THE EFFECTS OF MODERNIZATION: SMART, WORKING WOMEN AND FILIAL PIETY IN AGEING SINGAPORE

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ABSTRACT

Building on the findings of previous research, the purpose of the present study is to investigate "to what extent do the age, education level and employment status of Singaporean women predict the degree of filial piety in 2010-2014?". The research is based on a cross-sectional design, using an existing dataset of the World Values Survey (wave 2010 – 2014) to measure the relationships. Only the female respondents of the sample (N = 1083) were taken into account for analysis. An index of four items was constructed to measure filial piety as a dependent variable. The items were selected in relation to the identified dimensions of filial piety and their theoretical relevance. Based on the Oneway ANOVA test, the individual relationships between the independent variables age, education level and employment status on the one hand, and dependent variable filial piety, on the other hand, were investigated. In conclusion, the results showed significant relationships for age and employment status, but not for education levels, which contradicted previous research. Among the women in the middle age group (38-57 years) and among those with a job the highest scores on filial piety were found. The present study has discovered how modern times have led to an altered practice of filial piety, leading middle-aged women with jobs to uphold the highest degree of filial piety. These findings can be used to explore how Singaporean women could combine work and filial responsibilities in practice.

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INTRODUCTION

Due to globalization and modernization, Singapore has been going through massive social and economic changes since its independence in 1965. Although starting off with limited resources, this tiny country has developed itself to high standards in many fields like a true Asian success story. A focused government has led Singapore to become a global competitor in trade, transport, finance and education. Human resources have been their most important asset from the beginning, hence the focus on developing knowledge capital (OECD, 2010). Another key point in achieving success was the unification of the Singaporean people. Without a common language and with broad ethnic diversity, Singapore had a long way to go. The government invested a lot to bring about shared values among the people to enhance the development of a shared identity (OECD, 2010). The foundation of these values lied in Confucian ethics that intended to guide the people in how to cohabitate in society. At the core of the Confucian values is the importance of family, followed by the community and society as a whole. The adoption of these values has established a traditional balance of family life, including the provision of informal care for elderly family members. Here, the role of women is especially relevant, because daughters and daughters-in-law are most often the care givers (Teo, Chan, & Straughan, 2003). However, with the fast growing economy and modern views on female participation in the labour force, this balance is affected. The next generation of Singaporean women has more opportunities to develop themselves, resulting in higher education levels and higher participation rates in the (international) labour market (Mehta & Vasoo, 2002). The amount of double-income households is rising with a percentage of 54% in 2015 compared to 47% in 2010 (Government of Singapore, 2015). Traditional structures of family-based care have become more difficult to maintain and families are struggling to find a compatible path combining tradition, diverging expectations, personal aspirations, responsibilities and finances (Teo, Graham, Yeoh, & Levy, 2003; Wu & Chan, 2011). Moreover, in line with modernization processes, increasingly individualistic lifestyles could lead adult-children to become less inclined to take care of their parents as well.

Combined with a fast aging population, the social and economic developments pose challenges for the organization of elderly care. The lacking presence of a care giver due to the increased female labour force participation confronts the Singaporean government with outdated health care policies and the harsh realization of required change. The state stresses the responsibility of the individual and the family in securing proper care and only facilitates social and health services. The government relies most on families in the provision of care and support for elderly and they have expressed their intentions to remain a facilitator of care rather than a provider. On the one hand, the government attempted to enable this by addressing families to commit to their sense of duty towards elderly or filial piety, guided by Confucian principles. Filial piety can be defined as "unconditional material and

emotional support for parents" (Cheung & Kwan, 2009, p. 180). On the other hand, the government offered tax incentives to families who look after elderly family members and provided elderly with tools to demand support from their families. However, this approach seems unrealistic without adequate support from the government when the family is becoming increasingly less able or less inclined to take care of their elderly family members. Mehta and Vasoo (2002) examined the organization of elderly care and confirmed the difficulties women face in providing informal care. They found that modernization pressures women to an extent that they are unable to provide the quality of care required. The development of Voluntary Welfare Organizations (VWOs) is subsidized by the Singaporean government to meet the long-term healthcare needs of the elderly and their families. However, the lack of synergy between public and private initiatives still prevents the elderly to make effective use of them (Teo et al., 2003).

Assuming the importance of family in receiving proper care, it seems useful to investigate how the fast changing economic position of Singaporean women affects the traditional values regarding elderly care. More specifically, considering the increased labour force participation rates, learning opportunities for women and how this shapes their economic position, age, education level and employment status are the starting points of the study. The traditional values, on which the government so much relies, can be measured with the concept of filial piety. The purpose of this study is to investigate "to what extent do the age, education level and employment status of Singaporean women predict the degree of filial piety in 2010-2014?". In support of the main research question, a few sub-questions will be addressed:

- 1. What is the current economic position of Singaporean women?
- 2. To what extent is the degree of filial piety different among age groups?
- 3. To what extent is the degree of filial piety influenced by education level?
- 4. To what extent is the degree of filial piety related to employment status?

The problem will be addressed by using a cross-sectional research design. The main focus of the theoretical approach will be on Confucian ethics and (post) modernization. The data is collected from the World Values Survey, wave 2010-2014. An index of items representing the dimensions of filial piety will be composed to measure filial piety as a dependent variable in the study. Age, education level and employment status can be measured using the same dataset. The findings will show how the economic position of women relates to issues of family-based care in the (post)modern, aging society of Singapore.

