



# The Relationship Between Dual Filial Piety and Mental Disorders and Symptoms Among Adolescents: A Systematic Review of Quantitative and Qualitative Studies

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## Abstract

Filial piety, a core value in Chinese culture, emphasizes the importance of children showing respect, obedience, and care toward their parents. The dual filial piety model distinguishes between reciprocal filial piety, associated with love and care, and authoritarian filial piety, associated with hierarchy. This study systematically reviewed the associations between dual filial piety and mental disorders and symptoms. The authors reviewed 17 studies among Chinese and Korean adolescents published between 2004 and 2022 on filial piety and mental disorders/symptoms and distinguished reciprocal filial piety and authoritarian filial piety based on the dual filial piety model. Meta-analyses based on quantitative analyses were also conducted to examine the relationship between dual filial piety and depression/anxiety. The results indicate that reciprocal filial piety is negatively associated with mental disorders/symptoms, including depression, anxiety, aggression, deviant behaviors, internet addiction, self-harm and eating disorders. Conversely, authoritarian filial piety is not related to mental disorders/symptoms but is negatively associated with suicide and positively associated with eating disorders. Based on the results, it is evident that filial piety has a significant relationship with various mental disorders and symptoms and that different forms of filial piety may have distinct associations with mental health.

**Keywords** Dual filial piety model · Reciprocal filial piety · Authoritarian filial piety · Mental disorders · Adolescence

## Introduction

Filial piety, the Chinese tradition of Xiao, is a fundamental tenet of Confucian culture (Bedford & Yeh, 2019). This cultural value has a significant impact on East Asian and

Southeast Asian populations that are influenced by Confucianism (Hashimoto & Ikels, 2005). It involves essential ideas about how children should treat their parents. Filial piety requires younger generations to honor and obey their elders (Ho, 1994). In return, elderly people provide advice, comfort, and teachings and help others in need (Chow, 1996). In Confucian societies, filial piety is a crucial aspect of adolescents' socialization and can significantly impact adolescents' social and psychological development (Chao, 2000; Rao et al., 2003). Despite the potential significance of filial piety for adolescents' mental health, researchers have yet to systematically review the literature that addresses this importance. This article provides a comprehensive review of the literature on the association between filial piety and mental health among adolescents.

Research on the role of filial piety in modern Confucian societies has generated conflicting findings and debates regarding its impact on individuals (Yeh, 2003). Some studies suggest that filial piety can positively affect personal growth and relationships with others. Filial piety promotes love, unity, and close family ties and can

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This study is registered in the International Prospective Register of Systematic Reviews (PROSPERO) with registration number CRD42022384536 (accessed at [https://www.crd.york.ac.uk/prosp/ero/display\\_record.php?RecordID=384536](https://www.crd.york.ac.uk/prosp/ero/display_record.php?RecordID=384536)). This protocol outlines the key components of the study, including the research questions, search strategies, types of studies to be included, the specific conditions or domains under investigation, the targeted participants or population, methods for data extraction encompassing selection and coding procedures, assessment of risk of bias and quality, strategies for data synthesis, as well as the planned analysis of subgroups or subsets.

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make it easier for generations to get along (Ishii-Kuntz, 1997; Sung, 1990). However, other researchers have found that filial piety can negatively affect individual development, such as harming creativity and cognitive development and fostering a negative attitude (Bedford & Yeh, 2019; Ho, 1994; Jen et al., 2019). These debates highlight the need for a nuanced understanding of the relationship between filial piety and individual development. Simplifying the role of filial piety may not provide a comprehensive understanding of the phenomenon.

To address this issue, Yeh conducted historical and factor analyses that led to the development of the dual filial piety model (Yeh & Bedford, 2003), which distinguishes between reciprocal filial piety and authoritarian filial piety. Reciprocal filial piety is characterized by loving and caring behaviors guided by spontaneous affection resulting from long-term interaction with parents (Yeh, 2003). This is supported by moral guidelines in social domain theory derived from the principle of reciprocity and the emphasis on intimate relationships in Confucianism (Nucci & Turiel, 1978; Yeh, 2003). In contrast, authoritarian filial piety is characterized by obedience and respect for authority guided by adherence to role obligations based on family hierarchy with a focus on the father's role (Yeh, 2003). This is supported by social conventions (Nucci & Turiel, 1978; Yeh, 2003) and is derived from the nature of Asian Chinese authoritarianism (Chang, 1994). This pioneering work provides a framework for understanding the complex nature of filial piety and its potential impact on individual development in modern Confucian societies (Bedford & Yeh, 2019).

The dual filial piety model has been used in many studies of adolescents. Because filial piety pertains to the relationship between parents and children, studies have explored concepts associated with family dynamics and social functioning (Leung & Shek, 2016; Li et al., 2014; Shek et al., 2022). Research has found that children's reciprocal filial piety can reduce family conflict, contribute to better family functioning, and improve social relationships and outcomes (Leung & Shek, 2016; Li et al., 2014; Shek et al., 2022). Reciprocal filial piety is positively related to social competence (Leung et al., 2010). Yeh et al. (2010) suggested that reciprocal filial piety and authoritarian filial piety are related to different problem strategies.

