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Filial Piety and Caregiver Preparedness in the Context of Ageing in Mainland China

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Abstract

Background: Filial piety is a central cultural value in China, shaping expectations that adult children care for ageing parents, yet population ageing, smaller households, and rising workforce participation increasingly challenge these norms. This study examined the predictive utility and psychometric properties of three multidimensional scales assessing filial attitudes, filial behaviours, and caregiving preparedness.

Methods: A cross-sectional survey using non-probability snowball sampling was conducted with 101 adult children in Guangzhou, China. Participants completed the Preparedness for Caregiving Scale, the 8-item Filial Behaviour Scale, the Filial Attitude Scale, and supplementary items. Exploratory factor analysis assessed factor structure, Cronbach's alpha evaluated reliability, and logistic regression tested demographic predictors.

Results: Exploratory factor analysis supported unidimensional structures for the Filial Attitude and Preparedness scales and a three-factor Filial Behaviour model encompassing normative obligation, emotional support, and instrumental support. All scales demonstrated high internal consistency (α = 0.84–0.89). Gender, age, income, sibling presence, and household language significantly predicted caregiving behaviours and preparedness. Women showed greater emotional readiness, adults aged 23–35 were more likely to provide financial assistance, and higher income strongly predicted instrumental caregiving.

Conclusion: Findings highlight demographic pressures challenging filial norms and limited preparedness among young Chinese adults within rapidly changing family and employment contexts.

Introduction

China is undergoing an unprecedented demographic transformation, characterised by rapid population ageing and declining family size (Gietel-Basten 2023, Peng 2023). As of the end of 2023, more than 264 million people, representing nearly 19% of the population, were aged 60 years or older, and this proportion is expected to increase significantly in the coming decades (Zeng, Meng et al. 2023, Xinhua 2024). Within this shifting demographic landscape, informal caregiving has become an increasingly critical concern for families, communities, and policymakers (Zhang, Shen et al. 2024, Zhao, Chen et al. 2025). Traditionally, the foundation of elder care in Chinese society has been shaped by the Confucian virtue of filial piety (孝, *xiào*), a cultural norm that emphasises respect, obligation, and devotion to one's parents and older family members (Gu and Li 2023).

Filial piety functions not merely as a moral ideal but as a behavioural framework governing intergenerational support (Bedford and Yeh 2021). It entails both affective elements, such as emotional respect and obedience, and concrete responsibilities, including co-residence, financial support, and personal caregiving (Bedford and Yeh 2021, Lim, Lau et al. 2022). Historically, this deeply rooted norm has compensated for limited formal aged care services, making the family the primary site of elder support (Zhan and Montgomery 2003, Fingerman, Huo et al. 2018, Yan 2023). Even as China modernises, empirical studies continue to show that most Chinese adults endorse filial obligations, despite the increasing tension between traditional expectations and contemporary lifestyles (Cheung and Kwan 2009, Pei 2024).

However, the practice of filial caregiving is now challenged by a range of socio-economic changes (Cheung and Kwan 2009, Liu, Yu et al. 2024). Urbanisation, labour migration, declining fertility rates, and growing female participation in the workforce have disrupted multigenerational cohabitation and traditional caregiving arrangements (Gruijters 2017, Wang and Wang 2024). Moreover, the rise of the middle class and individualistic values has contributed to a shift away from collectivist caregiving ideals toward more autonomy-oriented preferences (Beck and Nyíri 2022, Wang, Gilroy et al. 2023). These transformations raise important questions about whether today's adult children feel both morally compelled and practically equipped to care for their ageing relatives (Zhang, Sun et al. 2024).

While the cultural significance of filial piety is well recognised, relatively little empirical research has investigated how filial beliefs translate into actual caregiving preparedness (Zhang, Sun et al. 2024). Prior studies have primarily focused on general attitudes toward ageing or filial obligation, often overlooking whether these beliefs correspond to the confidence and readiness to perform specific caregiving tasks, such as physical assistance, emotional support, service navigation, and emergency response (Ko, Su-Russell et al. 2023, Yu, Wang et al. 2024). Yet caregiver preparedness is a key determinant of caregiver wellbeing, burden, resilience, and even employment outcomes (Hebdon, Xu et al. 2022, Uhm, Jung et al. 2023). Understanding how cultural norms influence this readiness is essential for informing effective policy and practice (Knight and Sayegh 2010).

Focusing on adult children in mainland China who are either current caregivers or anticipate future responsibilities, this cross-sectional survey explores how sociodemographic characteristics, such as gender, age, education, employment, and marital status, relate to caregiving behaviours and perceived readiness (Kuramoto, Nabeshima et al. 2023). Understanding these associations is particularly important in light of China's demographic transition, where younger, better-educated adults may be reshaping traditional filial expectations under modern pressures.

To investigate these dynamics, the present study aimed to use two validated psychometric tools for capturing three interrelated domains: filial attitudes, caregiving behaviours, and perceived preparedness for caregiving. Drawing on contemporary frameworks, particularly the dual factor model of filial piety which distinguishes between authoritative (obligation driven) and reciprocal (affection driven) forms, the study assesses both normative beliefs and enacted caregiving practices. It further evaluates preparedness across eight caregiving domains, including physical and emotional care, stress management, decision-making, and healthcare system navigation. The findings offer practical and policy insights, especially as China shifts toward community-based care and promotes "ageing in place," where the sustainability of informal caregiving will depend on how well adult children are supported both emotionally and structurally (Wang, Wu et al. 2024).

Methods

Study Design

This study used a cross-sectional, questionnaire-based survey design to investigate filial piety attitudes, caregiving behaviours, and caregiver preparedness among adults in mainland China. The primary aim was to apply three established psychometric instruments: the Preparedness for Caregiving Scale, the 8-item Filial Behaviour Scale (5-point scale, 0–4), and the Filial Attitude Scale (5-point scale, 1–5). To strengthen the Filial Behaviour Scale, four additional statements reflecting filial beliefs were incorporated. In addition, four custom-developed items using a 7-point Likert scale (1–7) were introduced to capture a broader range of caregiving attitudes and behaviours.

Together, these tools allowed assessment of three interrelated and culturally meaningful caregiving dimensions: (1) enacted caregiving behaviours, (2) filial attitudes, and (3) perceived preparedness to provide care. The study was grounded in both theoretical and empirical frameworks. Filial piety was conceptualised using contemporary models distinguishing between *reciprocal* (affection-based) and *authoritarian* (duty-based) forms. The preparedness scale, while adapted from Western tools, was contextualised to reflect culturally specific caregiving expectations within Chinese families.

The structured questionnaire also included 11 demographic questions and items on the health status of participants' old family members. It was administered to adults aged 18–35 who were either actively providing care for an ageing family member or expected to do so in the near future. Ethical approval was obtained from the institutional review board of the host university prior to data collection. The survey was available in both English and Simplified Chinese, with both versions undergoing expert review and pilot testing to ensure clarity, cultural relevance, and linguistic accuracy.