THEORETICAL FRAMEWORK

The Singaporean economy has grown at high speed and paved the way for modern times. Modern perceptions of gender balance led to adjustments in the everyday family life of Singaporeans. Women are working more and are building on their economic position. Now the commitment to filial piety, and Confucian principles more generally, seem to be affected. Filial piety, Confucian ethics, modernization and the economic position of Singaporean women are the four key aspects of the present study. Each aspect will be addressed hereafter in a Singaporean context to investigate how they interact with and influence each other in contemporary Singapore.

Filial piety

The concept filial piety derives from the Chinese expression Xiào (孝), meaning the eternal obligation of filial duty of children to their parents. Of all virtues in Confucianism, filial piety is considered the most important. In its classical form, filial piety "implies deep loyalty, respect and devotion by children to parents" (Ng, Philips, & Lee, 2002, p. 138). Filial piety is generally associated with forms of filial obligation and responsibility resulting in practices that shape the relationship between parent and child. More specifically, the behaviour of the child when willingly complying with these virtues. Expressions of filial piety are composed of six dimensions: Caring for parents, respecting parents, maintaining contact with parents, obeying parents and pleasing parents (Cheung & Kwan, 2009; Ng, Philips, & Lee, 2002; Liu, Ng, Weatherall, & Loong, 2000). In traditional Confucianism, the elderly are always at the center of the family. Whether living or dead, the elderly family members should be honored and cared for by children and grand children at all costs as a sign of respect and virtue. It is the duty of a child to keep the family honor and to always behave in line with what is expected. In Asian societies it is normal that parents uphold high expectations regarding the behaviour and achievements of their children. In turn, children are obliged to live up to these expectations at all costs. The concept underlying filial piety is reciprocity, entailing the mutual benefits of a caring, loving relationship between parent and child. In the first half of a child's live, the parents provide everything needed to live a happy, full life. In the second half, it is the child obligation to return the favor. "It manifests the deep moral sentiment of gratitude that one should possess in return for the self-sacrifice and contribution that the parents have generously made for one's life and happiness." (Fan, 2007, p. 508). In this respect, reciprocity is an essential part of the commitment to filial piety and thus the provision of informal care for elderly family members.

The Singaporean government actively promotes traditional Asian values that uphold intentions of maintaining family-based care as a first resort. The traditional values are intended to guide

Singaporeans in their responsibilities and ensure unity within families and among the multi-ethnic people. Four norms were addressed by the Singaporean government in the "Shared Values" White Paper of 1991:

- Nation before community and society above self;
- Family is the basic unit of society;
- Consensus not conflict; and
- Racial and religious harmony.

The emphasis on filial duties and placing family above oneself, has deeply rooted in the Singaporean society. However, the influence of modernization has affected the traditional conception of filial piety, leading to adjustments in its practice. Nevertheless, the emphasis on respect and the provision of support and care for older parents remains prominent.

Ng, Philips and Lee (2002) explained that the essence of filial duty lies in two parts: the actual behaviour of caring and the wish for children to take care of their parents. The actual behaviour of caring is highly influenced by socio-economic factors. With a fast growing grey population and declining birth rates, the old-age support ratio is declining simultaneously (Government of Singapore, 2015). Consequently, the caring ability of families is pressured by a heavy caring burden placed on fewer care givers (Mehta, 2005; Ng, Philips, & Lee, 2002). Conversely, Fan (2007) points out that true virtuous practice of filial piety would lead children to self-sacrifice for the benefit of their parents. The test of modern times leads them back to rather traditional perspectives. The question is whether women are willing to choose caring for their parents over personal aspirations.

INTERGENERATIONAL TIES

Intergenerational ties should not be overlooked in the discussion on filial piety, because the strength of the relationship often influences the willingness of children to care for their parents. Teo et al. (2003) identified intergenerational relationships with the concept of *solidarity*, which was conceptualized as "consensus builds solidarity while its antithesis, conflict, gives rise to problematic relationships fraught with difficulties and pain. In this conception shared values across generations are the basis of the normative obligation to provide help and a foundation of enduring ties between parents and children" (p.329). In this respect, the strength of intergenerational relationships is highly influenced by consensus and shared values, resulting in a certain degree of care provision. Ng, Philips and Lee (2002) laid out how elderly care can be visualized in terms of primary and secondary relations. Primary relations are signs of affection and emotional support, whereas secondary relations revolve around instrumental support, including financial support. When children provide care for elderly

parents, the practice is guided by filial piety and expressed in both emotional and instrumental support.

Wu and Chan (2011) did extensive research on the changing role of women in society and intergenerational relationships. Traditionally, women were expected to give up their careers for the benefit of a family, so that they could care for elderly family members. Interestingly, the findings showed that many elderly understand the contemporary limitations and often support daughters and daughters-in-law in achieving career goals. Ng, Philips and Lee (2002) even found that parents felt that children were free to choose whether or not they wanted to support them. The intensity of support would depend on available resources and personal considerations. However, there remains a certain level of expectation regarding this 'freedom'. Especially elderly people who have fewer resources themselves or are physically less capable, often have higher expectations of their children in the practice of filial piety. In contrast, Ng, Philips and Lee (2002) also found that relationships between parent and child are usually better when parents are economically and emotionally (more) independent. Moreover, a "reversed power" relationship could occur when parents are highly dependent on children's economic resources, which in turn could lead the children to feel less obliged to provide other forms of support. As a result, socio-economic developments and modern perceptions of filial responsibilities change the traditional practice of filial piety. A phenomenon that the elderly must accept, because they find themselves dependent on the willingness of their children to provide care and support. "Whilst it seems that some adult children might still listen to and respect their parents, they might not show their sympathy for the parent's situation and might not put their parents as the first priority, and might not have an absolute respect and obedience." (p. 150)

Resulting from socio-economic developments and modernization pressures, the changing practice of filial piety and the occurrence of a reversed power relationship could lead to conflict in intergenerational relationships. When the expectations of the parent and the behaviour of the child collide, this is likely to cause a rift among generations. The elderly seem to understand how modernization limits the child's possibility for filial practice, but their expectations are based on the previous times when filial piety was at the core of intergenerational relationships. Especially in the case of women, which will be discussed in more detail hereafter.

