Iran J Public Health, Vol. 53, No.10, Oct 2024, pp.2298-2306

Original Article

Effect of an Exercise Intervention Based on General Adaptation Syndrome Model on Psychological Experience in Community-Dwelling Elderly

*Liping Dai [1], Bingjin Su [1], *Kun Ma [2]*

1. *General Education College, Fuzhou Polytechnic, Fuzhou, China*
2. *Department of Physical Education, Xiamen Institute of Technology, Xiamen, China*

***Corresponding Author:** Email: weimakun2008@163.com

(Received 15 May 2024; accepted 04 Jul 2024)

Abstract

Background: With the intensification of population aging globally, the mental health of the elderly is not only related to their personal well-being but also directly affects family harmony and social stability. However, few studies have been conducted on interventions for mental health issues in the elderly.

Methods: From September to December 2023, a total of 164 elderly individuals were recruited from Ronghui Shanshui community in Fuzhou City of China through random cluster sampling and randomly divided into the control and experiment groups. The experiment group was given a three-month intervention based on general adaptation syndrome model, whereas the control group was given no intervention. At the end of the intervention period, an effect comparison was conducted between the two groups using the Physical Activity Rating Scale, University of California at Los Angels (UCLA) Loneliness Scale, and Memorial University of Newfoundland Scale of Happiness.

Results: After the intervention, the well-being of the experiment group increases significantly and is significantly higher than that of the control group ($P < 0.05$). After the intervention, the loneliness of the experiment group decreases significantly and is significantly lower than that of the control group ($P < 0.05$). Exercise participation significantly mediates the relationship between the intervention and psychological experience ($P < 0.001$).

Conclusion: This intervention model is not only beneficial for improving positive psychological experience in the elderly but can also effectively reduce their negative psychological experience. This study provides valuable reference for scientific intervention in the mental health of the elderly.

Keywords: General adaptation syndrome model; Tai Chi; Exercise participation; Psychological experience

Introduction

With the intensified trend of population aging globally, the proportion of the elderly is growing dramatically in many countries. This phenomenon not only brings about changes in economic and social structures but also poses new challenges to the public health system, underscoring the importance of addressing mental health issues in the elderly (1). The mental health of the elderly is

directly associated with their quality of life (2). The elderly mostly suffer from a variety of chronic diseases, such as cardiovascular diseases and diabetes (3), which have a complex two-way relationship with mental health problems. On the one hand, chronic diseases impose a heavy psychological burden on the elderly, probably leading to depression and anxiety (4). On the other hand, a negative psychological state likely exacerbates the progression of the disease, forming a vicious cycle. Therefore, investing considerably in studies and prevention and intervention measures targeted at ensuring the mental health of the elderly is urgent.

General Adaptation Syndrome (GAS) model provides a theoretical framework to understand how individuals cope with different stressors, make psychological adjustments, and avoid a variety of psychological disorders (5). This model emphasizes the psychological and physiological response mechanisms in individuals when facing internal and external stimuli, where three stages, namely, alarm, resistance, and exhaustion, are involved. Exhaustion occurs when the exposure to stress is too long and exceeds an individual's adaptability. In this case, the individual's physiological and psychological resources are excessively consumed, which may result in serious mental health problems (5-6). GAS model has attracted extensive attention from academia since its inception, and relatively consistent conclusions have been drawn. Gu et al (7) applied GAS model to psychological counseling for corporate employees and found that it effectively addresses workplace stress and maintains mental health. Liu et al (8) performed an intervention during COVID-19 by combining network technology and GAS model and found that it effectively alleviates anxiety, depression, physical symptoms, and sense of stress in residents. Qiu (9) found that GAS model helps nurses effectively cope with workplace bullying and alleviate anxiety. Despite the preliminary validation of the effectiveness of GAS model in mental health, its application in the elderly population has not been reported.

Tai Chi, as an inclusive exercise intervention method to improve physical and mental health, has gradually become a common sport among the elderly because of its wide applicability, full-range health benefits, profound cultural heritage, social interaction enhancement, and high flexibility. As an exercise intervention, Tai Chi significantly positively predicts exercise participation (10). Exercise participation significantly positively predicts psychological experience in the elderly while reducing the occurrence of negative emotions (11). Participating in group exercise also improves the level of social support in the elderly, enhance sense of belonging (12), and increase self-efficacy (13). These variables are all essential for maintaining mental health. However, no study has been conducted on the relationships between exercise participation, Tai Chi exercise, and psychological experience in the elderly. Thus, this study put forward two hypotheses. Exercise participation mediates the relationship between Tai Chi exercise and positive well-being. It also mediates the relationship between Tai Chi exercise and negative loneliness.