Descriptive statistics were used to explore item distributions and response patterns. The full 21-item dataset from the three core scales was subjected to exploratory factor analysis (EFA) using Promax rotation to identify latent constructs. Internal consistency was evaluated using Cronbach's alpha. Construct validity was further assessed by analysing associations between scale scores and key demographic variables, including age, gender, education (undergraduate vs postgraduate), relationship status, employment (full-time vs part-time/unemployed), income (below vs above sample mean), student status, number of languages spoken at home, religious affiliation, and living arrangement. Chi-square tests and binary logistic regression analyses (ensuring a minimum of 10 events per predictor) were used to identify significant predictors of caregiving behaviours, filial attitudes, and preparedness.

Setting and Participant Recruitment

This study was conducted in Guangzhou, a major urban centre in mainland China, known for its demographic diversity and rapid socio-economic development. Guangzhou was selected as the research site due to its large concentration of university students and young professionals, many of whom have migrated from other provinces, making it an ideal setting to explore intergenerational caregiving attitudes and preparedness among younger Chinese adults.

Participants were recruited using a non-probability sampling strategy, consistent with previous research involving dispersed or hard-to-reach populations in urban Chinese contexts. Initial participants were approached through tertiary education networks, including student groups, teaching staff, and institutional mailing lists at universities and vocational institutions in Guangzhou. These individuals were invited to participate and, upon consent, were asked to forward the survey link to peers or acquaintances who met the inclusion criteria. This peer-driven referral process was used to broaden participant reach across different social and educational backgrounds while maintaining voluntary and anonymous participation.

Eligible participants were Chinese adults aged 18–35 years who either currently provided care to an ageing family member or anticipated taking on caregiving responsibilities in the near future. All participants were required to be currently residing in Guangzhou and to have completed or be pursuing tertiary education. Individuals currently employed in health-related professions or without a family member aged 55 years or older were excluded to ensure relevance to the study aims.

Ethical approval was obtained from the Vocational Training Council's Human Subjects Ethics Panel (Ref: 2015160205). Informed consent was obtained electronically before the survey began. Participants were assured of confidentiality and the voluntary nature of participation, and no financial incentives were offered.

Data analyses

All statistical analyses were conducted using IBM SPSS Statistics version 30. Prior to analysis, the dataset was screened for completeness, and cases with substantial missing data were excluded.

To ensure consistency across measures, all items were rescaled to a unified five-point Likert format (1–5), allowing for valid comparative and psychometric analyses. Items from the *Filial Behaviour* scale, originally rated on a 0–4 scale, were linearly transformed by adding 1 to each response to align with the 1–5 format while preserving their ordinal structure. Similarly, items from the *Preparedness for Caregiving* scale, which were initially based on a 7-point format, were rescaled to the 1–5 range (Tarka 2015, Müller-Schneider 2022). These transformations ensured measurement equivalence across instruments and enabled integrated analysis across all items.

Descriptive statistics, including means, standard deviations, frequencies, and percentages, were calculated to summarise participant demographics and individual responses to items from the Filial Behaviour Scale, Filial Attitude Scale, and four additional caregiving-related items.

Exploratory factor analysis (EFA) was conducted using principal axis factoring with oblique (Promax) rotation to identify underlying latent constructs related to filial beliefs and caregiving preparedness. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity were used to assess sampling adequacy and the suitability of the data for factor analysis. Factors with eigenvalues greater than 1.0 were retained, and items with loadings of at least 0.30 were

considered acceptable. Internal consistency for each factor was assessed using Cronbach's alpha, with a value of 0.70 or higher indicating satisfactory reliability.

Prior to inferential analysis, several sociodemographic variables were dichotomised to facilitate Chi-Square and binary logistic regression testing. These included age group (18–22 vs 23–35 years), gender (male vs female), education (undergraduate vs postgraduate), occupation (student vs non-student), employment status (full-time vs non-full-time), monthly income (above vs below the sample mean of HKD 1890), marital status (single vs partnered), living arrangement (living alone vs living with others), number of siblings (none vs one or more), languages spoken at home (one vs more than one), and religious affiliation (with vs without religion). This approach ensured that each category had sufficient cell counts, in accordance with the recommended rule of at least ten outcome events per predictor. This helped to preserve degrees of freedom, avoid sparse-cell issues, and produce more stable odds ratios with narrower confidence intervals in regression models.

Chi-Square tests were used to examine bivariate associations between demographic variables and survey responses. Binary logistic regression was then employed to explore the relationships between extracted factors and key demographic predictors, including age, gender, marital status, education, and employment.

All statistical tests were two-tailed, and a significance level of $p < .05$ was used to determine statistical significance.

Results

Table 1 shows that, the sample comprised 101 young adults residing in Guangzhou, predominantly female (77.2%) and aged 18–22 years (78.2%). Most had lived in Guangzhou for less than five years (62.4%), reflecting a largely transient or student population. Educational levels were high, with 73.3% holding a bachelor's degree and 82.0% identifying as students; none reported working in health-related fields. Among respondents who disclosed income (n = 48), 87.5% earned below HKD 1,890 monthly, consistent with low full-time employment (19.0%).

Regarding family and living arrangements, 85.1% were single, and only 9.9% lived with a spouse or children. Co-residence with parents was reported by 36.6%, while 52.5% lived with flatmates and 10.9% lived alone. Slightly more than half (56.0%) were only children. Most spoke one language at home (77.2%), and among those reporting religious affiliation (n = 45), 91.1% identified with a religion.

These demographic patterns provide important context for interpreting filial piety beliefs and caregiving preparedness in this cohort.

Table 1: Sociodemographic Characteristics of Participants (n = 101)

Variable	Category	*n*	%
Gender	Male	23	22.8
	Female	78	77.2
Age Group	18–22 years	79	78.2
	23–35 years	22	21.8
Place of Residence	Guangzhou (GZ)	101	100.0
Years in Current Location	0–4 years	63	62.4
	5–20 years	22	21.8
	21–35 years	16	15.8
Highest Education Qualification	Tertiary (non-degree)	13	12.9
	Bachelor's degree	74	73.3
	Master's degree	9	8.9
	PhD	1	1.0
	Other	4	4.0
Occupation	Student	82	82.0
	Non-student	18	18.0
Health-Related Occupation	Yes	0	0.0
	No	100	100.0
Employment Status	Full-time	19	19.0
	Part-time	9	9.0
	Casual	1	1.0
	Not employed	69	69.0
	Other/missing	2	2.0
Monthly Income *(n = 48)*	≤ HKD 1890	42	87.5
	> HKD 1890	6	12.5
Marital Status	Single	86	85.1
	Not single (married, de facto, etc.)	15	14.9
Lives Alone	Yes	11	10.9
	No	90	89.1
Lives With Parents	Yes	37	36.6
	No	64	63.4
Lives With Spouse	Yes	10	9.9
	No	91	90.1
Lives With Children	Yes	10	9.9
	No	91	90.1
Lives With Maid	No	101	100.0
Lives With Others (e.g., flatmates)	Yes	53	52.5
	No	48	47.5
Number of Siblings *(n = 100)*	0 siblings	56	56.0
	≥ 1 sibling	44	44.0
Languages Spoken at Home	One language	78	77.2
	Two or more languages	23	22.8
Religious Affiliation *(n = 45)*	No religion	4	8.9
	With religion (Buddhist, Christian, etc.)	41	91.1

Among the 10 care recipients identified by our participants, parents and grandparents predominated. Fathers comprised the largest group (n=3; 30%), with a mean age of 69.7 years (SD = 10.5); all three had diabetes, one had heart disease, one had suffered a stroke, one experienced memory problems, and one had another chronic condition. Grandfathers (n=2; 20%) averaged 72.5 years (SD = 3.5); both had diabetes, and one had heart disease. Grandmothers (n=2; 20%) were similarly aged (mean 71.5 years, SD = 9.2); one had heart disease, and one had memory problems. Mothers (n=2; 20%) averaged 68.5 years (SD = 3.5); neither had diabetes or heart disease, but both had experienced a stroke. A single "other" relative (n=1; 10%), aged 60 years, had diabetes but no other listed conditions. This distribution underscores the high prevalence of multimorbidity, particularly diabetes and cardiovascular conditions, among older family members cared for by our respondents.