Hypothesis 1: Age is positively associated with higher scores on filial piety

(Post) modernization

Flowing from economic development, modernization seems to influence the traditional values and behaviour of Singaporean women. Divale and Seda (2001) studied how this effect occurs. They found that modern views on the role of women in society can improve their socio-economic status. However, it can also affect traditional roles and family life in a way that women are unconsciously pressured to conform to modern expectations, like pursuing a career. *Modernization* can be defined as "a change from traditional customs and behaviours to ones that are forced or voluntarily borrowed from a dominant society that results in changes in the behaviour and worldview of its people or customs." (p. 129) The development of the economic position of women goes hand in hand with modernization and the question is whether these changes also affect traditional behaviour expressed in the practice of filial piety.

Wang (2007) investigated postmodern values in seven Confucian societies, among which Singapore. He analyzed priorities in life and identified a shift in three phases: modernizing societies tend to be survival-centered; modern societies tend to be achievement-centered; and postmodern societies tend to be enjoyment-centered. Singapore was considered a modern society, moving towards post modernization. Survival goals are quite primitive needs, whereas achievement goals are "an individual's desire to achieve materially and socially" (p.344). Achievement goals in Confucian societies are usually realized by hard work. Increased labour market participation rates for women confirm these indicators of modernization. After basic needs and desires are satisfied, enjoyment, selfexpression and empowerment become increasingly important. Pereira (2006) discussed how the modernization processes lead to greater individualism. Individualism enhances autonomy, personal aspirations and opportunities for self-expression. In contemporary Singapore, these values are difficult to combine with filial responsibilities and the natural development in modern societies is a shift towards more formal care arrangements (Margherita, O'Dorchai, & Bosch, 2009). Pereira (2006) also investigated whether family values are still strong or affected by the process of individualization. The findings showed that most Singaporeans do value family highly, but that this is deteriorating among the younger generation (≤ 37 years). However, that could also be explained by difficulties in combining work-family life rather than individualization. Even if the younger generation is still committed to filial duties, the lack of public support and economic necessity to work complicates their abilities to do so. Yeoh & Huang (2009) recognized these limitations, especially for Singaporean women. Women are expected to succeed in both work and private life, but that puts a lot of pressure on them. Consequently, many women choose to do either instead of both (Vaswani, 2015).

The discussion about the effects of modernization on filial piety has been addressed by many scholars and whether these effects are positive or negative can be argued for both sides. Cheung and Kwan (2009) used two perspectives regarding this discussion: a structural-functionalist view and an alternative, socialist view. On the one hand, the structural-functionalist view underlines the necessity of formal care initiatives, because modernization and economic growth have led to an increased work force living farther away from parents. Pursuing a career without having to hold back for filial duties better fits the modern reality of contemporary Singapore. Moreover, the increased distance reduces the possibilities to practice filial piety. Thus, new times call for new socio-economic structures in care. On the other hand, the alternative, socialist view argues that the increase in economic resources and education levels rather enables the practice of filial piety. However, this positive effect can only occur in "a socialist society that instils and promotes filial piety and intergenerational solidarity." (p. 183) Education in Singapore is used as a means to create such a society with lots of training in moral ethics from an early age on. Above all, the government stresses the importance of filial piety to a great extent and offers financial benefits to realize support from families. Cheung and Kwan (2009) found that higher education levels counter the negative impact of modernization on filial piety, because of two factors: (1) higher educated people gain more training; (2) higher educated people are less susceptible for modern influences, because of their intellect and self-consciousness. Besides, higher education levels form a starting point for a successful life and admirable achievements through hard work, which complies with the pleasing dimension of filial piety. Achievement is highly valued in Asian societies and contributes to great family honor.

Hypothesis 2: Higher education levels are positively associated with higher scores on filial piety

THE ECONOMIC POSITION OF WOMEN

The female labour force participation rate has grown a lot over time and this development is expected to continue (Government of Singapore, 2016). For many years the economic position of women has strengthened, but not without difficulties. Already in 1999, a book appeared on the paradoxes Singaporean women have to face during their climb up the socio-economic ladder. It is called "The Three Paradoxes: Working Women in Singapore" (Lee, Campbell, & Chia-Chan, 1999). It goes on in-depth about the difficulties in combining modern and traditional roles, especially regarding expectations of others and corporate behaviour. Jahan (1999) reviewed the book and discussed each paradox. The first paradox addresses the expectations of the Singaporean society that women should be hard workers and contribute to the economy, while at the same time fulfill traditional roles as wife and mother. The second paradox is about the conflict resulting from combining these roles, which is caused by the assumption that household tasks are women's work and the inflexible attitude of many organizations. The last paradox points out the opposition women face when trying to move up in their

careers or find themselves at high positions, especially at the managerial level. These paradoxes still represent current issues for Singaporean women today (Liang-Lin, 2015).