Family factors have been identified as transdiagnostic predictors of mental disorders and symptoms among adolescents (Lynch et al., 2021). As a unique cultural family belief, filial piety may also be associated with various mental disorders/symptoms. This study provides a comprehensive review of the relationship between dual filial piety and mental disorders/symptoms among adolescents.

## Current Study

Due to the lack of a systematic review, the specific mental disorders/symptoms that may be associated with filial piety and the nature of these associations remain unclear. To address this gap, this study investigated the relationship between dual filial piety and mental disorders or symptoms among adolescents influenced by Confucianism. To achieve this goal, a systematic review of relevant articles on East Asian and Southeast Asian populations was conducted.

## Methods

### Definition of Keywords

#### Dual Filial Piety

Although the term “filial piety” is also used in other regions, such as Poland (Różycka-Tran et al., 2020, 2021), Malay (Tan et al., 2019) and the Arabic region (Khalaila, 2010), in this review, filial piety was defined as attitudes toward parents among people living in East and Southeast Asia, as well as East and Southeast Asians living abroad, derived from Confucian tradition. The dual filial piety model serves as the basis for defining filial piety in this review. Filial piety was consciously divided into two dimensions: reciprocal filial piety and authoritarian filial piety. Studies that did not use this model were categorized according to the dual filial piety model based on whether the description or measurement of filial piety emphasized love and support for parents (categorized as reciprocal filial piety) or sacrifice and oppression toward parents (categorized as authoritarian filial piety) (Yeh, 2003; Yeh & Bedford, 2003). The description of filial piety as a cultural norm is identified as Asian Chinese authoritarianism, also categorized as authoritarian filial piety, as noted by Chang (1994).

#### Mental Disorders/Symptoms

In reference to Downs et al. (2018), a mental disorder was defined as a psychiatric condition that is clinically diagnosed using standardized classifications for mental or behavioral disorders. Articles that described clinical populations, such as populations with diagnosed eating disorders, were considered to include participants with mental disorders.

Mental symptoms were defined as issues identified through a behavioral screening questionnaire that encompassed emotion, conduct, and peer problems. For example, abnormal scores on Ko's Mental Health Questionnaire (Ko, 1998) and the Center for Epidemiologic Studies-Depression

Scale (CES-D) (Radloff, 1977) are believed to indicate possible psychopathology.

## Search Method

This systematic review of filial piety among adolescents was conducted in 2022 and used a finalized protocol (registration number in PROSPERO: CRD42022384536). Academic articles published before December 2022 were searched using 7 databases, namely, PubMed Central (PubMed), ProQuest LLC (ProQuest), Journal Storage (JSTOR), Web of Science, EBSCO Industries (EBSCO), the Chinese Social Sciences Citation Index (CSSCI), and China Journal Net (CJN). Google Scholar and Baidu Scholar were utilized for supplementary searches.

The keywords (filial\* OR “filial piety” OR “filial obligation” OR “filial duty” OR “filial responsibility” OR “cultural value” OR “cultural norm\*”) AND (adolescen\* OR student\*) were used to search each database individually. The search terms were informed by relevant literature reviews (Dong & Xu, 2016; Pan et al., 2022; Wu et al., 2018). Considering the cultural context in which filial piety is typically discussed as a fundamental component of cultural values or norms (Tsao & Yeh, 2019), it is advisable to include culture-related search terms. Chinese translations of the above English search terms were used when searching the Chinese databases CSSCI and CJN. Because “mental disorders/symptoms” is a broad concept, no search terms were set for this at the time of the search.

## Inclusion and Exclusion Criteria

The population, phenomenon of interest, context, and study design (PICoS) strategy was used to define the eligibility criteria.

### Population

The study included East Asian or Southeast Asian adolescents aged 10–24 years or those residing overseas. The age range was chosen to align with adolescent growth and allow extended investments across broader settings (Sawyer et al., 2018). Studies were considered if they provided empirical information on adolescents.

### Phenomenon

The phenomenon of interest was the relationship between dual filial piety and mental disorders/symptoms.

## Context

The context could be any country or region where filial piety has a significant influence.

## Study Design

This review focused solely on academic research and excluded other genres, such as novels and news articles. The review included qualitative and quantitative studies but excluded review articles, scale translations, and theoretical articles. Studies that conceptualized filial piety using the dual filial piety model or studies that could be classified as either reciprocal filial piety or authoritarian filial piety based on the measurement scales or textual content were included in the review. Studies that used the dual filial piety scale (Yeh & Bedford, 2003) but reported reciprocal filial piety and authoritarian filial piety as an indicator were not considered to use the dual filial piety model and were not included in the review.

