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Does greater filial piety bring more gender income advantages? Exploring the influence of traditional Chinese filial piety on the gender wage gap

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Abstract

Purpose – Based on traditional Chinese filial piety, this article examines the impacts and mechanisms of the two-dimensional filial piety concept "Qinqin – Zunzun" on gender wages in China via China Family Panel Studies (CFPS) conducted in 2014 and 2018.

Design/methodology/approach – This article construct regression models to examine the relationship between filial piety concepts and wages. Also, it uses unconditional quantile regression and decomposition to explore the impact of filial piety concepts on the wage gap.

Findings – It is found that: (1) The effects of two-dimensional filial piety are heterogeneous in terms of gender. Specifically, authoritarian filial piety significantly suppresses individual wages and has a stronger suppressive effect on women's wages, whereas affinity filial piety significantly enhances individual wages without gender heterogeneity; (2) Parents' time support in the intergenerational exchange model is a crucial mechanism by which filial piety affects wages, exhibiting significant gender heterogeneity; (3) Regarding wage distribution, authoritarian filial piety mainly widens the gender income gap in the low and middle income-groups, while affinity filial piety narrows the gender wage gap by "raising the floor", with its converging effect being most significant in the middle and high-income groups. This article deepens the understanding of the gender wage gap and intergenerational income mobility, providing policy references for better utilizing the social governance function of culture.

Originality/value – The article deepens the understanding and mechanisms of the gender wage gap and intergenerational income mobility, providing policy reference for better utilizing the social governance function of culture.

Keywords China's filial piety, Authoritarian filial piety, Affinity filial piety, Gender wage gap,

Inter-generational exchange

Paper type Research paper

1. Introduction

The gender wage gap persists as a seminal issue within the realm of labor economics, consistently engaging scholars from myriad disciplines across the globe. Over time, this extensive discourse has yielded a sophisticated framework of interpretations, concerning economic, societal, technological and cultural dimensions. In economic terms, the emphasis is often placed on human capital; it is a well-documented premise that augmented educational attainment can mitigate the discrimination faced by women in the workforce, thereby contributing to the narrowing of the wage gap (Huang and Yao, 2009). Sociologically, the domestic sphere – and the time women



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dedicate to household responsibilities – is pinpointed as a pivotal factor. It is posited that the duties associated with marriage and motherhood, particularly housework and childcare, disproportionately burden women and consequentially exacerbate wage disparities (Angrist and Evans, 1998). Institutionally, the scholarship investigates disparities in employment prospects and pervasive industry-specific gender segregation. Such institutional biases, including intra-industry discrimination, are recognized as substantial determinants of the gender wage gap (Cai and Wu, 2002; Ge and Zeng, 2011; Luo et al., 2019). Concurrently, the evolution of technology, embodied by the advent of the Internet, industrial automation and robotics, presents an array of impacts on gender-based wage differentials, warranting extensive exploration (Mao et al., 2018; Xu et al., 2022). Moreover, from a cultural standpoint, there is an increasing focus on unraveling how widespread norms and beliefs underpin the gender wage gap within a global context (Grosso, 2007). The synthesis of these diverse perspectives continues to enhance our understanding of the nuances undergirding gender pay disparities, spotlighting the multifaceted nature of this persisting economic conundrum.

The current research on the gender wage gap still has limited explanatory power, leaving potential mechanisms and missing variables yet to be explored in depth. The Global Gender Gap Report 2022 [1] by the World Economic Forum reveals that globally only 68.1% of gender gaps have been eliminated, while China's gender gap index stands at 0.682 [2], indicating a significant unbridged gap of 31.8%, exceeding the global average. This prompts consideration of informal mechanisms beyond traditional factors that consistently influence the gender income gap. Cultural factors, deeply rooted in societal issues, may play a vital role in shaping these informal mechanisms. Recent studies have found that socio-cultural influences may subconsciously perpetuate gender inequality by reshaping traditional economic, family and technological decision-making mechanisms (Qing, 2019; Scarborough and Moeder, 2022). Regrettably, few studies have integrated China's traditional cultural concepts into the analytical framework of gender inequality. Confucianism, deeply ingrained in traditional Chinese culture, continues to influence socio-economic behavior, shaping hierarchical gender norms and intergenerational behavioral standards. Among them, "filial piety is the foremost of all good deeds", and "filial piety" is the core concept of this kind of "ritual" culture. In traditional Chinese patriarchal society, filial piety not only represents a duty but also implies certain rights, predominantly favoring men. The Xiaojing (Classic of Filial Piety) closely intertwines Confucian filial piety with political ethics, establishing it as a criterion for national governance and official appointments.

On the contrary, it is essential to recognize that classical theory treats filial piety as a singular concept and neglects to explore its structural dimensions, thereby diminishing its efficacy in explaining the economic impacts of filial piety culture in China. In China, two distinct concepts of filial piety have emerged around the value norms of "rites" – "Qinqin (Being close to the people you should be close to)" and "Zunzun (Respecting the people you should respect)". The former is known as affinity filial piety, which emphasizes interaction and voluntariness with a focus on emotional communication. Conversely, the latter is referred to as authoritarian filial piety, which underscores "No Violation" with a core tenet of "reverence and obedience," prioritizing substantial eldercare support. These contrasting "ritual" norms give rise to markedly different intergenerational resource distribution and allocation patterns within the family, potentially exerting a substantial influence on the labor market performance of descendants (Deng, 2017; Hao and Yu, 2015).