In summary, exercise intervention based on GAS model, exercise participation, and positive and negative psychological experiences in the elderly may be closely related. An in-depth analysis of their intrinsic relationships is conducive to designing reliable intervention methods for promoting the mental health of the elderly. Currently, no article has reported relevant studies.

Thus, an exercise intervention scheme was constructed in this study based on GAS model to examine the relationships between this intervention scheme, exercise participation, positive and negative psychological experiences. This study provided a new perspective and approach for elderly-targeted psychological intervention.

Materials and Methods

A total of 164 elderly individuals were recruited using convenience sampling from Ronghui Shanshui community in Fujian Province, China in September 2023. They were randomly divided into the experiment and control groups, with 62 members in each group. For a number of rea-

sons, two participants were lost in the experiment group, and one was lost in the control group. The demographic information is shown in Table 1.

The inclusion criteria for the study were as follows: 1) those aged over 60 years old, 2) those without obvious motor dysfunction in the body, 3) those who participated voluntarily with clear consciousness, and 4) those who have received elementary school education or above and were able to understand questionnaire questions. The exclusion criteria included: 1) those who aged 59 and below, 2) those with obvious motor dysfunction in the body, 3) those with unclear consciousness, and 4) those with an education level below elementary school who were unable to understand the questionnaire questions.

Consent was obtained from the volunteers. This study passed the Ethics Committee of by Fuzhou Polytechnic.

Table 1: Comparison of demographic information between the experiment and control groups

Variable		*Experiment group*	*Control group*	t/χ^2	P
Gender	Male	32	30	0.903	0.731
	Female	28	31		
Age		63.12±12.22	64.32±13.39	1.101	0.583

Research tools

Exercise participation (14): The Physical Activity Rating Scale-3 was adopted to precisely measure exercise grade. Under this framework, the degree of exercise participation is visually displayed through the score in exercise grade, which is set between 0 and 100 points to reflect exercise activity at different levels. The specific classification criteria are: low grade (no more than 19 points), moderate grade (from 19 to 42 points), and high grade (more than 42 points). The test-retest reliability of this scale was 0.85 in this study.

Negative loneliness (15): This scale includes six negative statement items, with a cumulative total score up to 24 points. This study drew on the grading criterion of UCLA-20 Loneliness Scale to analyze the level of loneliness in participants. According to this criterion, if a participant's score reaches or exceeds 14 points, they are considered to experience significant loneliness; a score below 14 indicates that the loneliness experience has not reached the level of severity. The test-retest reliability of this scale was 0.84 in this study.

Positive well-being (16): The Memorial University of Newfoundland Scale of Happiness revised by Wang et al (16) was used to measure positive well-being in the elderly. This scale covers four dimensions, namely, positive affect, positive experience, negative affect, and negative experience. It includes 24 items, with a total score ranging from −24 to +24 points. To simplify the calculation, a constant of 24 is often added so that the scoring range is 0–48 points. The test-retest reliability of this scale was 0.83 in this study.

Intervention method

A pre- and post-intervention testing experimental design was adopted for the experiment and control groups. The intervention lasted from September to November 2023, for a total of three months. Both groups were measured before and after the intervention to assess their exercise participation, well-being, and loneliness. The control group underwent routine living and did not receive any intervention therapy. The experiment group was given a psychological intervention based on GAS model in combination with Tai Chi exercise. Psychological guidance involved providing the elderly with lectures and education on elderly health, timely replies to their questions, instructions on how to alleviate negative emotions such as anxiety, and assistance in daily life planning. Continuous psychological intervention was provided every week for three months, including follow-up sessions, encouragement to persist in practicing Tai Chi, and instructions on how to avoid emotional fluctuations. The elderly were asked about their physical and psychological

conditions, given prompt assistance and guidance from family members through coordination, and encouraged to enhance their confidence in health and actively comply with the intervention. A discussion group was then established to share successful cases in a timely manner. Subsidiary exercise sessions, totaling 12 were conducted. The first three rounds of intervention concentrated on establishing trust among members and guiding the elderly to learn Tai Chi exercise. The fourth to sixth rounds focused on increasing interaction and exercise participation among the elderly. The seventh to twelfth rounds continuously fostered psychological changes step by step.

