding, supporting, and caring for family members are the best medicines for the mental health of older adults. Because older adults and their children have many different living habits, older adults should not be stubborn and should increase positive communication with their children. At the same time, children should pay more attention to their parents, listen carefully to their needs and wishes, and respect and adopt the opinions of older adults as appropriate to enhance their sense of value and existence. Especially after encountering stressful events such as widowhood, older adults are relatively fragile, and relatives of children should provide psychological counselling and active support to help them divert their attention, relieve mental depression, and boost their spirits. Not only should they communicate with older adults more, but it is also necessary to go home often to understand the needs of older adults, find out their psychological problems and physical discomfort in time, give psychological guidance and help in daily life, and reduce the occurrence of psychological problems. In addition, in the Internet age, the ability of older adults to use the Internet is also related to their mental health. Smooth Internet use can improve the happiness of older adults and reduce anxiety (Xie L. et al.,2021).

Implication and Limitations

This study investigated the mental health status of older adults in the Central Plains of China and provided a reference for further research on promoting mental health among older adults. The limitations are that the sample collection range is small, the sample size needs to be sufficient, and the representativeness of the research results needs to be improved.

Conclusion

The mental health status of older adults in China is average. Age, marital status, number of chronic diseases, and income level have an impact on the mental health of older adults. The government should strengthen the guarantee of medical and health services, the community should enhance the construction of a system, and the family should create a sound support system to promote and protect the mental health of older adults.

References

- An, H. Y., Chen, W., Wang, C. W., Yang, H. F., Huang, W. T., & Fan, S. Y. (2020). The Relationships between Physical Activity and Life Satisfaction and Happiness among Young, Middle-Aged, and Older Adults. *International Journal of Environmental Research and Public Health*, 17(13), 4817. <https://doi.org/10.3390/ijerph17134817>
- Bai, Y., Bian, F., Zhang, L., & Cao, Y. (2020). The Impact of Social Support on the Health of the Rural Elderly in China. *International Journal of Environmental Research and Public Health*, 17(6), 2004. <https://doi.org/10.3390/ijerph17062004>
- Bandeenoche, K., Seplaki, C. L., Huang, J., Buta, B., Kalyani, R. R., Xue Q.-L., Walston, J. D. & Kasper, J. D. (2015). Frailty in older adults: a nationally representative profile in the United States. *Journals of Gerontology*, 70(11), 1427–1434. <https://doi.org/10.1093/gerona/glv133>
- Becker, C., Kirchmaier, I., & Trautmann, S. T. (2019). Marriage, parenthood and social network: Subjective well-being and mental health in old age. *PLoS One*, 14(7), e0218704. <https://doi.org/10.1371/journal.pone.0218704>
- Chen, Y. R., & Schulz, P. J. (2016). The Effect of Information Communication Technology Interventions on Reducing Social Isolation in Older Adults: A Systematic Review. *Journal of Medical Internet Research*, 18(1), e18. <https://doi.org/10.2196/jmir.4596>
- Cheng, Y., Lan, J., & Ci, Q. (2023). Employment and Mental Health of the Chinese Elderly: Evidence from CHARLS 2018. *International Journal of Environmental Research and Public Health*, 20(4), 2791. <https://doi.org/10.3390/ijerph20042791>
- Fang, E. F., Scheibye-Knudsen, M., Jahn, H. J., Li, J., Ling, L., Guo, H., Zhu, X., Preedy, V., Lu, H., Bohr, V. A., Chan, W. Y., Liu, Y., & Ng, T. B. (2015). A research agenda for aging in China in the 21st century. *Aging Research Reviews*, 24(Pt B), 197–205. <https://doi.org/10.1016/j.arr.2015.08.003>

- Golberstein E. (2015). The effects of income on mental health: evidence from the social security notch. *The Journal of Mental Health Policy and Economics*, 18(1), 27–37.
- Gruzieva, T. S., Diachuk, M. D., Inshakova, H. V., Soroka, I. M., & Dufynets, V. A. (2021). Health of Older Adults People as the Basis for Formation of Medical and Social Needs. *Wiadomosci lekarskie (Warsaw, Poland : 1960)*, 74(3 cz 2), 658–664. <https://doi.org/10.36740/WLek202103217>
- Hardt, J., Gerbershagen, H. U., & Franke, P. (2000). The symptom check-list, SCL-90-R: its use and characteristics in chronic pain patients. *European Journal of Pain (London, England)*, 4(2), 137–148. <https://doi.org/10.1053/eujp.2000.0162>
- Liu, X., Liu, F., Ruan, W., Chen, Y., Qu, S., & Wang, W. (2022). Mental health status and associated contributing factors among the Hakka elderly in Fujian, China. *Frontiers in Public Health*, 10, 928880. <https://doi.org/10.3389/fpubh.2022.928880>
- Maynou, L., Hernández-Pizarro, H. M., & Errea Rodríguez, M. (2021). The Association of Physical (in) Activity with Mental Health. Differences between Elder and Younger Populations: A Systematic Literature Review. *International Journal of Environmental Research and Public Health*, 18(9), 4771. <https://doi.org/10.3390/ijerph18094771>
- Saracci, R. (1997). The World Health Organization needs to reconsider its definition of health. *BMJ*, 314,1409. <https://doi.org/10.1136/bmj.314.7091.1409>
- Schmitz, N., Hartkamp, N., Kiuse, J., Franke, G., Reister, G., Tress, W. (2000). The symptom check-list-90-R (SCL-90-R): a German validation study. *Qual Life Res.*, 9, 185–193. <https://doi.org/10.1023/a:1008931926181>
- Turana, Y., Teng kawan, J., Chia, Y. C., Shin, J., Chen, C. H., Park, S., Tsoi, K., Buranakitjaroen, P., Soenarta, A. A., Siddique, S., Cheng, H. M., Tay, J. C., Teo, B. W., Wang, T. D., & Kario, K. (2021). Mental health problems and hypertension in older adults: Review from the HOPE Asia Network. *Journal of Clinical Hypertension (Greenwich, Conn.)*, 23(3), 504–512. <https://doi.org/10.1111/jch.14121>
- Wang, S., Li, B., Ungvari, G. S., Ng, C. H., Chiu, H. F., Kou, C., Liu, Y., Tao, Y., Wu, Y., Fu, Y., Qi, Y., Yu, Y., & Xiang, Y. T. (2016). Poor mental health status and its associations with demographic characteristics and chronic diseases in Chinese elderly. *Soc Psychiatry Psychiatr Epidemiol*, 51, 1449–1455. <https://doi.org/10.1007/s00127-016-1271-y>
- Xie, L., Yang, H. L., Lin, X. Y., Ti, S. M., Wu, Y. Y., Zhang, S., Zhang, S. Q., & Zhou, W. L. (2021). Does the Internet Use Improve the Mental Health of Chinese Older Adults? *Frontiers in Public Health*, 9, 673368. <https://doi.org/10.3389/fpubh.2021.673368>
- Zhang, H., Gao, T., Gao, J., Kong, Y., Hu, Y., Wang, R., & Mei, S. (2017). A comparative study of negative life events and depressive symptoms among healthy older adults and older adults with chronic disease. *Int J Soc Psychiatry*, 63(8), 699–707. <https://doi.org/10.1177/0020764017736543>