In conclusion, traditional Confucian social and cultural factors contribute to our further exploration of the deep-rooted causes of the gender wage gap. The filial piety culture has significantly influenced families' intergenerational production and exchange behaviors within the Confucian cultural circle (including China, Japan, Korea, North Korea, Vietnam and Singapore). The potential marginal contributions of this article are as follows: Firstly, drawing from the cultural context of "filial piety is the foremost of all good deeds" in countries of the

Confucian cultural circle, the paper assesses the explanatory strength of filial piety concepts in the context of gender wage gaps, enriches empirical literature concerning the influence of cultural concepts on economic and social behaviors and endeavors to provide a fresh perspective on the classic conundrum of the labor market within the Chinese cultural framework; Secondly, compared to previous literature focusing on filial piety concepts, this paper explores gender heterogeneity and tests for differences between men's and women's filial piety concepts, i.e. while men's ideas of filial piety are superior to women's across all dimensions in general, women have a comparative advantage in "Qinqin"- affinity filial piety, which becomes an essential precondition for the ability of affinity piety to ameliorate gender inequality in income; Thirdly, under the dual filial piety dimension with Chinese characteristics, only "Zunzun"-authoritarian filial piety follows the "income endowment preference" proposed by classical research in the intergenerational family exchange, thus widening the gender income gap. Instead of following the explanatory framework of classical family economics, the "Qinqin" dimension of filial piety helps to narrow the gender income gap.

2. Literature review and research hypothesis

2.1 Literature review

2.1.1 Traditional China's dual filial piety concepts and its gender characteristics. The concept of filial piety, as the core ethical norm of the Chinese nation, has extremely rich connotations. In traditional Chinese society, filial piety is a set of behavioral constraints imposed by elders on younger generations in direct lineal blood relationships, including respecting and caring for parents, bearing and raising children, repaying kindness, being loval and filial and many other aspects. With the advancement of modernization, the connotation of filial piety has changed with social change. As early as the 1980s, Yang (1989) proposed a standardized scale based on conceptual analysis and factor analysis of filial piety, which includes four main components: "respecting and being filial to parents", "restraining oneself and prioritizing parents", "providing for and remembering parents" and "protecting and honoring parents". Next, Yeh and Bedford (2003) integrate the theoretical model of dual filial piety with existing measurement systems, subsequently explaining them as authoritarian filial piety and affinity filial piety. Following this framework, Cao and Ye (2014) further explore the corresponding models of dual filial piety and traditional Chinese culture. Since then, the conceptualization and measurement system of dual filial piety have been widely adopted by scholars. It is worth noting that the difference between Chinese and Western concepts of filial piety is notable; in China, filial piety is considered an unshirkable duty of the children. In contrast, in the West, parent-child relationships emphasize equality, encourage the selfdevelopment of the children and stress "affection and love" rather than "respect and obedience." When discussing the dual filial piety mentioned in this article, traditional Chinese filial piety is seen as authoritarian filial piety, whereas Western filial piety leans towards affinity filial piety, a modern perspective. Thus, the discussion around these two filial concepts not only represents the intersection and clash between traditional and modern cultures in China but also highlights the differences in intergenerational interaction between Chinese and Western cultures.

Regarding the distribution of filial piety concepts, males and females hold different filial piety concepts. The traditional Chinese social concept advocates "raising sons to support you in old age", while a daughter is like "water that has been poured out" and most parents prefer to be raised by their sons (Wang, 2017). This preference makes men the main cultivation target of filial piety and the primary bearer of filial behavior in early families. Gan and Feng (2020) found that after surveying 660 men and women from the "Belt and Road" regions [3], males' filial piety is significantly stronger than the females', specifically in the aspects of living with the elderly and providing financial support, with sons showing significantly higher identification than daughters. In addition, the distribution of filial piety concepts in

different dimensions also differs between men and women. Men's filial piety concepts and behaviors follow traditional norms, emphasizing responsibility logic and placing more emphasis on exchange and reciprocity, while women's filial piety follows emotional logic, emphasizing selfless giving (Li and Song, 2017). This may imply that men and women follow different logical tendencies in their concepts of filial piety, i.e. from a two-dimensional view of filial piety, men may be more inclined to an authoritarian view of filial piety that emphasizes the norms of inferiority and superiority, while women may be more inclined to an affinity-based view of filial piety that emphasizes emotions.

2.1.2 Socio-economic effects of the filial piety concept. In traditional society, due to the imperfection of the credit market, intergenerational transfer of goods within the family has become the primary way of saving. This transfer method mainly includes parents' investment in human capital, material gifts and borrowing for their children, specifically in raising children and caring for older adults (Li and Nie, 2011). At the same time, in order to ensure the sustainability of intergenerational transfer, each generation needs to ensure the level and quality of the wealth transferred (Rangel, 2003). However, implementing intergenerational exchange (or transfer) within the family may lead to difficulties in verifying the quality and level of transfer, coupled with a lack of third-party monitoring, which can lead to an incomplete exchange contract and moral hazard, bringing about phenomena such as children refusing to fulfill their support obligations or elder abuse. At this time, ethical norms based on altruism as the main content serve as a supplement to incomplete contracts and help to solve such dilemmas. This is reflected in the Confucian culture, which focuses on filial piety as the core value, which results in widespread "recognition" of filial piety throughout society. This recognition not only requires everyone to regard filial piety as a responsibility and to "do good deeds for their parents", but also should stem from deep respect in their hearts, thereby bringing a sense of accomplishment from the concept of filial piety itself.

Akerlof and Kranton (2000) point out from an economic perspective that identity, as individuals' identification of their social category, constitutes the motivation for their socioeconomic behavior. Therefore, the concept of filial piety as an identity for filial piety can directly produce utility, and generate socio-economic effects on the followers themselves. Individuals not only consider filial piety as an obligation, but also internalize it as part of their own utility to bring satisfaction. For example, "There is no greater act of filial piety than respecting one's parents." If the social norm is violated, the individual will be punished by the victim or other informal institutions, and their utility will be damaged. This is reflected in specific empirical studies, where scholars focus on filial piety concepts in the context of household products, such as health in old age (Li et al., 2022) and support for old age (Deng, 2017; Ding and Wang, 2022), finding that it positively promotes household economic behaviors. However, there is little research on the value of filial piety in the labor market, which limits our understanding of the effects of filial piety on the family. The market, as a productive sector that can be chosen by individuals alongside the family, also deserves further exploration of the economic value of filial piety that is played out within it.