Working and pursuing a career has clear benefits for a women. Women can built on their pension savings and considering the fact that women tend to outlive men, these savings are crucial for an independent source of income in later life. The fact that women are almost forced to choose between work and family life directly relates to their possibilities to provide informal care for elderly family members. When women choose work, they have to go all-in to compete with men and cannot step out for caring duties without falling behind (Vaswani, 2015). Alternatively, when women choose a traditional path at home, they can commit themselves to practices of filial piety easier (Fan, 2007). The Singaporean government investigated how many citizens were able to work, but chose not to and why. The report on Labour Force in Singapore (Ministry of Manpower, 2015) showed that 84% of the non-working prime working age group (25-54 years old) were female of whom 14% indicated caregiving responsibilities as their main reason to stay at home. In total, 80% of the females indicated family responsibilities in general as their main reason. These statistics confirm that familial responsibilities prevent many women from working outside the house. When considering a full time job, it would seem impossible for women to provide adequate support and care for elderly family members next to their working responsibilities.

Hypothesis 3: Hours of work are negatively associated with higher scores on filial piety

Taking into account the findings from previous research on filial piety, there are several factors that seem to have an influence. Firstly, socio-economic change has led to modern perceptions and practices of filial piety, which do not fully comply with traditional practices and the expectations of elderly family members. Therefore, older people are expected to score higher on filial piety than the younger generations. Secondly, the government attempts to instill moral ethics and the importance of family through education. There is a lot of attention for awareness and virtue, which enables higher educated people to remain loyal to traditional values. Thus higher education levels are expected to predict a higher degree of filial piety. Thirdly, society complicates the abilities for women to successfully combine work and family life. Moreover, the economic necessity to work forces them in a certain direction, driving them away from filial responsibilities. In conclusion, a heavier workload is expected to result in a lower degree of filial piety. The purpose here is to investigate whether these expectations prove to be true for the sample of Singaporean women in the present study.

RESEARCH METHODOLOGY

The focus of the present study is on whether the age, education level and employment status of Singaporean women can predict the degree of filial piety. Deriving from the theory, three hypotheses regarding these relationships and the direction of association were formulated. A cross-sectional research design will be used to measure the relationships under investigation for a population of Singaporean women from 2010-2014.

Research design

The unit of analysis is the female population of Singapore, whereas the unit of observation is a sample of 1083 Singaporean women. The standards of the World Values Survey for a suitable sample comply with the needs of the present study. The data will be gathered from the World Values Survey, wave 2010-2014. For the purpose of the study, a construct of the six dimensions of filial piety – to care, to respect, to contact, to obey, to please and the importance of tradition – will be created to measure filial piety as a dependent variable. The independent variables age, education level and employment status are available in the dataset as well, so each hypothesis can be tested using the same dataset. The dataset of the World Values Survey will be used for statistical analysis in SPSS. A One-way ANOVA test will be performed to measure the relationships between filial piety and each of the three independent variables age, education level and employment status.

Case selection

The case selection for the World Values Survey data is determined on a large scale. Samples of \geq 1000 respondents are randomly selected within countries and have to meet the age requirement of 18 years and older. The goal is to get a representative national sample of the population. In 2010 – 2014 a sample of n=1972 was drawn, of which 1083 respondents were female. At last, it is difficult to determine whether the sample is large enough and eligible to generalize the results for all women in Singapore. Luckily, the small population of Singapore makes it more likely that the sample is representative for the population, compared to other countries that can be investigated with the World Values Survey. All countries have to meet the same requirement of \geq 1000 respondents, which means 0,019 % of the entire population of Singapore compared to only 0,006% of the population of the Netherlands, for example. Moreover, a sample of \geq 1000 is considered excellent for research.

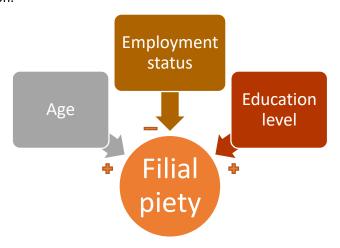
Limitations of the study

In several studies, the importance of financial support was addressed as an indicator of filial piety, but the available dataset did not offer any insights into this. Considering its value in other studies

on filial piety, it seems useful to include financial support in further research. The items in essence made it difficult to distinguish between perceived filial piety and actual filial piety – the filial piety as practiced by society and experienced by Singaporean women or the filial piety as practiced by Singaporean women. At last, the use of an existing dataset threatens the utility of the data, because the survey was not intended to measure any specifics of the present study.

DATA AND ANALYSIS

In summary, the expected relationships between the variables under investigation are presented in a figure below. The hypotheses were formulated for each relationship based on previous research. In this section, the statistical analyses will be presented, followed by a discussion of the results and a conclusion.



Filial piety index

The composition of the index of Filial piety was based on the theoretical relevance of the items. The items that were deemed most important in previous research, were assumed best fit for the present study. For each dimension of filial piety matching question(s) were sought in the dataset of the World Values Survey, wave 2010-2014. There was a preference for questions that could identify the behaviour and personality of the respondents. The following questions were selected for each dimension:

1. Willingness to take care of parents. The selected question for this dimension was V74 B - Schwartz: It is important to help people living nearby, to care for their needs. The question was answered on a 6-point answer scale, varying from "very much like me" to "not at all like me". The respondent will indicate a level of compassion for people living close by and a willingness to care for them, which is a strong indicator of filial piety. As an indicator of filial piety, the willingness to care for others reflects upon their sense of moral duty (Fan, 2007).