Table 2: Family Members Reported with Chronic Illnesses

Relationship	n	% Reported	Mean Age (SD)	Diabetes	Heart Disease	Stroke	Memory Problems	Other Conditions
Father	3	30	69.7 (10.5)	3	1	1	1	1
Grandfather	2	20	72.5 (3.5)	2	1	0	0	0
Grandmother	2	20	71.5 (9.2)	0	1	0	1	0
Mother	2	20	68.5 (3.5)	0	0	2	0	0
Other	1	10	60.0 (nan)	1	0	0	0	0

Table 3 presents the mean scores, standard deviations, and observed ranges for each item across three key constructs: Filial Behaviour (FB), Filial Attitudes (FA), and Preparedness for Caregiving (PC). These descriptive statistics were derived from responses provided by 101 participants.

Filial Behaviour: Participants reported high engagement in emotionally supportive behaviours. The highest mean was for showing respect before others (M = 4.37, SD = 0.77), followed by maintaining contact (M = 4.05, SD = 0.77), accommodating mundane matters (M = 3.96, SD = 0.71), and listening to problems (M = 3.95, SD = 0.91). Moderate engagement was seen in providing personal care (M = 3.85, SD = 0.95), being obedient on important matters (M = 3.80, SD = 0.88), and accompanying the family member to the doctor (M = 3.71). Lower means were noted for daily practical help (M = 2.77, SD = 1.03) and financial assistance (M = 2.28, SD = 1.30), suggesting emotional support is prioritised over material or instrumental care.

Filial Attitudes: Participants strongly endorsed traditional filial values. Extremely low mean scores indicated high agreement with statements such as appreciation of loving-kindness (M = 1.38, SD = 0.79), providing for family members (M = 1.43, SD = 0.76), and honouring family members (M = 1.59, SD = 0.90). Even the more altruistic belief, such as treating family members kindly regardless of how one has been treated, was moderately endorsed (M = 2.03, SD = 0.97).

Preparedness for Caregiving: Participants reported **moderate preparedness** across caregiving tasks. Highest means were for emotional care (M = 2.99, SD = 0.89), making caregiving pleasant (M = 2.91, SD = 0.85), and managing stress (M = 2.84, SD = 0.83). Slightly lower means were found for emergency response (M = 2.78, SD = 0.96), navigating the healthcare system (M = 2.68, SD = 0.99), and physical care (M = 2.63, SD = 0.80). These suggest reasonable confidence but highlight the need for further support in practical caregiving and system navigation.

Overall, participants demonstrated strong filial values and high emotional support, but lower engagement in financial or practical care and only moderate preparedness for caregiving. This reveals a gap between cultural expectations and caregiving readiness, particularly in areas requiring system knowledge and hands-on care.

Table 3: Descriptive Statistics for Filial Behaviours, Attitudes, and Perceived Caregiving Preparedness

Survey Question	n	Minimum	Maximum	Mean	Std. Deviation
Filial Behaviour Scale					
FB1 Maintaining contact	101	2	5	4.05	0.767
FB2 Giving practical assistance with daily routines (e.g. housework and other errands)	101	0	5	2.77	1.03
FB3 Providing financial assistance	101	0	5	2.28	1.30
FB4 Being obedient on important matters	101	1	5	3.80	0.88
FB5 Being accommodating on mundane matters	101	2	5	3.96	0.71
FB6 Showing respect (deference) before others	100	2	5	4.37	0.77
FB7 Taking the family member to the doctor when he or she is ill	101	1	5	3.71	0.97
FB8 Providing personal care when the family member is ill	101	1	5	3.85	0.95
FB9 Listening to the family member's problems (listening to other's thoughts and problems)	101	2	5	3.95	0.91
Filial Attitude Scale					
FA1 One should be appreciative of family members' loving-kindness	101	1	5	1.38	0.79
FA2 One should treat their family members kindly regardless of how s/he has been treated	101	1	5	2.03	0.97
FA3 One should provide for their family members well	101	1	5	1.43	0.76
FA4 One should honour their family members and make them proud	101	1	5	1.59	0.90
Preparedness for Caregiving Scale: How well prepared do you think you are to					
PC1 Take care of your family member's physical needs?	101	1	5	2.63	0.80
PC2 Take care of his or her emotional needs?	101	1	5	2.99	0.89
PC3 Find out about and set up services for him or her?	99	1	5	2.64	0.91
PC4 Prepare for the stress of caregiving?	101	1	5	2.84	0.83
PC5 Make caregiving activities pleasant for both you and your family member?	101	1	5	2.91	0.85
PC6 Respond to and handle emergencies that involve him or her?	101	1	5	2.78	0.96
PC7 Get the help and information you need from the health care system?	101	1	5	2.68	0.99
PC8 Care for your family member?	101	1	5	2.84	0.80

Table 4 presents the results of the exploratory factor analysis for the three scales: Filial Behaviour, Filial Attitude, and Preparedness for Caregiving.

Filial Behaviour Scale

An exploratory factor analysis using principal axis factoring with Varimax rotation was conducted to examine the underlying structure of the nine-item Filial Behaviour scale. The Kaiser criterion (eigenvalues > 1) supported the retention of three factors, which together explained 53.36% of the total variance. The rotated factor solution yielded a clear and interpretable structure.

Factor 1, labelled *Respect and Normative Obligation*, accounted for 20.71% of the variance and included items related to deference and traditional values, such as *being obedient on important matters* (FB4 = 0.836), *being accommodating on mundane matters* (FB5 = 0.583), and *showing respect before others* (FB6 = 0.646).

Factor 2, labelled *Emotional and Personal Support*, explained 16.34% of the variance and comprised items reflecting emotional closeness and caregiving, including *providing personal care when the family member is ill* (FB8 = 0.801), *listening to the family member's problems* (FB9 = .619), and *taking the family member to the doctor* (FB7 = 0.477).

Factor 3, labelled *Instrumental Support*, accounted for 16.31% of the variance and was defined by items related to tangible support, such as *giving practical assistance* (FB2 = 0.679) and *providing financial assistance* (FB3 = 0.912).