Statistical methods

This study used SPSS 26.0 (IBM Corp., Armonk, NY, USA) for statistical analysis, starting with a descriptive statistical overview of the basic information of demographic variables. The intervention scheme based on GAS model (experiment group = 1, control group = 0) was taken as the independent variable, exercise participation as the mediating variable, and well-being and loneliness as the dependent variables. Measurement was conducted before and after the intervention. The mediating effect was tested to explore the mechanism of GAS model promoting the mental health of the elderly.

Results

Comparison of changes in well-being between the experiment and control groups before and after the intervention

Table 2 reveals no significant difference between the two groups in their level of well-being before the intervention. They were both at the moderate level. After the intervention, the well-being of the experiment group increased significantly and was significantly higher than that of the control group. The level of well-being in the control group did not show any significant change compared with that before the intervention.

Table 2: Changes in well-being in the two groups before and after the intervention

Variable	*Pre-intervention*	*Post-intervention*	t	P
Experiment group	12.53±2.55	35.71±3.10	37.25	0.000
Control group	13.28±2.79	15.00±3.44	-1.485	0.144
t	-1.35	17.32		
P	0.178	0.000		

Comparison of changes in loneliness between the experiment and control groups before and after the intervention

Table 3 reveals no significant difference between the two groups in their level of loneliness before the intervention. They were both at the level of severe loneliness. After the intervention, the loneliness of the experiment group decreased significantly and was significantly lower than that of the control group. Although the loneliness of the control group decreased significantly compared with that before the intervention, it remained at the level of severity.

Table 3: Changes in loneliness in the two groups before and after the intervention

Variable	*Pre-intervention*	*Post-intervention*	st	P
Experiment group	3.48±0.20	2.17±0.46	18.08	0.000
Control group	3.50±0.23	3.38±0.30	2.22	0.031
t	-0.41	-15.15		
P	0.679	0.000		

Comparison of changes in exercise participation between the experiment and control groups before and after the intervention

Table 4 reveals no significant difference between the two groups in their level of exercise participation before the intervention. They were both at the level of low physical grade. After the intervention, the exercise participation of the experiment group increased significantly and reached the level of moderate exercise grade. By contrast, the exercise level of the control group showed no significant difference compared with that before the intervention.

Table 4: Changes in exercise participation in the two groups before and after the intervention

Variable	*Pre-intervention*	*Post-intervention*	t	P
Experiment group	6.47±3.73	41.42±16.63	-13.47	0.000
Control group	6.10±4.60	6.84±13.28	-0.392	0.687
t	0.42	11.18		
P	0.676	0.000		

Mediating effect testing

Whether the intervention affects the well-being and loneliness of the community-dwelling elderly through the mediating effect of exercise participation was tested. The results are provided in Table 5.

Table 5: Mediating effect testing

Variable	*Exercise participation*		*Well-being*		*Loneliness*	
	β	*t*	*β*	*t*	*β*	*t*
Intervention	1.56	12.06***	1.28	8.54***	-0.91	-6.22***
Exercise participation			0.29	3.87***	-0.49	-6.69***
R^2			0.61			0.63
Adjusted R^2			0.39			0.38

Table 6: Decomposition of mediating effect

	Variable			*Direct effect*		*Mediating effect*	
				Effect value	Confidence interval	Effect value	Confidence interval
Intervention	Exercise participation		Well-being	1.28	0.001~0.983	0.46	0.08~0.78
Intervention	Exercise participation		Loneliness	-0.91	-1.21~-0.62	-0.76	-1.09~-0.41

Tables 5 and 6 reveal that the intervention significantly predicts exercise participation, well-being, and loneliness. In addition, exercise participation significantly predicts loneliness. According to the results of mediating effect testing, exercise participation significantly mediates the relationship between the intervention and well-being, with an effect size of 0.46, accounting for 25.84% of the total effect. The confidence interval excluded 0, indicating that the mediating effect was significant and subject to partial mediation. Exercise participation also significantly mediates the rela-

tionship between the intervention and loneliness, with an effect size of −0.76, accounting for 45.23% of the total effect. Again, the confidence interval excluded 0, indicating that the mediating effect was significant and subject to partial mediation.