- 2. Respect for parents. The best available question for this dimension was V165 Older people are not much respected these days (reversed). The question was answered on a 4-point answer scale, varying from "strongly agree" to "strongly disagree". The way this question was posed, makes it difficult to assess whether it is the personal opinion of the respondent or whether it is a perception of society. The inclusion of this item could lead to an unrepresentative outcome for filial piety, so it will be left out for the present study.
- 3. Maintain contact with parents. The selected question for this dimension was V250 Do you live with your parents? The question was answered on a 2-point answer scale with a choice between yes or no. The importance of cohabitating with parents as an indicator of filial piety was stressed by several scholars (Fan, 2007; Ng, Philips, & Lee, 2002), but the dichotomous scale offers no significant insights into the quality or frequency of the contact. The outcomes of a scale score would not provide useful information about the contact, so this item will not be included for the index of filial piety either.
- 4. Obey parents at all times. The selected question for this dimension was V77 Schwartz: It is important to this person to always behave properly; to avoid doing anything people would say is wrong. The question was answered on a 6-point answer scale, varying from "very much like me" to "not at all like me". Obedience is expressed in subordination of oneself, both towards one's parents and in society. Even under circumstances of disagreement, the child should always obey. Proper behaviour is highly valued, so this is an important indicator of filial piety (Fan, 2007; Ng, Philips, & Lee, 2002).
- 5. *Please parents*. The selected question for this dimension was V75 Schwartz: Being very successful is important to this person; to have people recognize one's achievements. The question was answered on a 6-point answer scale, varying from "very much like me" to "not at all like me". In the Asian tradition, the best way to please one's parents and keep the family honor high is with success and achievement, which makes this item very relevant in the measurement of filial piety. Success and achievement are highly valued next to proper behaviour (Ng, Philips, & Lee, 2002).
- 6. Importance of tradition. The selected question for this dimension was V79 Schwartz: Tradition is important to this person; to follow the customs handed down by one's religion or family. The question was answered on a 6-point answer scale, varying from "very much like me" to "not at all like me". In response to this question, a high score would indicate that the respondent is more likely to comply with filial responsibilities in line with traditional expectations.

In conclusion, four items – questions 1, 4, 5, and 6 - were selected for the composition of a filial piety index. Each of the four items were measured on the same scale, so the respondents' scores on filial piety were calculated using the average of the items combined. The respondents' scores on the new dependent variable filial piety (M = 2.84, SD = 0.78) ranged 1.00 - 6.00, 1.00 meaning that the respondent does not at all comply with indicators of filial piety and 6.00 meaning that the respondent complies with indicators of filial piety very much. All items were intended to meet the same construct, so a reliability analysis was performed to assess the reliability of the index. The filial piety index was found sufficiently reliable with a Cronbach's α of .61 (see Table 1 and 2 in the Appendix).

Bivariate relationships

This section will focus on the bivariate relationships between the dependent variable Filial piety and each of the independent variables age, education level and employment status. Considering the extensive answer possibilities for each independent variable, it would be difficult to interpret the results. Therefore, it made sense to combine data into new categories, so that the groups could be compared in their score on filial piety. Firstly, the data for age was grouped in three categories: (1) 18-37 years; (2) 38-57 years; and (3) 58+ years. A generation generally exists within a time span of about 20 years, therefore this selection method is used to identify the age range of the groups. The three categories will enable a comparison between the generations in the sample. Secondly, the data for education level was grouped in three categories: (1) No/primary education; (2) Secondary education; and (3) University level education. The ordinal grouping of the levels enables a comparison between higher and lower educated respondents. Thirdly, employment status was divided among three groups as well: (1) Employed; (2) Occupied; (3) Unemployed. The categories were roughly combined into groups with respondents who have an actual job, those who had, work at home or work towards a job, and those who are unemployed or have unknown occupancies. The One-way ANOVA test was considered most appropriate here, because it would offer insights into the differences between the means of each group (e.g. whether participants in the higher education levels had higher mean scores on filial piety compared to those in lower education levels).

ASSUMPTIONS

There are three main assumptions that have to be met to perform a One-way ANOVA test: the assumptions of normality, homogeneity of variances and independence of observations. Each assumption with regard to the variables under investigation will be discussed hereafter.

Independence of observations

The World Values Survey guarantees a uniformly coordinated procedure for sampling and data collection methods in all countries, including Singapore. Samples are randomly drawn under specified conditions to retrieve a representative sample from the population. The data is collected by professional organizations through face-to-face interviews, so it is almost impossible that one respondent could influence another. The agencies have to report directly to the World Values Survey and the country can only be included in a wave when all documentation is provided under very strict conditions. Considering the extensive sampling and data collection procedure of the World Values Survey, it would be safe to assume that this assumption is met.

Normal distribution

The normality assumption was investigated with the Shapiro-Wilk test, skewness and kurtosis values, and histograms. The Shapiro-Wilk test was performed with a significance level of p > .05. The Null hypothesis was that the filial piety scores were normally distributed for each category of the independent variables. The results of the Shapiro-Wilk test of Normality (see Table 3 in the Appendix) revealed that most values were significant, which indicated non-normality. The skewness values were used to assess asymmetry and kurtosis was used to measure peaks in the distribution (see Table 4 in the Appendix). The skewness (.43) and kurtosis (.84) values of filial piety were found within the preferred threshold of -1 and 1, so the normality assumption was met. Most levels complied with the acceptable range of -2 to 2 as well, except for primary education within the education levels and unemployed within the employment statuses. The histograms offered a better view on the distribution and deviating values (see Histrogram 1 and 2 in the Appendix). Both sublevels showed a positively skewed, heavy leptokurtic distribution, so there were mainly high peaks in the left half of the distributions. Considering that the One-way ANOVA is quite robust for violations of the normality assumption and the histograms appear roughly normal, the choice was made to continue with the One-way ANOVA.