While most items demonstrated adequate communalities and factor loadings, *maintaining contact* (FB1) had a relatively low communality (0.260) and modest loading (0.403), suggesting a weaker association with the extracted factors. The solution converged in five iterations, indicating a stable model.

Filial Attitude Scale

Principal axis factoring was also applied to the four-item Filial Attitude scale. One factor was extracted, with an eigenvalue of 3.007, explaining 75.17% of the total variance. All items loaded strongly on the single factor, including *providing for family members well* (FA3 = 0.941), *being appreciative of family members'*

loving-kindness (FA10.1 = 0.883), *honouring and making family members proud* (FA4 = 0.852), and *treating family kindly regardless of how one has been treated* (FA2 = 0.592). Communalities ranged from 0.350 to 0.886. This result supports a unidimensional structure capturing a cohesive construct of filial moral and emotional obligation.

Preparedness for Caregiving Scale

An eight-item Preparedness for Caregiving scale was subjected to principal axis factoring. A single factor emerged with an eigenvalue of 4.493, explaining 56.16% of the total variance. All items demonstrated strong loadings on this factor, including *overall caregiving preparedness* (PC8 = 0.810), *handling emergencies* (PC6 = 0.791), *accessing healthcare information and support* (PC7 = 0.713), and *providing physical and emotional care* (PC1 = 0.677; PC2 = 0.667). Communalities ranged from 0.410 to 0.656, indicating a well-defined unidimensional construct encompassing practical, emotional, and informational caregiving readiness.

Table 4. Factor Loadings for Filial Beliefs and Perceived Caregiving Preparedness Scales

Item	Factor loading (λ)
Filial Behaviour Scale and Filial Attitude Scale	
Factor 1: Respect and Normative Obligation	
FB4 Being obedient on important matters	0.836
FB6 Showing respect (deference) before others	0.646
FB5 Being accommodating on mundane matters	0.583
FB9 Listening to the family member's problems (listening to other's thoughts and problems)	0.433
FB1 Maintaining contact	0.403
Factor 2: Emotional and Personal Support	
FB8 Providing personal care when the family member is ill	0.801
FB9 Listening to the family member's problems (listening to other's thoughts and problems)	0.619
FB7 Taking the family member to the doctor when he or she is ill	0.477
Factor 3: Instrumental Support	
FB3 Providing financial assistance	0.912
FB 2 Giving practical assistance with daily routines (e.g. housework and other errands)	0.679
FB7 Taking the family member to the doctor when he or she is ill	0.335
Filial Attitude Scale (*unidimensional Factor*)	
FA3 One should provide for their family members well	0.941
FA1 One should be appreciative of family members' loving-kindness	0.883
FA4 One should honour their family members and make them proud	0.852
FA2 One should treat their family members kindly regardless of how s/he has been treated	0.592
Perceived Caregiving Preparedness (*unidimensional Factor*)	
PC8 Overall, how well prepared do you think you are to care for your family member?	0.810
PC3 How well prepared do you think you are to respond to and handle emergencies that involve him or her?	0.791
PC7 How well prepared do you think you are to get the help and information you need from the health care system?	0.713
PC6 How well prepared do you think you are to find out about and set up services for him or her?	0.679
PC1 How well prepared do you think you are to take care of your family member's physical needs?	0.677
PC2 How well prepared do you think you are to take care of his or her emotional needs?	0.667
PC5 How well prepared do you think you are to make caregiving activities pleasant for both you and your family member?	0.664
PC4 How well prepared do you think you are for the stress of caregiving?	0.640

Table 5 presents the results of Chi-square analyses examining the associations between demographic characteristics and key domains of filial attitudes, filial behaviours, and caregiving preparedness. These findings highlight significant demographic variability, suggesting that caregiving patterns in mainland China are shaped by intersecting individual, familial, and cultural factors.

Gender was significantly associated with several caregiving behaviours. Female participants were more likely to report *maintaining contact* (FB1, $\chi^2 = 10.062$, $p = 0.018$) and *listening to family members' problems* (FB9, $\chi^2 = 8.642$, $p = 0.034$), and also demonstrated higher *overall caregiving preparedness* (PC8, $\chi^2 = 9.751$, $p = 0.045$). These findings underscore women's stronger emotional involvement in caregiving roles.

Age group (18–22 vs 23–35 years) showed strong associations with both practical and attitudinal dimensions. Older participants were more likely to provide *financial assistance* (FB3, $\chi^2 = 22.492$, $p < 0.001$) and reported greater *preparedness to meet physical caregiving needs* (PC1, $\chi^2 = 10.726$, $p = 0.030$). However, they were less likely to endorse *appreciating family kindness* (FA10.1, $\chi^2 = 21.987$, $p = 0.001$), indicating a possible generational shift in filial values.

Occupation and employment influenced caregiving engagement. Non-students were significantly more likely to show *respect* (FB6, $\chi^2 = 13.947$, $p = 0.003$) and *accommodating behaviour* (FB5, $\chi^2 = 10.221$, $p = 0.017$), while full-time workers similarly reported higher *respect* ($\chi^2 = 10.011$, $p = 0.018$). In contrast, students were more likely to provide *financial assistance* (FB3, $\chi^2 = 26.871$, $p < 0.001$), possibly reflecting their reliance on family and evolving views on filial contribution.

Income emerged as one of the strongest predictors. Participants with higher monthly income were significantly more likely to report *practical assistance* (FB2, $\chi^2 = 11.522$, $p = 0.042$), *financial assistance* (FB3, $\chi^2 = 23.685$, $p < 0.001$), and higher *overall caregiving preparedness* (PC8, $\chi^2 = 20.500$, $p < 0.001$), underscoring the role of economic resources in enabling caregiving responsibilities.

Relationship status was also associated with caregiving outcomes. Partnered individuals were more likely to engage in *practical assistance* (FB2, $\chi^2 = 16.105$, $p = 0.007$), *appreciate family kindness* (FA10.1, $\chi^2 = 19.039$, $p = 0.004$), and endorse the belief in *providing well for family* (FA3, $\chi^2 = 12.265$, $p = 0.031$), suggesting stronger adherence to both behavioural and attitudinal aspects of filial piety.

Household language use showed selective associations. Multilingual participants were more likely to engage in listening behaviours (FB9, $\chi^2 = 14.828$, $p = 0.002$), indicating greater emotional responsiveness, though no significant associations were found for hands-on tasks such as personal care.

Religious affiliation and living alone were not significantly associated with most caregiving dimensions. However, marginal associations were observed for *personal care* among religious participants (FB8, $p = 0.040$) and *treating family kindly* (FA2, 12.247, $p = 0.057$), suggesting potential but inconclusive links between belief systems and caregiving behaviours.