Discussion

Analysis of the intervention effect of GAS model on positive psychological experience

The intervention proposed in this study directly predicts positive well-being. This phenomenon can be explained from the theoretical perspective available from GAS model. GAS model suggests that stress consists of three core components, namely, stressors, mediating processes (including cognitive evaluation and coping resources), and responses to stress (17).

In terms of stressors, Tai Chi, as an inclusive physical and mental exercise, can effectively reduce physiological tension in individuals through its gentle movements, deep breathing, and meditative concentration. This physiological relaxation helps individuals recover from stress in daily life and enhance positive affect experience (18).

As for mediating processes, GAS model emphasizes the crucial role of cognitive evaluation in responding to stress. Tai Chi exercise guides practitioners to form a positive thinking pattern by underlining "immediate awareness" and "mental tranquility" (19). Therefore, practitioners regard stressors originally seen as threats as manageable challenges. The improvement of this cognitive reappraisal ability enhances self-efficacy and sense of control in individuals. With regard to increasing coping resources, Tai Chi exercise not only improves physical fitness but also promotes psychological resilience, emotional regulation ability, and social support network (20). These enhanced coping resources increases individuals' confidence and ability to take effective actions when encountering stress in the future.

To improve responses to stress, individuals often experience positive emotions such as relaxation, peace, and a sense of achievement by practicing Tai Chi. These emotional experiences are conducive to establishing a correlation between exercise and pleasure and contribute to positive well-being. This finding supports related theories in fields such as psychology and kinematics. Jackman et al. (21) flow theory suggests that when an individual is completely immersed in an activity and experiences a high level of balance between challenges and skills, they likely have a positive psychological state, known as flow experience (22). Tai Chi exercise, with its emphasis on the coordination and unity of movements and breathing, enables practitioners to enter a state of flow, thereby promoting the generation of positive psychological experience (23). Future research can further explore what the specific mechanism of Tai Chi intervention is and how to optimize the intervention scheme based on individual differences. This exploration can facilitate the wide application of Tai Chi in promoting mental health.

Analysis of the intervention effect of GAS model on negative psychological experience

The intervention model proposed in this study has significantly negatively predicts negative psychological experience. As a traditional Chinese way of practicing both the body and the mind, Tai Chi has recently received widespread attention in mental health research. It is considered an effective non-pharmacological means of intervention, exhibiting significant positive effects particularly in alleviating negative psychological experience such as anxiety, depression, and loneliness (24-25). The findings of this study are consistent with the views of mind–body interaction theory and coping resource theory. The former emphasizes the interaction between psychological and physiological processes and the existence of a close bidirectional relationship between emotional state and physical activities (26). Tai Chi increases the variability of heart rate; alleviates the excessive activation of the sympathetic nervous system; and mitigates psychological stress and negative emotions through physical movement, breathing control, and meditative concentration (27). Tai Chi also conforms to coping resource

theory, which suggests that internal and external resources (e.g., skills, knowledge, and social support) help individuals effectively cope with life stress (28). The learning and practice of Tai Chi not only enhances individuals' physical abilities but also increases the diversity and effectiveness of coping strategies. The reason is it provides more resources for dealing with challenges in life and reduces negative psychological experience. Hence, as a practice integrating the body and the mind, Tai Chi has received extensive theoretical support and been verified by empirical research to be effective in intervention. It is an effective strategy to cope with negative psychological experience.

Mediating effect of exercise participation

Exercise participation mediates the relationship between the intervention and psychological experience. On the one hand, Tai Chi as an intervention can affect exercise participation. First, Li & Moosbrugger (29) ecosystem theory emphasizes that individuals' behavior is affected by environmental factors at multiple levels, including personal traits, social relationships, community environment, and policy support. For the elderly, the popularity and community-based characteristics of Tai Chi as a low-intensity and highly adaptable exercise conform to the principle of environmental support emphasized in the model. Regular Tai Chi classes held in community centers, parks, and other places provide a convenient platform for the elderly to access exercise, increase their willingness to participate in sports, and promote the formation of exercise habit. Second, self-determination theory is a key framework for interpreting the motivation for exercise participation. It underscores the importance of satisfying the basic psychological needs for autonomy, competence, and belonging in promoting sustained participation (29). Tai Chi exercise, with its gentleness and controllable rhythm, lowers the threshold for the elderly to participate in sports activities and boosts their confidence in their physical abilities (sense of competence). Its collective practicing mode contributes to social interaction and emotional connection (sense of belonging). The autonomy in making choices and the intrinsic interest experienced by the elderly in learning and mastering Tai Chi further stimulate their intrinsic motivation and enhance their persistence in exercise participation.