2.2 Research hypotheses

Based on the theoretical analysis above, we explicitly propose two theoretical mechanisms through which filial piety affects income. Based on the economics of identity, the first mechanism suggests that filial piety, as a mainstream social norm, brings positive utility through widespread recognition in various contexts, including communities and the workplace. From the perspective of economics of family, the second mechanism posits that filial piety indicates a preference for household production (eldercare support), leading to a crowding-out effect on labor market investment and thus resulting in a negative income effect. The study's empirical part aims to demonstrate filial piety's net income effect, considering these two opposing influences.

Filial piety, as a form of altruism, determines the production preference of the family. Individuals with strong filial piety concepts will allocate more time and economic resources to support their parents. In a situation of limited resources, family production will squeeze out resources for individual market production, thereby hurting the individual's performance in the labor market – wages. Based on this, this paper proposes: *Hypothesis* 1: Overall, the filial piety concept has a significant negative effect on individual wages.

Authoritarian filial piety emphasizes "No Violation," with a core tenet of "reverence and obedience." It manifests in substantial contributions and efforts in household production, including material goods, money and time, resulting in a negative income effect from the perspective of family economics. Conversely, affinity filial piety aligns more closely with modern mainstream filial norms, easily gaining recognition in public and social contexts, thereby presenting a positive income effect from the perspective of the economics of identity. Based on the above, this article proposes Hypothesis 1a: Authoritarian filial piety has a significant negative effect on individual wages, while affinity filial piety has a significant positive effect on individual market wages. In the traditional Chinese patrilineal family system and the marriage pattern that goes with it, men are not only the beneficiaries of the patriarchal society, but also the main bearers of filial piety behavior and the primary carriers of the concept of filial piety. Based on the gender characteristics of the aforementioned binary filial piety concept, gender may be an important moderation variable in the economic returns of filial piety. Becker (1993) and Becker et al. (2016) argue that parenting comes first and filial piety comes second, where filial piety is an intertemporal game for rational beings that needs to be nurtured by parents early in life and rewarded in old age. Therefore, parents spend resources to "manipulate" their children's preferences and instill "guilt", "obligation", "responsibility", "filial piety" and other motives in their children to induce them to support their parents in their old age.

Accordingly, the classic Rotten Parent Theorem (RPT) proposes that in order to maximize family returns, parents will adjust the allocation of resources within the family based on the expected level of feedback from their children. This theoretical conception implies that men are likely to be the beneficiaries of household resource allocation in cultural contexts where filial piety is the primary responsibility of men or in market environments where men's labor market returns are significantly higher than women's, leading to pre-labor market differences between men and women in a number of productivity characteristics, which may ultimately contribute to the formation of gender income gaps. Based on this, this article proposes hypothesis 2: Women experience a greater income penalty than men regarding filial piety. Considering the income effect of affinity filial piety more closely follows the economics of identity rather than economics of family, which starts from the assumption of utilitarian returns, is not fully applicable in the affinity-based dimension. This gender heterogeneity mainly exists in authoritarian filial piety, based on which Hypothesis 2a is proposed: Men's returns on authoritarian filial piety are significantly greater than women's.

If Hypothesis 2 holds, then the process of filial piety triggering the gender income gap may be realized through an intergenerational exchange mechanism. Guo and Zhang (2020) have extended the gender dimension of the RPT using twin data, proposing that there is a crowding-out effect under gender asymmetry in filial nurturing, i.e. parents are more inclined to seek old-age support from their children with innate income endowments. As a result, under the constraint of limited family resources, parents tend to shift the allocation of more resources to boys in exchange at an early age, including investment in human capital, material gifts, caregiving, etc. In light of this, the article proposes *Hypothesis 3: filial piety affects income through the mechanism of intergenerational exchange*.

Considering the different connotations of dual filial piety with Chinese characteristics, affinity filial piety may play a different role from authoritarian filial piety. Authoritarian filial piety emphasizes the order of seniority and inferiority, and parents' support is naturally

characterized by "preference for boys". It is worth pointing out that a prominent feature of traditional patrilineal Chinese families is that sons and daughters do not have an equal obligation to care for elderly parents. In the traditional marriage culture, society recognizes that a daughter ceases to bear the responsibility of supporting her biological parents once she marries, instead assuming the obligation of caring for her in-laws. That means parents understand that support from a daughter during their later years is limited. In contrast, in families with only a son, parents are likely to provide more intergenerational support to the son as a form of "exchange" for support in their old age. Therefore, although gender differences in intergenerational support in single-child families may be smaller than in multichild families, these differences still persist.

Affinity filial piety, on the other hand, emphasizes the relative equality and reciprocity between the parents and the children, which weakens the utilitarian nature of filial piety. At this point, economics of family, which starts with the assumption of utilitarian rewards, is not entirely applicable to the "Qinqin" dimension. Researchers have found that in female filial piety, emotional factors dominate behavior, with a greater emphasis on gratuitous giving and repayment of parenting (Hu, 2017), so that women who are good at emotional communication may receive more intergenerational transfers than men. Based on the above, this article proposes *Hypothesis 3a: The intensity of intergenerational transfers obtained by men is significantly greater than that of women on the dimension of authoritarian filial piety, whereas the intensity of intergenerational transfers obtained by women is significantly greater than that of men on the dimension of affinity filial piety.*

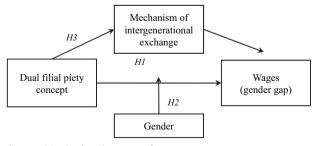
Based on the analysis and research hypotheses above, this article constructs a theoretical framework and a variable relationship diagram (see Figure 1).

As shown in Figure 1, dual filial piety has a direct effect on gender wages (Hypothesis 1), and there is significant gender heterogeneity in the effects of dual filial piety on wages (Hypothesis 2). In addition, the impact of filial piety on gender income is realized through the mechanism of intergenerational exchange (Hypothesis 3), and the strength of this mechanism is significantly different in male and female groups, which leads to the gender income gap.