Table 5: Associations Between Demographic Characteristics and Filial Attitudes, Behaviours, and Caregiving Preparedness Among Participants (N = 101)

Predictor	Gender: Male VS Female		Age: 18-22 yo vs 23-35 yo		Education: Undergraduate vs Postgraduate		Occupation Student vs non-student		Employment: full-time vs Non full time		Average monthly income? < 1890 (mean) vs 1890	
	χ^2	p	χ^2	p	χ^2	p	χ^2	p	χ^2	p	χ^2	p
Filial Behaviour Scale and Filial Attitude Scale												
FB1 Maintaining contact	10.062	0.018	3.423	0.331	1.247	0.742	3.6	0.308	2.09	0.554	0.646	0.886
FB2 Giving practical assistance with daily routines (e.g. housework and other errands)	6.458	0.264	6.756	0.239	1.116	0.953	10.32	0.067	8.462	0.133	11.522	0.042
FB3 Providing financial assistance	7.301	0.199	22.492	<0.001	0.507	0.992	26.871	0	20.832	< .001	23.685	< 0.001
FB4 Being obedient on important matters	5.097	0.278	2.6	0.627	0.684	0.953	3.099	0.541	3.409	0.492	0.596	0.964
FB5 Being accommodating on mundane matters	1.955	0.582	3.39	0.335	1.237	0.744	10.221	0.017	10.221	0.017	2.325	0.508
FB6 Showing respect (deference) before others	1.501	0.682	6.982	0.072	0.709	0.871	13.947	0.003	10.011	0.018	5.405	0.144
FB7 Taking the family member to the doctor when he or she is ill	1.359	0.851	2.732	0.604	5.168	0.271	3.531	0.473	3.443	0.487	2.393	0.664
FB8 Providing personal care when the family member is ill	0.823	0.935	9.334	0.053	2.651	0.618	8.565	0.073	5.724	0.221	8.688	0.069
FB9 Listening to the family member's problems (listening to other's thoughts and problems)	8.642	0.034	4.169	0.244	3.209	0.361	3.221	0.359	3.198	0.362	4.081	0.253
FA1 One should be appreciative of family members' loving-kindness	11.971	0.063	21.987	<0.001	9.792	0.134	18.439	0.005	14.285	0.027	10.943	0.09
FA2 One should treat their family members kindly regardless of how s/he has been treated	1.185	0.978	6.075	0.415	6.784	0.341	4.539	0.604	3.381	0.76	9.65	0.14
FA3 One should provide for their family members well	8.644	0.124	7.671	0.175	1.989	0.851	9.311	0.097	9.208	0.101	5.71	0.335
FA4 One should honour their family members and make them proud	28.118	<0.001	12.331	0.055	6.467	0.373	2.789	0.835	3.452	0.75	6.594	0.36

PC1 Take care of your family member's physical needs?	7.109	0.13	10.726	0.03	12.284	0.015	8.624	0.071	5.037	0.284	20.227	< 0.001
PC2 Take care of his or her emotional needs?	6.756	0.149	0.302	0.99	4.923	0.295	1.75	0.782	4.821	0.306	4.176	0.383
PC3 Find out about and set up services for him or her?	1.088	0.896	2.822	0.588	4.791	0.309	3.964	0.411	2.975	0.562	11.94	0.018
PC4 Prepare for the stress of caregiving?	4.37	0.358	2.524	0.64	6.235	0.182	1.318	0.858	3.31	0.507	4.904	0.297
PC5 Make caregiving activities pleasant for both you and your family member?	7.594	0.108	3.33	0.504	4.326	0.364	3.728	0.444	3.536	0.472	9.487	0.05
PC6 Respond to and handle emergencies that involve him or her?	2.046	0.727	7.09	0.131	6.328	0.176	11.226	0.024	5.877	0.208	16.42	0.003
PC7 Get the help and information you need from the health care system?	6.85	0.144	4.701	0.319	2.127	0.712	5.457	0.244	4.425	0.352	8.148	0.086
PC8 Care for your family member?	9.751	0.045	10.603	0.031	5.674	0.225	3.959	0.412	3.183	0.528	20.5	< 0.001

Table 6 presents the binary logistic regression results examining how filial behaviours, filial attitude and perceived preparedness predicted demographic variables.

Filial Behaviour Scale

Logistic regression analyses revealed several demographic predictors of filial behaviours. Gender significantly predicted listening to family members' problems (FB9), with females more likely to engage in this behaviour (OR = 3.742, p = 0.004), while being accommodating (FB5) showed a trend toward significance (OR = 0.331, p = 0.067). Age was strongly associated with providing financial assistance (FB3), with participants aged 23–35 years over four times more likely than their younger peers to offer financial support (OR = 4.313, p < 0.001). Occupation was also significant, as non-students were more likely to provide financial assistance (FB3; OR = 5.20, p < 0.001), whereas students were more likely to demonstrate respect (FB6; OR = 0.26, p = 0.026). Employment status influenced multiple behaviours: full-time employees were less likely to maintain contact (FB1; OR = 0.22, p = 0.050), more likely to provide financial assistance (FB3; OR = 0.13, p < 0.001), and non-full-time workers were more likely to be obedient (FB4; OR = 3.38, p = 0.045). Income was a strong predictor of financial support, with higher-income individuals nearly seven times more likely to provide financial assistance (FB3; OR = 6.90, p = 0.005). Relationship status was also associated with FB3 (OR = 0.006, p = 0.020), suggesting that partnered individuals were more likely to contribute financially, while showing respect (FB6) displayed a borderline association (OR = 21.97, p = 0.055). Family structure and language use further influenced behaviours: having more siblings predicted greater accommodation (FB5; OR = 2.13, p = 0.066) and showed a marginal association with listening (FB9; OR = 1.96, p = 0.053). Finally, multilingual households were significantly less likely to provide personal care (FB8; OR = 0.262, p = 0.021) but were over ten times more likely to engage in listening behaviours (FB9; OR = 10.900, p = 0.002).

Filial Attitude Scale

Logistic regression analyses revealed several demographic predictors of filial attitudes. Participants aged 23–35 years had significantly lower odds of demonstrating filial attitudes compared to those aged 18–22 years (OR = 0.134, p = 0.037), suggesting that younger individuals may hold stronger caregiving beliefs. The presence of siblings was positively associated with stronger filial attitudes (OR = 2.69, p = 0.005). Other demographic variables, including gender, education, occupation, employment, income, marital status, language use, religion, and living arrangements, were not significantly associated with filial attitudes.

Preparedness for Caregiving Scale

Preparedness for caregiving was significantly influenced by several demographic factors. Female participants were more emotionally prepared than males (OR = 2.46, p = 0.030). Age also played an important role: those aged 23–35 years had higher odds of being physically prepared (OR = 2.83, p = 0.033) but lower emotional preparedness (OR = 0.40, p = 0.031) compared with younger participants. Students reported greater emotional preparedness (OR = 0.36, p =

0.028), whereas non-students showed a trend toward higher emergency preparedness (OR = 2.71, p = 0.054). The presence of siblings was strongly associated with providing for family members (FB3; OR = 10.19, p = 0.002), while honouring family members (FB4) showed a negative association (OR = 0.44, p = 0.046). Household language use was also influential: participants from multilingual households were less likely to provide personal care (FB8; OR = 0.262, p = 0.021) but were over ten times more likely to listen to family members' problems (FB9; OR = 10.18, p = 0.004). Religious affiliation was negatively associated with financial assistance (FB3; OR = 0.60, p = 0.048), while treating family kindly (FB2) showed a non-significant trend toward higher odds among religious participants (OR = 3.33, p = 0.051). Living alone was not significantly associated with caregiving preparedness, although a non-significant trend suggested higher odds of providing personal care (FB8; OR = 2.51, p = 0.129.