In summary, exercise participation, as an intermediary factor between Tai Chi and psychological experience, reveals the internal mechanism through which Tai Chi, as an intervention, affects psychological experiences. This insight provides a conceptual framework for probing into its mechanism of action. On the one hand, Tai Chi motivates the elderly to participate in exercise. On the other hand, exercise participation increases positive well-being and reduces negative loneliness. Therefore, Tai Chi not only directly promotes mental health through physical and mental practice; more importantly, it constructs a virtuous cycle where well-being is promoted and loneliness is reduced by enhancing the enthusiasm of the elderly to participate in social activities. This mechanism plays an indispensable role in promoting the mental health of the elderly.

Conclusion

An intervention based on GAS Model and aided by Tai Chi was performed on the community-dwelling elderly to intervene in their psychological health. Through comparative measurements before and after the intervention, it was found that after the intervention, the well-being of the experiment group increased significantly and was significantly higher than that of the control group; after the intervention, the loneliness of the experiment group decreased significantly and was significantly lower than that of the control group; exercise participation significantly mediated the relationship between the intervention and psychological experience. These results indicate that interventions based on GAS Model can effectively alleviate negative psychological experience in the elderly, enhance their positive psychological experience, and positively promote the psychological health of the elderly. Although this intervention has been found to have great potential in

scientifically and effectively promoting the mental health of the elderly, there are still some limitations in this study such as heterogeneity of the research sample and insufficient standardization of the intervention scheme. In future research, it is necessary to further optimize the intervention design, clarify the optimal dose-response relationship, examine applicability under different health conditions and cultural backgrounds, and adopt advanced technologies such as wearable devices to monitor intervention effects, so as to improve the personalization and accuracy of the intervention.

Journalism Ethical considerations

Ethical issues (Including plagiarism, Informed Consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Acknowledgements

No financial support was received.

Conflict of Interest

The authors declare that there is no conflict of interests.

References

1. Maestas N, Mullen KJ, Powell D (2023). The effect of population aging on economic growth, the labor force, and productivity. *Am Econ J-Macroecon*, 15(2): 306-32.
2. van de Rijt LJ, Stoop CC, Weijenberg RA, et al (2020). The influence of oral health factors on the quality of life in older people: a systematic review. *Gerontologist*, 60(5): e378-94.
3. Drenth-van Maanen AC, Wilting I, Jansen PA (2020). Prescribing medicines to older people—How to consider the impact of ageing on human organ and body functions. *Br J Clin Pharmaco*, 86(10): 1921-930.
4. Durak M, Durak EŞ (2022). The Association between Types of Chronic Diseases and Anxiety or Worry in Older Adults. *J Aging and Long-Term Care*, 5(3): 41-58.
5. Nash WP (2019). Commentary on the special issue on moral injury: unpacking two models for understanding moral injury. *J Trauma Stress*, 32(3): 465-70.
6. Pyurko O, Khrystova T, Pyurko V, et al (2024). Endo-Adaptive Component Taraxacum Officinale L. as a Determinant of the Adaptation Syndrome of Plant Organisms in the Background of Ecosystem Stability. *Rev Univ Zulia*, 15(42): 491-503.
7. Gu GZ, Yu SF, Zhou WH (2014). Investigation of coping strategy for occupational stress among workers in thirteen enterprises. *Chinese J Ind Hyg Occup Dis*, 32(9): 679-83
8. Liu BT, Chen J, Xiong WT (2021). The Intervention Effect of Online PM+ on Residents' Stress Response in the COVID-19. *Chinese J Clin Psychol*, 29(6): 1353-1357+322.
9. Qiu GW (2023). A survey and intervention on stress psychological status of nursing staff in a tertiary hospital in Beijing. *Life Sci Instrum*, 21(S01): 287-88
10. Li J, Hsu CC, Lin CT (2019). Leisure participation behavior and psychological well-being of elderly adults: An empirical study of Tai Chi Chuan in China. *Int J Env Res Pub He*, 16(18): 3387.
11. Schoenfeld TJ, Swanson C (2021). A runner's high for new neurons? Potential role for endorphins in exercise effects on adult neurogenesis. *Biomolecules*, 11(8): 1077.
12. Zuckerman SL, Tang AR, Richard KE, Grisham CJ, Kuhn AW, Bonfield CM, et al (2021). The behavioral, psychological, and social impacts of team sports: a systematic review and meta-analysis. *Physician Sports Med*, 49(3): 246-61.
13. Ouyang Y, Wang K, Zhang T, et al (2020). The influence of sports participation on body image, self-efficacy, and self-esteem in college students. *Front Psychol*, 10: 499087.
14. Liang DQ (1994). Stress levels of college students and their relationship with physical exercise. *Chinese Ment Health J*, 8(1): 5-6.
15. Zhou L, Li Z, Hu M, Xiao SY (2012). Reliability and validity of ULS-8 loneliness scale in elderly samples in a rural community. *J Cent South Univ (Med Sci)*, 37(11): 1124-128.
16. Wang WX, Mao ZF, Li B, Yang YR (2005). Re-