3. Data, variables and methodology

3.1 Research data

This article is based on data from the China Family Panel Studies (CFPS), a database containing measures of individual filial piety concepts, the main variables affecting the gender wage gap and the degree of intergenerational support. Considering that the impact of filial piety concepts on individual labor market performance has a certain time lag, this article selects data from CFPS 2014; CFPS 2018[4], respectively. The variables related to filial



Source(s): Authors' own work

Figure 1. Research framework and variable relationships

piety concepts in CFPS 2014 [5] are used, whereas the outcome variables of individual education, type of intergenerational support and wages are from CFPS 2018. Considering that, in Chinese culture, getting married is viewed as a significant milestone of individual independence and the starting point for fulfilling filial duties, this study selected married individuals aged between 20 and 50 as the research sample. Although people's cultural values may change with technological impacts and shifts in social institutional environments, individuals' cultural beliefs mainly originate from the cultural transmission of the previous generation and then undergo slow updates influenced by personal experiences before being passed on to the next generation. After retaining complete information about the relevant samples, 5,281 valid samples were finally obtained, of which 2,670 are female and 2,611 are male.

3.2 Variables

Table 1 reports the main research variables of this study. Regarding the independent variables, the study is based on the filial piety measurement structure from existing research (Hu, 2017; Chen and Qing, 2019; Ding and Wang, 2022) [6]. Two common factor dimensions were extracted after conducting confirmatory factor analysis on questions related to filial piety concepts in both adult and child questionnaires. The variables "treating parents well," "visiting parents at home," "bringing parents happiness," and "making family important" focus on the emotional and affinity states in intergenerational relationships. Meanwhile, the variables "fulfilling parents' wishes," "living with parents," "having at least one son," and "bringing honor to one's ancestors" [7] emphasize the need for children to identify with respect, seniority and norms to achieve appropriate practices in intergenerational relationships. Based on this, we named Factor 1 affinity filial piety and Factor 2 authoritarian filial piety, with Cronbach's alpha coefficients of 0.70 and 0.64, respectively.

In terms of dependent variables, considering that the impact of filial piety concepts on labor market performance is a gradual process and wage adjustments take some time, and that there may be a lag in the effects of filial piety concepts on gender wages, this paper selects the log of after-tax monthly wages in the 2018 CFPS as the dependent variable. This

Variables	Description of variables
Log of monthly wages	Monthly wages are taken as the log (Yuan)
The filial piety concept	Mean scores of filial piety concept (1–5 1 = Strongly disagree 5 = Strongly agree)
Affinity filial piety: "Qinqin"	Mean scores on the affinity filial piety (1–5 1 = Strongly disagree 5 = Strongly agree)
Authoritarian filial piety:	Mean scores on the authoritarian filial piety (1–5 1 = Strongly disagree
"Zunzun"	5 = Strongly agree)
Educational levels	1 = High education, 0 = Low education
Parents' time support	1 = Yes, 0 = No
Age	Years
Age^2	$Age \times Age$
Hukou status	1 = the agricultural, $0 = $ the non-agricultural
Health status	1-5, $1 = strongly healthy$, $5 = unhealthy$
Hours of housework	Hours per day
Siblings	Number of siblings
Family property	Property-based income of households
Eastern region	1 = Eastern region, 0 = Non-eastern region
Urban/rural	1 = Urban, 0 = Rural
Source(s): Authors' own wor	k

Table 1. Variable definitions and descriptions

variable is derived from the question in the 2018 CFPS, "How much do you make on average per month after taxes in the current job?" and is a continuous variable based on specific values filled out by respondents. The values are reduced by 1% to exclude extreme values, and log form is used to bring the dependent variable closer to a normal distribution.

In terms of influencing mechanisms, although household investment in human capital is the most common indicator of intergenerational transfers, due to limitations in data collection, general studies often use the extent of children's educational level as a measurement for this indicator. Considering that some confounding factors can affect the conversion of educational investment to education level and that it is not accurate to use the degree of educational attainment as a measurement for the intensity of human capital investment, this article measures the intensity of intergenerational transfers within the family by using the "patient's time support", It is the primary form of support from the Chinese elderly to their offspring, including caring for grandchildren and managing household chores.

In addition, the control variables in this article include individual characteristics such as age and education level, family characteristics such as number of siblings and regional characteristics such as urban and rural areas. The education level is a dummy variable. The paper classifies "college and above" as a high education group, assigned the value of 1 and "high school or junior college and below" as a low education group, assigned the value of 0.

3.3 Models

This article constructs the following econometric model to examine the relationship between filial piety concepts and wages:

$$lnwage_i = \beta_0 + \beta_1 affinity_i + \beta_2 authority_i + \beta_k X_i + \varepsilon_i$$
 (1)

where, the dependent variable $bnwage_i$ denotes the logarithm of monthly wage income, the independent variable $affinity_i$ denotes affinity filial piety and the independent variable $authority_i$ denotes authoritarian filial piety. X_i denotes other control variables, including age, Hukou status, etc. β_0 , β_1 , β_2 , β_k are the parameters to be evaluated and ε_i is the error term; i denotes individual.

In order to examine the decomposition values at different quantile points, this article uses unconditional quantile regression and decomposition (Firpo *et al.*, 2009) to explore the impact of filial piety concepts on the wage gap. Based on the relevant principles of the Recentered influence function, this article constructs the Equation as follows. Where Q_r is the wage quartile, and X_i is the filial piety concept, individual characteristics and other variables.

$$RIF(lnwage, Q_r) = \beta_i X_i + \varepsilon_i E(\varepsilon_i)$$
(2)

After that, this article constructs the counterfactual wage function to obtain Equation (3). Assuming that the mean annual wage of the male sample, the wage of the counterfactual distribution and the mean annual wage of the female sample are $lnwage_m$ $lnwage_o$ $lnwage_w$ respectively, the difference in the distribution of male and female wages at different quartiles can be expressed as follows:

$$Q_r(lnwage_m) - Q_r(lnwage_w) = [Q_r(lnwage_m) - Q_r(lnwage_c)] + [Q_r(lnwage_c) - Q_r(lnwage_w)]$$
(3)

Substituting Equation (3) for Equation (4) yields. Further, the gender wage gap is decomposed into a characterization and parameter effect, as shown in Equation (4). The first term on the right side of the Equation measures the characterization effect component, and

the second term measures the coefficient effect component. The two terms on the right represent the effects of differences in the characteristics of filial piety concepts and differences in returns on the wage gap respectively.

$$Q_r(lnwage_m) - Q_r(lnwage_w) = [(X_m - X_w)\beta_m + \varepsilon_{mc}] + [(\beta_m - \beta_w)X_w + \varepsilon_{cw}]$$
(4)

3.4 Descriptive statistical analysis

Table 2 reports the descriptive statistics of the full sample and the sample by gender. For the core dependent variable, the log of men's monthly wages is significantly higher than women's. Regarding the independent variable of the filial piety concept, the affinity filial piety concept with equality and respect at its core is more widely recognized. This is consistent with recent literature, which concludes that affinity-based filial piety is the predominant perspective among contemporary youth (Ding and Wang, 2022).