Table 6: Logistic Regression Analyses of Filial Beliefs, Behaviours, and Caregiving Preparedness by Demographic Characteristics

Filial Behaviour Scale and Filial Attitude Scale					
Demographic Factor	Chi-Square	p-Value	Nagelkerke R^2	n	Key Findings based on Odds Ratio
Gender: Male VS Female	21.106	0.012	0.288	100	FB9 (Listening to family member's problems) was a significant predictor (OR = 3.742, p = .004); FB5 (Being accommodating on mundane matters) approached significance (OR = 0.331, p = 0.067); Other variables were not significant.
Age: 18-22 yo vs 23-35 yo	35.666	<0.001	0.461	100	Providing financial assistance (FB3) significantly predicted older age. Those who provided financial help were 4.31 times more likely to be in the 23–35 age group (OR = 4.313, p < 0.001). Other filial behaviours were not significant predictors.
Education: Undergraduate vs Postgraduate	9.298	0.41	0.165	100	Most filial behaviours did not significantly predict educational level. However, taking a family member to the doctor (FB7) approached significance (p = 0.050), with an odds ratio of 2.28, suggesting participants with higher education may be more likely to engage in this practical caregiving task. Listening to family members' problems (FB9) also showed a near-significant trend (p = 0.072, OR = 2.46). Overall model fit was weak.
Occupation Student vs non-student	40.152	<0.001	0.532	100	Providing financial assistance (FB3) significantly predicted occupation status (OR = 5.20, p < 0.001), with non-students more likely to offer financial support. Showing respect (FB6) was inversely associated (OR = 0.26, p = 0.026), suggesting students were more likely to demonstrate deference. The overall model showed strong explanatory power and high predictive accuracy (91.0%).
Employment: full-time vs Non full time	39.305	<0.001	0.525	99	Providing financial assistance (FB3) significantly predicted employment status. Participants in full-time employment were more likely to give financial assistance (OR = 0.13, p < 0.001), while those not in full-time employment were more likely to be obedient (FB4; OR = 3.38, p = 0.045) and less likely to maintain contact (FB1; OR = 0.22, p = 0.050). These results suggest complex dynamics between employment type and caregiving involvement.
Average monthly income? < 1890 (mean) vs > 1890 (Mean)	35.34	<0.001	0.573	100	Participants with higher income were more likely to provide financial assistance (FB3; OR = 6.90, p = 0.005). There was also a non-significant trend for lower-income participants to value showing respect more (FB6; OR = 0.21, p = 0.062).
Relationship Status: Single vs Partnered	48.35	<0.001	0.745	97	FB3 (Providing financial assistance) negatively predicted being single (OR=0.006, p=0.020); FB6 (Showing respect) positively predicted being single with borderline significance (OR=21.97, p=0.055)
Number of sibling(s):1 vs >=2	9.251	0.414	0.119	99	FB5 (Being accommodating on mundane matters) positively predicted having siblings (OR=2.13, p=0.066); FB9 (Listening to family member's problems) was marginally associated with having siblings (OR=1.96, p=0.053)
Number of languages spoken at home: 1 vs 2 or more languages	36.748	<0.001	0.466	100	FB8 (Personal care) negatively predicts multilingual households (OR=0.262, p=0.021); FB9 (Listening) strongly predicts (OR=10.900, p=0.002)
Practise religion? No religion vs Yes	10.037	0.347	0.2	100	No significant predictors; FB3 and FB8 approached significance.
Live Alone: No vs Yes	6.07	0.733	0.118	100	No significant predictors; FB8 (Providing personal care) showed a non-significant positive trend.
Filial Attitude Scale					
Demographic Factor	Chi-Square	p-Value	Nagelkerke R^2	n	Key Findings based on Odds Ratio
Gender: Male VS Female	7.366	0.118	0.107	101	The odds of being female are 5.37 times higher than being male, based on the constant term. However, the model did not show statistical significance (p = 0.118). The model's predictive power is low, with an R^2 of 0.107.
Age: 18-22 yo vs 23-35 yo	10.216	0.037	0.148	101	The odds of being in the 23–35 age group are 0.134 times lower than being in the 18–22 age group (based on the constant term). The model shows statistical significance (p = 0.037) and explains 14.8% of the variation in age group.
Education: Undergraduate vs Postgraduate	1.685	0.793	0.031	101	The odds of having a Bachelor's degree or above are 12.4 times higher than having a Tertiary/Vocational qualification, based on the constant term. The model is not statistically significant (p = 0.793), with a very low explanatory power (Nagelkerke R^2 = 0.031).
Occupation Student vs non-student	6.492	0.165	0.1	101	The odds of being a student compared to a non-student are 0.174 times lower than being a non-student (based on the constant term). The model is not statistically significant (p = 0.165), with a low explanatory power (Nagelkerke R^2 = 0.100).
Employment: full-time vs Non full time	2.691	0.611	0.043	100	The odds of being employed full-time compared to non-full-time are 5.98 times higher than being non-full-time (based on the constant term). The model is not statistically significant (p = 0.611), with low explanatory power (Nagelkerke R^2 = 0.043).
Average monthly income? < 1890 (mean) vs 1890 (Mean)	8.963	0.062	0.164	101	The odds of earning more than 1121 HKD compared to less than 1121 HKD are 0.264 times lower than earning more than 1121 HKD, based on the constant term. The model is marginally significant (p = 0.062), with a moderate explanatory power (Nagelkerke R^2 = 0.164).