Homogeneity of variances

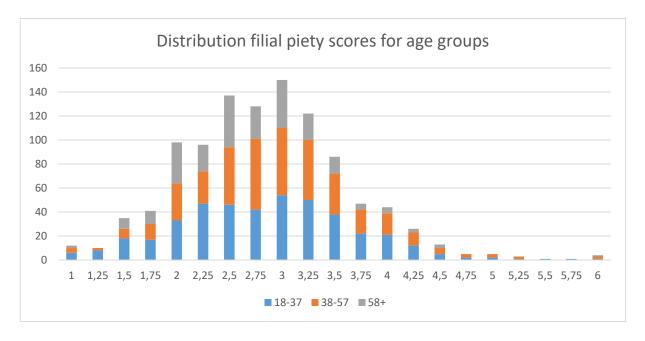
The results of the Levene's Test for Homogeneity of Variances are presented in the table below.

Variable	Levene Statistic	df1	df2	Sig.
Age	5.976	2	1061	0.003
Education level	0.763	2	1071	0.467
Employment status	1.125	2	1080	0.325

The assumption is met if p > .05. The results indicate that the assumption is met for education level and employment status, so the variance in the scores on filial piety is the same for each sublevel of education and each sub status of employment. However, the assumption was not met for age with p < .01. In response, the Robust Tests of Equality of Means were consulted. The Welch test was found statistically significant with p < .01, implying that there exists a difference between at least two of the age groups regarding their mean scores on filial piety.

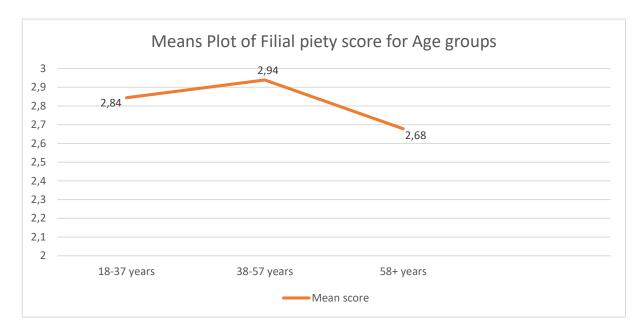
AGE

There were 1064 respondents who answered the question regarding their age, among whom the average age was 43 years (M = 43.06, SD = 16.68), ranging 18-89 years. The variable was divided into three groups: 18-37 years (N = 427), 38-57 years (N = 396), 58+ years (N = 241). The graph below illustrates the distribution of scores on filial piety and shows how a specific age group scored compared to the other groups.



A One-way ANOVA test was performed to investigate the differences between the age groups regarding their mean score on filial piety. The outcomes showed that the effect of age on filial piety was statistically significant with F (2, 1061) = 8.31, p < .01. The outcome implies that a statistically significant difference was found between the means of at least two groups. Despite the outcome, the actual differences in mean scores between the age groups were very small with an effect size of .02 using η^2 . Because the results of the Levene's test were statistically significant for p < .05, a Games-Howell Post Hoc test was used to compare the age groups. The Games-Howell test revealed that there was a statistically significant difference in the score on filial piety between the age groups 18-37 years and 58+ years (p = .02), as well as between 38-57 years and 58+ years (p < .01). However, no statistically

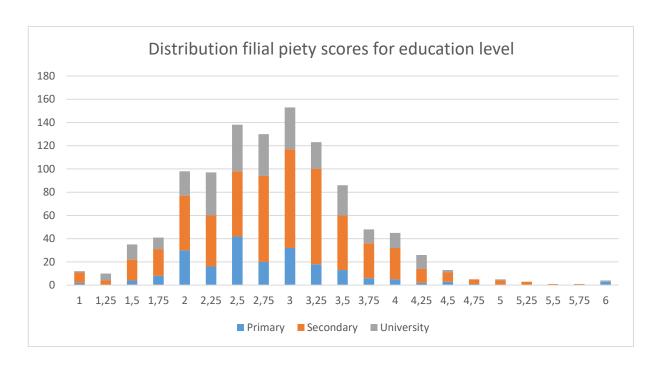
significant difference was found between the age groups of 18-37 years and 38-57 years. The mean scores of each group are presented in the graph below.



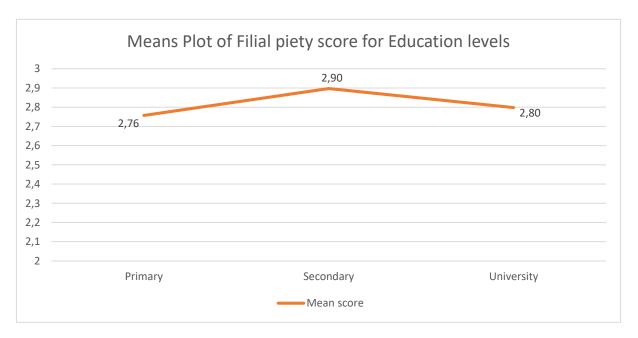
The graph shows that the age group 38-57 years predicts the highest scores on filial piety. In line with the results of the One-way ANOVA, the difference between the mean scores of the age group 18-37 years and the age group 38-57 years was not enough to be significant. However, the difference between the 58+ group and each of the younger age groups was indeed enough to be significant. This implies growing older between 18-57 years would not predict statistically significant different mean scores on filial piety, but growing beyond 57 years would lead to a statistically significant drop in the mean score on filial piety. In conclusion, the results suggest that age can predict the score on filial piety.