In terms of gender differences, men score significantly higher than women on both types of filial piety concepts, i.e. men have a stronger tendency to reciprocate upward. However, in terms of the relative difference between the two dimensions, the gender difference in the concept of affinity filial piety is smaller, implying that despite the significant difference between the perceptions of men and women on the concept of filial piety, women have a comparative advantage in affinity filial piety, which has become the basis for their subsequent role in converging the gender gap. In addition, considering educational levels, men's is significantly higher than women's, which is typical of the pre-labor market gender differences. Regarding control variables, the distribution of males and females in terms of age and region is roughly equal. As for housework, the number of hours of housework performed by men per day is 1.258 less than that of women, which may be related to China's traditional family division of labor of "the man is in charge of the outside world, and the woman is in charge of the home".

Variables	Full N = 5,219	Men N = 2,627	Women N = 2,592	Mean difference
Log of monthly wages	7.646(1.026)	7.926(0.914)	7.363(1.055)	0.563***
The filial piety concept	3.782(0.71)	3.862(0.688)	3.7(0.723)	0.163***
Affinity filial piety:	4.55(0.53)	4.578(0.524)	4.522(0.534)	0.056***
"Qingin"	,	, ,	, ,	
Authoritarian filial piety:	3.339(0.967)	3.445(0.933)	3.232(0.989)	0.214***
"Zunzun"	,	, ,	, ,	
Educational levels	0.161(0.368)	0.167(0.373)	0.155(0.362)	0.012
Parents' time support	0.382(0.486)	0.523(0.5)	0.239(0.426)	0.284***
Age	39.046(7.383)	39.118(7.331)	38.973(7.437)	0.145
Age^2	1579.073(567)	1583.906(565.287)	1574.175(568.797)	9.73
Hukou status	0.71(0.462)	0.702(0.474)	0.719(0.45)	-0.016
Health status	2.82(1.093)	2.755(1.092)	2.886(1.089)	0.033***
Hours of housework	2.193(1.821)	1.578(1.616)	2.818(1.804)	0.042*
Siblings	0.854(0.635)	0.85(0.642)	0.859(0.627)	-0.009
Family property	1322.279(7986.741)	1354.07(9235.929)	1290.059(6481.175)	0.310***
Eastern region	0.434(0.496)	0.44(0.496)	0.427(0.495)	64.011
Urban/rural	0.562(0.496)	0.572(0.495)	0.552(0.497)	0.013

Table 2. Descriptive statistics of variables

Note(s): ① Standard errors are in parentheses; ② ***, **, * represent significant at 1%, 5% and 10% levels, respectively. The following tables are the same

Source(s): Authors' own work

4. Impact of the filial piety concepts on gender wages

4.1 Basic regression results

Table 3 explores the income effects of dual dimensions of filial piety in panel A, while Panel B focuses on the gender heterogeneity of these effects. From panel A, it can be seen that in the full sample, the regression coefficients for overall filial piety and authoritarian filial piety show significant negative values, which align with the theoretical assumptions proposed based on the family production model. In contrast, affinity filial piety, which emphasizes

	Model 1	Model 2	Model 3	Model 4
Panel A				
The filial piety concept	-0.067^{***}			
A ffinites filial mistra	(0.018)	0.049**		0.078***
Affinity filial piety		(0.024)		(0.024)
Authoritarian filial piety		(0.024)	-0.064^{***}	-0.074^{***}
1 7			(0.014)	(0.014)
Age	0.051***	0.054***	0.053***	0.052***
A A	(0.018)	(0.019)	(0.019)	(0.019)
$Age \times Age$	-0.001^{***} (0.025)	-0.001**** (0.025)	-0.001*** (0.025)	-0.059** (0.025)
Educational levels	0.309***	0.328***	0.302***	0.300***
Eddedtolidi levelo	(0.038)	(0.038)	(0.038)	(0.038)
Hukou levels	-0.253^{***}	-0.268^{***}	-0.248***	-0.245***
	(0.032)	(0.032)	(0.032)	(0.032)
Health status	-0.031***	-0.028**	-0.031***	-0.031***
Hour of housework	(0.012) -0.095***	(0.012) -0.094***	(0.012) -0.095***	(0.012) -0.094 ***
Hour of Housework	(0.007)	(0.007)	(0.007)	(0.007)
Siblings	-0.060^{***}	-0.049**	-0.048**	-0.041**
	(0.019)	(0.020)	(0.020)	(0.020)
Family property	0.005****	0.005***	0.005***	0.005***
D	(0.002)	(0.002)	(0.002)	(0.002)
Eastern region	0.330	0.335****	0.327****	0.324
Urban/rural	(0.025) 0.344***	(0.025) 0.349***	(0.025) 0.340***	(0.025) 0.336***
Ciballitatai	(0.028)	(0.028)	(0.028)	(0.028)
Constant terms	7.795***	7.264***	7.772***	7.434***
2	(0.371)	(0.380)	(0.366)	(0.380)
R^2	0.235	0.233	0.236	0.237
N	5,219	5,219	5,219	5,219
Panel B				
The filial piety concept \times Female	-0.060^{**} (0.025)			
Affinity filial piety × Female	` ′	0.032		0.059
		(0.046)	***	(0.047)
Authoritarian filial piety \times Female			-0.071***	-0.078***
Control variables	Controlled	Controlled	(0.025) Controlled	(0.026) Controlled
Constant terms	8.021***	7.643***	7.986***	7.797***
	(0.367)	(0.384)	(0.359)	(0.385)
R^2	0.281	0.276	0.284	0.285
N	5,219	5,219	5,219	5,219
Source(s): Authors' own work				

Table 3. Impact of the filial piety concepts on gender wages

equality and respect, exhibits a significant positive income effect. This indicates that the affinity filial piety follows the explanatory framework of the economics of identity, aligns with mainstream workplace culture and thus brings a positive income effect.