Relationship Status: Single vs Partnered	3.637	0.457	0.069	98	The odds of being single (as opposed to married or in a de facto relationship) are 5.11 times higher than being married, based on the constant term. The model is not statistically significant (p = 0.457), with low explanatory power (Nagelkerke R^2 = 0.069).
Number of sibling(s):1 vs >=2	14.876	0.005	0.185	100	The odds of having one or more siblings compared to having no siblings are 2.69 times higher, based on the constant term. The model is statistically significant (p = 0.005) with a moderate explanatory power (Nagelkerke R^2 = 0.185).
Number of languages spoken at home: 1 vs 2 or more languages	8.787	0.067	0.127	101	The odds of speaking two or more languages at home compared to speaking one language are 1.79 times higher, based on the constant term. The model is marginally significant (p = 0.067), with moderate explanatory power (Nagelkerke R^2 = 0.127).
Practise religion? No religion vs Yes	3.319	0.506	0.068	101	The odds of practising religion compared to not practising religion are 0.21 times lower than practising religion, based on the constant term. The model is not statistically significant (p = 0.506), with low explanatory power (Nagelkerke R^2 = 0.068).
Live Alone: No vs Yes	3.518	0.475	0.069	101	The odds of living alone compared to not living alone are 0.058 times lower than living alone, based on the constant term. The model is not statistically significant (p = 0.475), with low explanatory power (Nagelkerke R^2 = 0.069).
Preparedness for Caregiving Scale					
Demographic Factor	Chi-Square	p-Value	Nagelkerke R^2	n	Key Findings based on Odds Ratio
Gender: Male VS Female	13.369	0.100	0.193	99	Higher preparedness to meet emotional needs was significantly associated with being female (OR = 2.46, p = 0.030), while preparedness for caregiving stress showed a non-significant trend in the same direction (OR = 2.36, p = 0.061). Other preparedness items did not significantly predict gender.
Age: 18-22 yo vs 23-35 yo	17.709	0.024	0.251	99	Greater preparedness for physical needs was associated with higher odds of being aged 23–35 (OR = 2.83, p = 0.033), while greater emotional preparedness was linked to lower odds of being in this age group (OR = 0.40, p = 0.031). Other preparedness items were not significant predictors.
Education: Undergraduate vs Postgraduate	13.300	0.102	0.226	99	No preparedness item significantly predicted postgraduate status in the multivariate model (all p > .10). Overall preparedness (OR = 2.76, p = 0.126) and preparedness to set up services (OR = 2.01, p = 0.167) showed the largest effect estimates but did not reach significance.
Occupation Student vs non-student	17.398	0.026	0.265	98	Greater preparedness for emotional needs was associated with lower odds of being a non-student (OR = 0.36, p = .028), while preparedness to respond to emergencies showed a trend toward higher odds of non-student status (OR = 2.71, p = 0.054).
Employment: full-time vs Non full time	8.849	0.355	0.138	98	No preparedness item significantly predicted employment status (all p > 0.10). Preparedness for physical needs showed a non-significant trend toward lower odds of non–full-time employment (OR = 0.45, p = .099).
Average monthly income? < 1890 (mean) vs 1890 (Mean)	10.375	0.240	0.371	47	No preparedness item significantly predicted higher versus lower income in the multivariate model (all p > 0.10). Preparedness to make caregiving activities pleasant (OR = 4.30, p = 0.221) and to handle emergencies (OR = 6.64, p = 0.111) showed non-significant trends toward higher income.
Relationship Status: Single vs Partnered	9.958	0.268	0.167	99	No preparedness item significantly predicted being single (all p > 0.10). Preparedness for physical needs showed a trend toward lower odds of being single (OR = 0.40, p = 0.093), while preparedness for stress showed a trend toward higher odds (OR = 2.11, p = 0.115).
Number of sibling(s):1 vs >=2	23.627	0.035	0.284	99	Providing well for family members was associated with significantly higher odds of having one or more siblings (OR = 10.19, p = 0.002), while honouring family and making them proud was linked to lower odds (OR = 0.44, p = 0.046). Being accommodating on mundane matters showed a non-significant trend toward higher odds of having siblings (OR = 2.39, p = 0.056).
Number of languages spoken at home: 1 vs 2 or more languages	39.087	< 0.001	0.490	100	Caregivers who frequently provided personal care when a family member was ill had lower odds of living in a multilingual household (OR = 0.26, p = 0.023), while those who often listened to family members' problems had significantly higher odds of speaking two or more languages at home (OR = 10.18, p = 0.004). Other filial-piety items did not significantly predict language status.
Practise religion? No religion vs Yes	20.262	0.089	0.246	100	Providing financial assistance was associated with lower odds of practising religion (OR = 0.60, p = 0.048). Treating family kindly regardless of past treatment showed a trend toward higher odds of religious practice (OR = 3.33, p = 0.051), as did obedience on important matters (OR = 1.98, p = 0.064). Other filial behaviours were not significant predictors.
Live Alone: No vs Yes	9.720	0.717	0.185	100	No preparedness item significantly predicted living alone (all p > 0.10). Preparedness to provide personal care showed a non-significant trend toward higher odds of living alone (OR = 2.51, p = 0.129).

Discussion

This study explored the psychometric properties and predictive utility of three validated scales assessing filial piety and caregiver preparedness among adults in mainland China. Our findings contribute to the growing body of literature on how traditional cultural norms, particularly filial piety, influence contemporary caregiving attitudes and behaviours in ageing societies. This research extends prior efforts by reflecting current sociocultural dynamics, especially in mainland China contexts where demographic and familial structures are rapidly evolving (Guo, Ngai et al. 2024).

The results of the EFA supported a multidimensional structure of the combined filial piety and caregiving scale, highlighting both traditional and evolving components of filial obligations in contemporary China. The inclusion of four newly developed items expanded the scale's scope to encompass key dimensions such as practical caregiving readiness, emotional support, and engagement with healthcare systems, which have become increasingly relevant in modern urban life. These findings align with previous research, suggesting that filial piety in China is no longer a monolithic concept, but rather comprises both affective and instrumental elements shaped by broader social changes (Yeh and Bedford 2003, Lum, Yan et al. 2016). The identification of separate factors reflecting both normative beliefs, such as respect and kindness, and practical caregiving behaviours, such as providing personal care and financial support, aligns with the dual filial piety model proposed by Yeh and Bedford (Yeh and Bedford 2003). This model distinguishes between reciprocal forms of filial piety, which are emotion-based, and authoritarian forms, which are duty-based (Lum, Yan et al. 2016, Bedford and Yeh 2019). Moreover, our findings reflect the impact of structural shifts such as urbanisation, rising individualism, and the enduring consequences of the previous old One-Child Policy, which have placed increased pressure on adult children to fulfil diverse caregiving roles (Zhan and Montgomery 2003, Bedford and Yeh 2019). The identification of separate factors reflecting both normative beliefs, such as respect and kindness, and practical caregiving behaviours, such as providing personal care and financial support, aligns with the dual filial piety model proposed by Yeh and Bedford (2003). This model distinguishes between reciprocal forms of filial piety, which are emotion-based, and authoritarian forms, which are duty-based (Lum et al., 2016; Bedford & Yeh, 2019). These patterns also reflect the long-term demographic impact of the previous one-child policy introduced in the 1980s. Although China officially ended the one-child policy in January 2016 and introduced a three-child policy in May 2021, its legacy continues to shape family caregiving structures and generational expectations.

The coherent factor structure and strong internal consistency of the 21-item instrument across three scales demonstrate its construct validity for use in Chinese populations, effectively capturing the balance between traditional family values and the modern caregiving demands faced in contemporary society.

While traditional filial values remain salient, caregiving readiness is increasingly shaped by external pressures such as work commitments, geographic mobility, and limited access to support services. Many participants expressed strong affective and normative commitments to caregiving, yet fewer felt practically prepared to take on these roles. This discordance points to a widening gap between attitude and behavioural capacity, a phenomenon reflected in prior research documenting the erosion of intergenerational co-residence and the rise of 'absentee caregiving' across East Asia (Ikels 2004, Zhang and Goza 2006).