liability and validity of Memorial University of Newfoundland Scale of Happiness(MUNSH) in the happiness investigation of the aged with five guarantees in the country. *Chinese J Gerontology*, 25(11): 1330-332.
17. Zhao XY, Fang F, Liu Y, Pan CP (2020). Brain mechanism of stress and emotional therapy. *China J Health Psychol*, 28(12): 143-46.
18. Lu S, Wei F, Li G (2021). The evolution of the concept of stress and the framework of the stress system. *Cell Stress*, 5(6): 76-85.
19. Yuan J, Hagan JE, Meng X (2024). Investigating emotional expressions and coping in sport from a sociocultural perspective. *Front Psychol*, 15, 1390548.
20. Cheng L, Qian L, Chang S, et al (2021). Effect of Tai Chi on depression symptoms and sleep quality among older adult women after exercise cessation. *Res Sports Med*, 29(4): 395-405.
21. Jackman PC, Dargue EJ, Johnston JP, et al (2021). Flow in youth sport, physical activity, and physical education: A systematic review. *Psychol Sport Exerc*, 53: 101852.
22. Wang H, Liu Y, Pei Z, et al (2023). The influence of Tai Chi exercise on the subjective well-being in the aged: the mediating role of physical fitness and cognitive function. *BMC Geriatr*, 23(1): 636.
23. Hu L, Wang Y, Liu X, et al (2021). Tai Chi exercise can ameliorate physical and mental health of patients with knee osteoarthritis: systematic review and meta-analysis. *Clin Rehabil*, 35(1): 64-79.
24. Mays AM, Kim S, Rosales K, Au T, Rosen S (2021). The Leveraging Exercise to Age in Place (LEAP) study: engaging older adults in community-based exercise classes to impact loneliness and social isolation. *Am J Geriat Psychiat*, 29(8): 777-88.
25. Seshadri A, Adaji A, Orth SS, et al (2020). Exercise, yoga, and tai chi for treatment of major depressive disorder in outpatient settings: a systematic review and meta-analysis. *Prim Care Companion CNS Disord*, 23(1): 20r02722.
26. Yue MA, Cui WC (2021). A comprehensive overview on various mind-body models. *Philosophy*, 11(11), 810-19.
27. Zhou Y, Wang Q, Larkey L, et al (2024). Tai Chi Effects on Heart Rate Variability: A Systematic Review and Meta-Analysis. *J Integr Complement*, 30(2): 121-32.
28. Miller SM, Hui-Lio C, Taylor-Piliae RE (2020). Health benefits of Tai Chi exercise: a guide for nurses. *Nurs Clin*, 55(4): 581-600.
29. Li L, Moosbrugger ME (2021). Correlations between physical activity participation and the environment in children and adolescents: A systematic review and meta-analysis using ecological frameworks. *Int J Env Res Pub He*, 18(17): 9080.