Further comparing the male and female samples in panel B, the coefficients of authoritarian filial piety × female are significantly negative, which means that, under the same conditions, the traditional concept of filial piety centered on "order" has a stronger inhibitory effect on women's wages. In contrast, the coefficient of Affinity filial piety × Female is positive but not significant, suggesting that the modern concept of filial piety centered on "equality and interaction" does not have a significant difference in the impact on gender wages. In summary, the effects of different dimensions of filial piety concepts on the gender wages of men and women differ: i.e. authoritarian filial piety significantly suppresses individual wages and has a more substantial suppression effect on women, while affinity filial piety, as a concept with an attribute of equality, not only has a positive economic impact, but also has no significant difference in its effects on men and women.

4.2 Endogeneity test

Although the use of CFPS data in this article reduces the endogeneity problem to a certain extent, considering that there might also be an endogeneity problem due to the omitted variables. Hence, "the number of Confucian temples in the region" is chosen as an instrumental variable for the endogeneity test in this article.

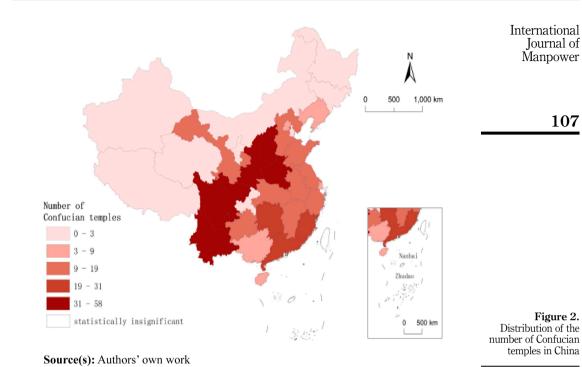
Confucian culture has been prevalent in China for a long time, and Confucian temples have become the spiritual homes of Confucian culture. According to statistics, more than 1,500 Confucian temples were built in China during the Ming and Qing dynasties (Luo, 2007). Confucianism, with "filial piety" as its core ideology, is the main cultural foundation for the concept of filial piety in China. To this day, there are nearly 500 Confucian temples throughout the country (see Figure 2). Confucian temples are not the primary medium for disseminating Confucian culture; rather, they symbolize the status of Confucian culture in local societies (Berschman, 2020). In this context, Confucian temples represent the degree to which Confucian filial piety has been accepted and internalized by families in a province, subtly influencing individual behavior through cultural transmission. Therefore, even with insufficient participation, the number of Confucian temples distributed remains an important indicator of the strength of filial piety culture.

Therefore, this paper chooses to use "the number of Confucian temples in the region" as an instrumental variable, which may shape the filial piety concepts of local residents by creating a social and cultural atmosphere of "reverence for rituals", thus affecting the strength of filial piety concepts of local residents, but does not have a significant effect on wages, which satisfies the requirement of exogeneity of the instrumental variable.

The results of the two-stage OLS regressions in Table 4 indicate that the wage effect of filial piety concepts remains robust and significantly suppresses women's wages more than men's, which is basically consistent with the regression results of Model 1 in Table 3.

4.3 Influencing mechanism testing: intergenerational exchange mechanisms

Table 5 demonstrates that intergenerational exchange, with parental time support as a proxy, is an important mechanism through which filial piety influences income. Time support is a robust mechanism for total filial piety with no observed gender heterogeneity. However, when examining the dual dimensions of traditional filial piety, the study finds inconsistencies in gender preferences within parental intergenerational transfer strategies. Under authoritarian filial piety, males are the primary bearers of filial and support obligations and parental time and financial support reflect a "preference for boys" under the traditional theory of "income endowment preference." Conversely, under affinity filial piety,



	Model 1: Filial piety concept			ffinity filial ety	Model 3: Authoritarian filial piety		
	First- stage	Second- stage	First- stage	Second- stage	First- stage	Second- stage	
The filial piety concept Regional Confucian temples	0.00412*** (0.00054)	-0.844*** (0.204)	0.00084* (0.0008)	2.438* (1.119)	0.00565*** (0.0007)	-0.616*** (0.148)	
Control variables <i>F</i> -test	Controlled 92.37***	Controlled	Controlled 2.26**	Controlled	Controlled 112.59***	Controlled	
Wald test		904.12 [0.00]		430.78 [0.00]		933.41 [0.00]	
N	5,219	5,219	5,219	5,219	5,219	5,219	

Note(s): Standard errors are in parentheses; Chi-square *p*-values of the Wald test are in square brackets **Source(s):** Authors' own work

Table 4. Instrumental variable regression

intergenerational transfer patterns emphasize emotional attributes, leading to women, who excel in emotional communication, potentially receiving equal or even greater intergenerational support.

Specifically, with each unit increase in authoritarian filial piety, the probability of males receiving parental time support increases by 8%, while affinity filial piety significantly decreases the probability of males receiving time support. This suggests that higher levels of authoritarian filial piety among males imply a greater commitment to providing future elder

care for their parents. Based on social exchange theory, parents are likely to offer males more time support in return. In contrast, affinity filial piety implies a weaker commitment to elder care support. In this scenario, parents tend to reserve their resources for future retirement needs, consequently reducing intergenerational support for their offspring.