The regression analyses revealed nuanced associations between demographic characteristics and filial behaviours or preparedness. Overall, these findings highlight the central role of financial support (FB3) and emotional preparedness in caregiving dynamics. Gender, age, and sibling presence significantly influenced caregiving behaviours and attitudes. Listening to family members' problems (FB9) and providing personal care (FB8) were consistently associated with cultural factors, such as multilingualism and family size. Female participants were more likely to listen to family members' problems (FB9; OR = 3.742, $p = 0.004$), and showed higher emotional caregiving preparedness (OR = 2.46, $p = 0.030$). Age differences also played a role: participants aged 23–35 were more likely to provide financial assistance (FB3; OR = 4.313, $p < 0.001$), and reported greater preparedness for physical care (OR = 2.83, $p = 0.033$), while younger individuals were more emotionally prepared (OR = 0.40, $p = 0.031$). Marital status was associated with caregiving behaviours, as single individuals were less likely to provide financial assistance (FB3; OR = 0.006, $p = 0.020$), but more likely to value showing respect (FB6; OR = 21.97, $p = 0.055$).

Full-time employment was associated with less financial caregiving (FB3; OR = 0.13, $p < 0.001$), and greater obedience (FB4; OR = 3.38, $p = 0.045$), indicating how work commitments may limit certain caregiving behaviours. However, employment status did not significantly predict preparedness levels. Higher income was positively associated with providing financial assistance (FB3; OR = 6.90, $p = 0.005$), while lower-income individuals showed a trend toward greater respectfulness (FB6; OR = 0.21, $p = 0.062$). These findings highlight the pivotal role of financial assistance (FB3) across multiple demographic dimensions and emphasize the influence of gender and cultural background on emotional caregiving behaviours such as listening (FB9).

The number of siblings was significantly associated with preparedness to provide well for family members (OR = 10.19, $p = 0.002$), while multilingual households were more likely to engage in listening behaviours (FB9; OR = 10.90, $p = 0.002$) but less likely to provide personal care (FB8; OR = 0.26, $p = 0.021$), reflecting cultural and communicative nuances in caregiving. Overall, caregiving behaviours and preparedness were significantly influenced by gender, age, income, occupation, and language use at home. These findings reinforce the need for culturally and demographically sensitive interventions to support diverse caregiving roles across contemporary Chinese families.

Education level had limited predictive power, with no strong associations between postgraduate status and preparedness. However, trends suggested that more educated participants may feel more confident navigating health systems but place less emphasis on affective filial norms, the finding consistent with studies highlighting the emergence of more individualistic caregiving approaches among educated younger adults (Wendy Wen, Hodgetts et al. 2010, Brasher 2022). These results support the idea of 'filial piety in transition' (Wu 2023), reflecting evolving caregiving roles under structural constraints.

These findings align with China's 2025 ageing policy agenda, which emphasises expanding home and community-based care, integrating medical and social services, and strengthening caregiver training. While filial values remain strong, the gap in caregiving preparedness, particularly among younger and employed adults, highlights the need for targeted education and workplace support. Interpreted through the dual filial piety model, participants' emotional commitment reflects reciprocal values, whereas limited readiness for instrumental tasks suggests difficulty fulfilling duty-based expectations. The validated

filial preparedness scale offers a practical tool to identify at-risk caregivers and inform culturally appropriate interventions. These insights can guide national strategies that balance traditional expectations with modern caregiving demands.

The findings may also reflect generational shifts. Younger participants, raised after the one-child policy, may idealise filial norms due to cultural nostalgia, showing strong emotional endorsement. In contrast, older or employed caregivers may adopt more pragmatic approaches shaped by time and financial pressures. This contrast between idealised attitudes and practical behaviours supports the view of filial piety as an evolving construct shaped by cultural and structural change. At the policy level, our results call for stronger infrastructure to support informal caregivers in mainland China. Despite the "Healthy China 2030" initiative (Tan, Liu et al. 2017), barriers such as limited training, financial constraints, and workplace inflexibility remain (Gu, Rosenberg et al. 2017). National policies providing tax relief, respite care, and caregiver leave would help sustain eldercare systems. Clinical settings should also adopt standardized caregiver assessments to guide planning and referrals.

Future research should use longitudinal methods to track changes in filial norms and caregiving practices, particularly among younger generations navigating competing responsibilities. Qualitative approaches may further illuminate how cultural expectations intersect with lived caregiving experiences, offering deeper insight into the ongoing evolution of filial piety in contemporary China.

Strength and Limitation

A key strength of this study lies in the development and psychometric evaluation of a culturally grounded instrument that integrates both traditional filial beliefs and contemporary caregiving expectations. By incorporating newly developed items alongside validated measures, the study captures a multidimensional view of filial piety and caregiving preparedness relevant to modern Chinese society. The use of exploratory factor analysis and binary logistic regression enhances the methodological rigour and provides robust insights into the associations between filial attitudes, behaviours, and demographic characteristics.

However, several limitations should be noted. The study employed a cross-sectional design, which precludes any inference of causality between filial constructs and caregiving preparedness. The use of convenience and non-probability snowball sampling in one urban region (Guangzhou) limits generalisability to rural populations or other sociocultural settings in China. Additionally, the sample was skewed toward young, highly educated, and predominantly female participants, which may not fully reflect the broader spectrum of adult children with caregiving roles. Finally, although the newly developed items performed well psychometrically, further validation through longitudinal studies and confirmatory factor analysis is recommended.

Conclusion

While filial piety remains a strong cultural value, many individuals feel unprepared for caregiving, exposing a gap between cultural ideals and practical readiness. Age, gender, marital status, and employment were significantly associated with caregiving behaviours and preparedness.

This scale offers a culturally grounded tool to identify carers at risk of burden and guide targeted interventions. Support programs may be especially beneficial for younger, employed, or less experienced carers.

As mainland China's population continues to age, policies must reflect shifting filial norms and invest in caregiving capacity. This study provides an evidence-based tool to inform culturally appropriate care strategies and strengthen support for family carers.

Policy Implications for Culturally Healthy Ageing

This study underscores the need for healthy ageing policies that reflect the cultural values of mainland Chinese families, particularly the continued importance of filial piety. As ageing in place becomes more common, culturally responsive strategies are vital to support older adults and their family caregivers.

First, policies should formally recognise filial values within eldercare systems. Strengthening family-based caregiving requires culturally appropriate programs that offer financial support, caregiver training, and respite services.

Second, caregiver education must be scalable and tailored. Training should improve emotional preparedness, stress management, and healthcare navigation, while acknowledging generational differences in caregiving roles and capacity.

Third, healthcare systems should promote shared responsibility by integrating cultural practices into community care and involving family members in care planning.

Fourth, public health strategies should avoid one-size-fits-all approaches. Instead, culturally informed research should guide policy to ensure dignity and wellbeing in diverse populations (Meyer, Appannah et al. 2018).

This study also offers practical direction. The validated preparedness scale can help identify carers at risk of burden and guide targeted education programs. Such initiatives could be delivered through community organisations and digital platforms, with content adapted by age and caregiving role (Lai 2010). The observed gap between emotional commitment and practical readiness reinforces the need for integrated, family-centred support models (He and van Heugten 2020).

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Competing Interests

The authors declare that they have no competing interests.

GEN AI Use Statement

During initial preparation of this manuscript, the authors used ChatGPT to enhance readability and language, without replacing key authoring tasks. After utilising this tool, all authors edited the text, taking full responsibility for the publication's content.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon request, contingent on appropriate ethical approval.

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