EDUCATION LEVEL

There were 1074 respondents who answered the question regarding their highest education level attained, among whom the median level was "incomplete secondary school: university-preparatory type", ranging no formal education – university level degree. The variable was divided into three groups: no/primary education (N = 205), secondary education (N = 579), university level education (N = 290). The graph below illustrates the distribution of mean scores on filial piety and shows how each education level scored compared to the other levels.



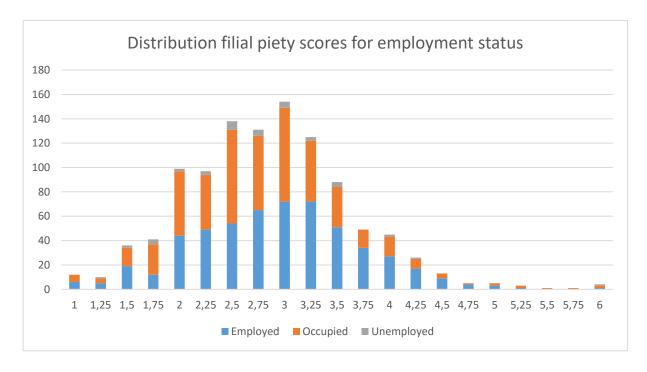
A One-way ANOVA test was performed to investigate the influence of the respondents' education levels on their filial piety scores. The outcomes showed that the effect of education level on filial piety was barely statistically significant with F (2, 1071) = 3.06, p = .047 = .05. The outcome would imply that a significant difference was found between the means of at least two levels of education. Despite a statistically significant outcome, the actual differences in mean scores between the education levels were very small with an effect size of .01 using η^2 . Because the results of the test were statistically significant for p < .05, a Tukey's Post Hoc test was used to compare the education levels. The Tukey HSD test revealed that there was no significant difference in the score on filial piety between any of the education levels. The means scores differed no more than .16, as can be seen in the graph below, so the differences were rather little.



The graph shows that secondary education level predicts the highest scores on filial piety. In line with the results of the One-way ANOVA, the difference between the mean scores of the education levels was not enough to be significant. This implies that attaining a higher education level would not predict statistically significant different mean scores on filial piety compared to lower education levels. In conclusion, these results suggest that education level cannot predict the score on filial piety.

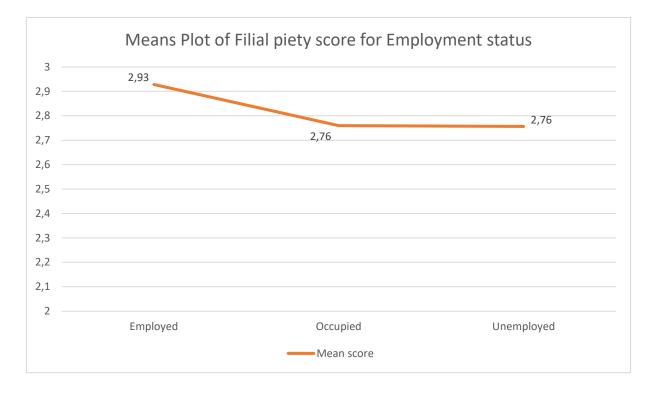
EMPLOYMENT STATUS

There were 1083 respondents who answered the question regarding their employment status, among whom the median level was "self-employed", ranging full time employment – other. The variable was divided into three groups: employed (N = 545), occupied (N = 498), and unemployed (N = 40). The graph below illustrates the distribution of scores on filial piety and shows how each employment status scored compared to the statuses.



A One-way ANOVA test was performed to investigate whether of the respondents' employment status can predict their score on filial piety. The outcomes showed that the effect of employment status on filial piety was statistically significant with F (2, 1080) = 6.28, p = .02. The outcome implies that a significant difference was found between the means of at least two employment statuses. Despite a statistically significant outcome, the actual differences in mean scores between the employment statuses were very small with an effect size of .01 using η^2 . Because the results of the test were statistically significant for p < .05, a Tukey's Post Hoc test was used to compare the employment statuses. The Tukey HSD test revealed that there is a significant difference in the score on filial piety between employed and occupied (p < .01). However, no statistically significant

differences were found between pairs of the other employment statuses. The means of each category are presented in the graph below.



The graph shows that the employed group predicts the highest scores on filial piety. In line with the results of the One-way ANOVA, the difference between the mean scores of the employed group and the occupied group was .17, enough to be significant. However, the mean scores of the occupied group and the unemployed groups on filial piety was practically the same. This implies that an increase in the hours of work from an unemployed status to an occupied status would not predict statistically significant different mean scores on filial piety, but moving up to an employed status would lead to a statistically significant raise in the mean score on filial piety. In conclusion, the results suggest that employment status can predict the score on filial piety.

DISCUSSION OF THE RESULTS

The results revealed some interesting findings on the expected predictors of filial piety. Three hypotheses were developed in line with the theory and previous research. Each hypothesis will be discussed hereafter.

Age

Age is positively associated with higher scores on filial piety

When looking at the first hypothesis, the results of the One-way ANOVA revealed a significant relationship for age as a predictor of the score on filial piety. Remarkably, the group of Singaporean women aged 38-57 years was found to be a statistically significant predictor of higher scores on filial piety than the older group of 58+ years. There was no statistically significant difference between the youngest age group 18-37 years and the group of 38-57 years. When relating these findings to the hypothesis, the results were not in line with the expectations. The oldest age group scored significantly lower on filial piety than any of the younger age groups, while the expectation was reversed. An explanation could be that the selected indicators for filial piety in the present study do not reflect properly upon age, but rather comply with values recognized among the younger age groups. For example, the value of obedience and proper behaviour could decline among older women, leading to lower scores on filial piety in the present study. In future research, taking into account the differences between age groups in the practice of filial piety could lead to other results that are more in line with previous research.