5. Further discussions: gender wage gap decomposition

To further clarify the role of different concepts of filial piety on the gender wage gap, this part will continue to explore the impact of authoritarian and affinity filial piety on gender wages at different deciles and their contribution to the gender wage gap. First, the paper plots the kernel density of the gender wage distribution (see Figure 3) to more intuitively observe the distribution of male and female wages

The left-hand side of Figure 3 shows the gender distribution of monthly wages, while the right-hand side shows the gender distribution of logged monthly wages. It can be seen that after taking the log, the wages clearly tend to be normally distributed. Men have a significant advantage in the middle and high-wage groups, while women are more predominant in the lower-wage groups.

On this basis, this paper employs the Recentered Influence Function (RIF) quantile regression method, selecting three representative quantiles (10th, 50th and 90th) for discussion. The results in Table 6 indicate that affinity filial piety has a significant positive impact on female wages at all three quantiles. In contrast, authoritarian filial piety exerts a

	Pa Full	arents' time suppo Men	Log of monthly wages		
Filial piety	0.079***	0.036	0.036		
1 mai piety	(0.028)	(0.039)	(0.043)		
Affinity filial piety	-0.079^{**}	-0.170^{***}	-0.005		
	(0.037)	(0.052)	(0.056)		
Authoritarian filial piety	0.080***	0.072**	0.028		
	(0.021)	(0.030)	(0.033)		
Parents' time support				0.278***	
				(0.026)	
Control variables	Controlled	Controlled	Controlled	Controlled	
N	5,219	2,627	2,592	5,219	
Source(s). Authors' own w	vork				

Table 5.
Mechanisms of the filial piety concepts on labor market wages: intergenerational exchange mechanisms

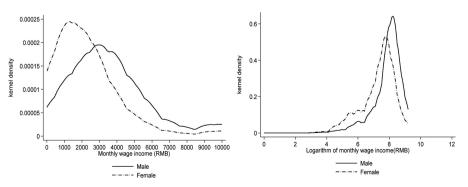


Figure 3.
Differences in the distribution of wages between men and women

Source(s): Authors' own work

significantly negative impact on both male and female wages, with a suppressive effect on female wages that is greater than that on male wages across all three quantiles.

Table 7 reports the decomposition of the means and the decomposition of the means at different quantiles. The values of the gender wage gap at the 10th, 50th and 90th quantiles are 1.117, 0.489 and 0.335, respectively, i.e. the gender wage gap is largest for the low-income group, followed by the middle-income group and the smallest for the high-income group. Subsequent decomposition results reveal the sources of this gap. In particular, the endowment effect refers to the gender wage gap due to differences in the endowments of male and female groups in a number of income-affecting factors. It is generally considered to be a plausible component of the wage gap. In contrast, the structural effect refers to the component of the wage gap due to differences in returns among factors, as a source of discrimination in the labor market.

The two concepts of filial piety play different roles in the gender wage gap. The role of authoritarian filial piety is mainly reflected in the endowment effect, i.e. men's stock of authoritarian filial piety is higher than women's and as children's income increases, parents have higher return expectations for higher-income men, at which point the negative income effect of men's authoritarian filial piety is enhanced, with a maximum intensity of this effect of 5.22% at the 90th percentile. The contribution of affinity piety is mainly reflected in the structural effect, which is significantly higher for women than for men in all quantiles, with a positive income effect, thus effectively converging the gender wage gap by "raising the floor", with the effect strongest at the 90th quantile (84.48%). It can be seen that authoritarian filial piety is an important factor contributing to the gender income gap in the middle-income group.

The paper then further plots broken line graphs to present a comprehensive picture of the contribution of the two types of filial piety concepts to the gender wage gap in different quantiles. As can be seen in Figure 4, in general, the coefficient of the impact of affinity filial piety on women's wages is always above that of men and is positive overall. In contrast, the coefficient of affinity filial piety's impact on men's wages is more stable, mostly below 0.05. In contrast, its impact on women's wages has a greater magnitude of change. In addition, the gender impact coefficient gap between men and women gradually expands from the 10th to 40th quantiles and narrows from the 50th to 70th quantiles. It can be seen that the convergence effect of the gender wage gap by affinity filial piety is most significant in the middle and high-income groups. Figure 5 reflects the impact of authoritarian filial piety on gender wages in different quantiles. Notably, authoritarian filial piety's effects on both men's and women's wages are negative. The coefficient of impact generally tends to increase from the 10th to the 90th quantiles. The difference between the two is minimized at the 90th quantile, which suggests that authoritarian filial piety widens the gender wage gap in the low and middle-income groups (40th-50th quantiles) but helps to converge it in the high-income groups.

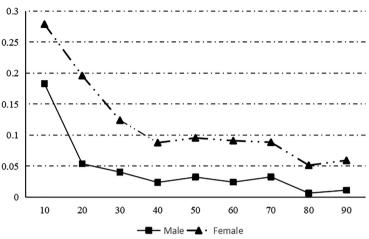
	10-Male	10-Female	50-Male	50-Female	90-Male	90-Female
Affinity filial piety	0.183*	0.279***	0.0324	0.0955***	0.0113	0.0593*
Authoritarian filial piety	(0.0989) -0.259^{***}	(0.0673) -0.318 ***	(0.0265) -0.0925****	(0.0349) -0.155^{***}	(0.0270) -0.0751***	(0.0326) -0.122^{***}
Constant	(0.0412) 7.624***	(0.0434) 6.838***	(0.0179) 8.518***	(0.0206) 8.087***	(0.0243) 9.072***	(0.0263) 8.732***
	(0.524)	(0.384)	(0.134)	(0.183)	(0.187)	(0.207)
Control variables	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
N	2,627	2,592	2,627	2,592	2,627	2,592
Source(s): Authors' own	work					

Table 6.
Quantile regression
results of filial piety
concepts on
gender wages

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To our our	Mean decon		10th quantiles		50th quantiles		90th quantiles	
lage gap	0.563***	%	1.117***	%	0.489***	%	0.335***	%
otal	0.0504***	8.95%	0.0345	3.09%	0.0335***	6.85%	0.0236	7.04%
ffinity filial piety	0.00732***	1.30%	0.00920**	0.82%	0.00185	0.38%	-0.00132	-0.39%
uthoritarian filial piety	-0.0464***	-8.24%	-0.0542^{***}	-4.85%	-0.0153^{***}	-3.13%	-0.0175^{***}	-5.22%
otal	0.515***	91.47%	1.083***	96.96%	0.456***	93.25%	0.311***	92.84%
ffinity filial piety	-0.302	-53.64%	-0.225	-20.14%	-0.259	-52.97%	-0.283	-84.48%
uthoritarian filial piety	0.237***	42.10%	0.00982	0.88%	0.198***	40.49%	0.111	33.13%
onstant term	0.380		1.284**		0.421**		0.329	
ontrol variables	Controlled		Controlled		Controlled		Controlled	
1	ffinity filial piety uthoritarian filial piety otal ffinity filial piety uthoritarian filial piety uthoritarian filial piety onstant term ontrol variables	ffinity filial piety	(0.0187) 0.00732*** 0.00732*** 1.30% (0.00277) uthoritarian filial piety otal otal 0.515*** 0.0286) ffinity filial piety 0.0286) ffinity filial piety 0.237*** 0.237*** 0.280 onstant term 0.380 0.264) control variables (0.0187) 0.00772 0.0027** 0.219 0.227*** 0.237** 0.380 0.264) Controlled	(0.0187) (0.0261) (0.00732**** 1.30% 0.00920** (0.00277) (0.00389) (0.00716) (0.00943) (0.00716) (0.00943) (0.0187) (0.00943) (0.00716) (0.00943) (0.0286) (0.0562) (0.0286) (0.0562) (0.019) (0.447) (0.019) (0.047) (0.0873) (0.078) (0.078) (0.0873) (0.078) (0.0873) (0.078) (0.078) (0.0873) (0.078) (0.0873) (0.078) (0.078) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078) (0.0982) (0.0873) (0.078)	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	(0.0187) (0.0261) (0.0116) (0.0116) (0.00732*** 1.30% 0.00920*** 0.82% 0.00185 0.38% (0.00277) (0.00389) (0.00138) (0.00138) (0.00716) (0.00716) (0.00943) (0.00943) (0.00339) (0.00339) (0.00286) (0.0286) (0.0286) (0.0264) (0.02538) (0.0212) (0.0219) (0.0219) (0.0219) (0.0219) (0.0219) (0.0219) (0.0219) (0.027*** 42.10% 0.00982 0.88% 0.198*** 40.49% (0.0873) (0.0873) (0.078) (0.0788) (0.0788) (0.0788) (0.0788) (0.0789) (0.0789) (0.0818) (0.0654) (0.0818) (0.0654) (0.0982) (0.0	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$



Source(s): Authors' own work



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Figure 4.
Effect of affinity filial piety on different quantiles of gender wage impact

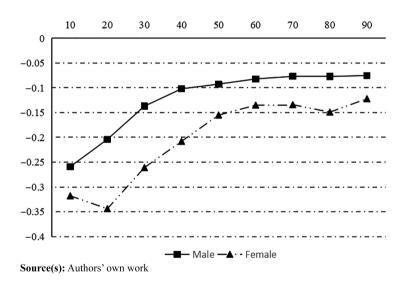


Figure 5.
Effect of authoritarian
filial piety on different
quantiles of gender
wage impact

6. Conclusions, implications and limitations

6.1 Conclusions

This article has the findings as follows. (1) Although the filial piety concept has a negative wage effect as a whole, there are differences in the effects of different dimensions of filial piety concepts on the wages of men and women, i.e. authoritarian filial piety significantly inhibits the individual wages and has a more substantial negative effect on women. In contrast, affinity filial piety significantly raises the level of the individual's wage and is not gender-heterogeneous. (2) This paper introduces "the number of Confucian temples in the region" as an instrumental variable to test the robustness of the wage effect of filial piety concepts, and finds that after overcoming the endogeneity, filial piety concepts still significantly affect individual wages, and the effect is enhanced. (3) Since filial piety concepts

are the product of parents' nurturing through intergenerational exchanges, it is an important mechanism through which filial piety concepts affect wages. This article finds that parents' time support is the strongest mechanism, and authoritarian filial piety has a significant "male preference", while the intergenerational transfer pattern under the concept of affinity filial piety has stronger emotional attributes, which helps women to obtain more support. (4) Finally, based on the results of the decomposition, this article explores the differentiated roles played by the "Qinqin" and "Zunzun" in the gender wage gap. In general, authoritarian filial piety mainly widens the gender wage gap of the "low and middle-income group", whereas the converging effect of affinity filial piety on the gender wage gap is most significant among the middle and high-income group.

6.2 Limitations

First, the endogeneity treatment strategy adopted in this paper is relatively singular. The effectiveness of instrumental variables in addressing endogeneity issues is often subject to debate. Therefore, more diverse methods should be further explored. Second, due to data limitations, the key mechanism variable in this paper (time support) is represented as a binary variable. This approach lacks detail in portraying the extent of intergenerational support, necessitating the search for more comprehensive data sources for supplementary analysis in the future.

Notes

- 1. WEF The Global Gender Gap Report 2022 https://www.weforum.org/
- The Global Gender Gap Index (GGI), launched by the World Economic Forum in 2006, measures opportunities in economic participation, education, health and survival and politics, with scores interpreted as distance to equality (i.e. the percentage of gender gap closed).
- 3. BRI refers to the Silk Road Economic Belt and the 21st Century Maritime Silk Road, a transnational economic belt proposed and led by the Chinese government in 2013.
- 4. The data collection period for CFPS 2020 was from July to December 2020. During this period, the vast majority of China's regions experienced severe COVID-19 outbreaks, which significantly impacted data quality due to substantial exogenous shocks.
- 5. Only CFPS2014 contains variables related to filial piety in CFPS's public data for all years.
- In earlier literature, only two observed variables were collected for the affinity filial piety, resulting in a relatively low consistency reliability coefficient. To address this issue, this study revised the measurement of affinity-based filial piety.
- 7. Each item has five response options (Strongly disagree, Disagree, Neutral, Agree, Strongly agree).

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