Education Level

Higher education levels are positively associated with higher scores on filial piety

Concerning the second hypothesis, the results of the One-way ANOVA revealed a significant relationship for education level as a predictor of filial piety, but the outcome of the Tukey's Post Hoc test implied no statistically significant differences between the levels. Taken together, the education level of Singaporean women was not found to be a predictor of filial piety, because of the similarity in the mean scores of each sublevel. When relating these findings to the hypothesis, the results were not in line with the expectations. The expected positive association between higher education levels and the score on filial piety, derived from the importance of moral values and attention for the development of filial piety in education. However, the modern practice of filial piety could have altered its conception in training compared to a decade ago.

Employment Status

Hours of work are negatively associated with higher scores on filial piety

Relating to the third hypothesis, the results of the One-way ANOVA revealed a significant relationship for employment Status as a predictor of filial piety. The employed status was found to be the predictor of the highest scores on filial piety compared to the occupied and unemployed statuses. When relating these findings to the hypothesis, the results were not in line with the expectations. The expectation of a negatively associated relationship between hours of work and filial piety turned out reversed in the present study. Previous research found that employment was very difficult to combine with practices of filial piety, so a lot of women chose to do either instead of both. An explanation for the results could be that the women who have their lives properly arranged and earn an income are more able to provide for others. The practical problems in this situation could be solved by unknown factors. It would seem very interesting to go more in-depth about these findings and about which factors could contribute to combining work and filial responsibilities.

CONCLUSION

The present study attempted to set out theories on predictors of filial piety and examined whether these theories proved to be true with an existing dataset from the Word Values Survey, wave 2010-2014. The main research question was: "to what extent do the age, education level and employment status of Singaporean women predict the degree of filial piety in 2010-2014?". In response, the One-way ANOVA revealed that age and employment status were statistically significant predictors of filial piety, but education level was not. More specifically, Singaporean women aged 38-57 years with an employed status were statistically significant predictors of the highest scores on filial piety. These remarkable findings indicate that traditional perceptions of filial piety are practiced in modern times, where working women can succeed in both work and private life. Increased life expectancy, increased levels of education and increased labour force participation rates pose practical issues, which were addressed in the theory. The challenges are still ahead and relevant today. However, if there is a will, there is a way. That has proved to be true for women in the modern, ageing society of Singapore. With intergenerational understanding and compassion, a lot can be achieved. The most important message that can be derived from the present study is that the willingness of the middle-aged generation to care for elderly has not reduced, but that the state, society and family has to work together to honor the Asian tradition.

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APPENDIX

Table 1

Reliability Statistics

Cronbach's Alpha	N of Items
0.614	4

Table 2

Inter-Item Correlation Matrix

	Schwartz: It is important to help people living nearby; to care for their needs	Schwartz: It is important to this person to always behave properly; to avoid doing anything people would say is wrong	Schwartz: Tradition is important to this person; to follow the customs handed down by one's religion or family	Schwartz: Being successful is important to this person; to have people recognize one's achievements
Schwartz: It is important to help people living nearby; to care for their needs	1	0,305	0,327	0,325
Schwartz: It is important to this person to always behave properly; to avoid doing anything people would say is wrong	0,305	1	0,369	0,263
Schwartz: Tradition is important to this person; to follow the customs handed down by one's religion or family	0,327	0,369	1	0,121
Schwartz: Being successful is important to this person; to have people recognize one's achievements	0,325	0,263	0,121	1

Table 3
Shapiro-Wilk Test of Normality

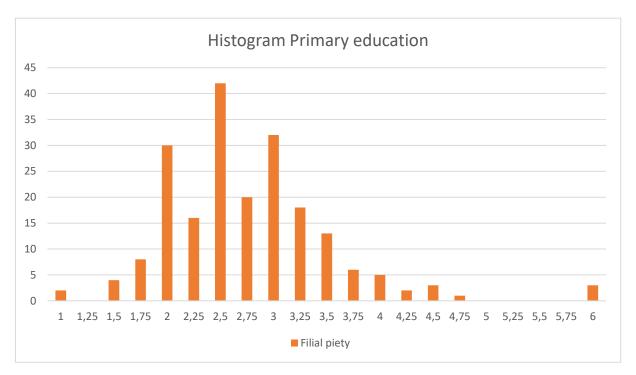
Variable	Group	Statistic	df	Sig.
Filial piety		0.978	1083	0.000
Age	18-37 years	0.984	427	0.000
	38-57 years	0.976	396	0.000
	58+ years	0.961	225	0.000
Education level	Primary education	0.917	205	0.000
	Secondary education	0.984	579	0.000
	University level education	0.979	290	0.000
Employment status	Employed	0.988	545	0.000
	Occupied	0.961	498	0.000
	Unemployed	0.925	40	0.011

Table 4
Skewness and Kurtosis values

Variable	Group	Skewness	Kurtosis
Filial piety		0.978	1083
Age	18-37 years	0.300	0.393
	38-57 years	0.465	1.046
	58+ years	0.678	1.894
Education level	Primary education	1.230	3.519
	Secondary education	0.215	0.429
	University level education	0.363	0.392
Employment status	Employed	0.130	0.164
	Occupied	0.702	1.724
	Unemployed	1.168	3.267

Histogram 1

Distribution of filial piety scores for Primary education level



Histogram 2

Distribution of filial piety scores for Unemployed status