## Data Extraction

Titles and abstracts were screened by two reviewers (Authors 1 and 2) to assess their relevance. Subsequently, the full texts and references were reviewed. The eligibility criteria were applied to select the target studies. The reviewers resolved any differences in appraisal through consensus. For missing data, the authors of the articles were contacted via email or ResearchGate. Endnote software was used to manage the documentation.

## Data Synthesis Strategy

A narrative review was conducted for scattered themes using different methods or examining different theoretical concepts, constructs and relationships (Baumeister, 2013) to link studies on different topics for reinterpretation or interconnection to develop or evaluate a new theory (Baumeister & Leary, 1997). Meta-analyses were also conducted for the focused outcome (i.e., depression and anxiety). The data were analyzed using the “meta” and “metafor” packages in R. Pearson’s *r* was the effect size metric used in this meta-analysis. Fisher’s *z*-transformation was performed to obtain accurate weights for each study. The WPS Process diagram plugin was used to design the flowchart, while the forest plot was generated using R software.

## Results

### Search Outcomes

Figure 1 shows the number of articles retrieved from each database and the selection process. A total of 1002 articles

were preliminarily identified (PubMed 85, ProQuest 18, EBSCO 410, Web of Science 391, JSTOR 3, CSSCI 29, CJNI 60, Baidu Scholar 4, and Google Scholar 2). A total of 17 articles were included, all of which met the inclusion criteria. The studies included participants from mainland China, Hong Kong, Taiwan, Korea, and North America. Twelve quantitative studies and 5 qualitative studies were included. Of the 12 quantitative studies, all except for Zhang and Liu (2012) were conducted using community samples obtained from schools, while all qualitative studies used clinical samples.

## Quality Appraisal

To evaluate the risk of bias and overall research quality of each study, the Quality Assessment Tool for Observational Cohorts and Cross-Sectional Studies (National Institute of Health, 2022) was used to evaluate quantitative studies. The assessment tool included 14 criteria covering design, selection bias, data collection, and confounders. The Critical Appraisal Skills Program Qualitative Checklist was used to evaluate qualitative studies (Critical Appraisal Skills Programme, 2018), which included 10 criteria, such as study design, data collection, credibility of the research results, and generalizability of the findings. Two researchers assessed each study and provided an overall quality rating of “good”, “fair”, or “poor”. If the ratings

differed, the two researchers discussed the article with a third researcher to reach a consensus.

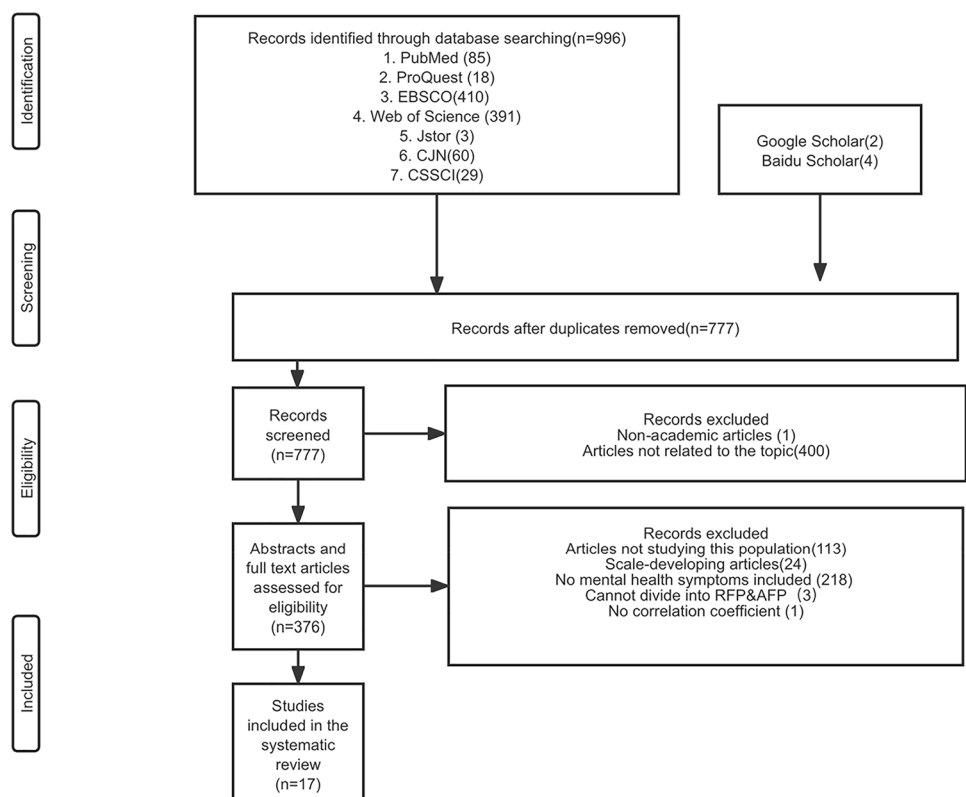
Of the 17 studies included, 16 were rated as “good” or “fair” in terms of quality. One article by Yang and Sun (2022) was excluded from the analysis due to poor quality. Filial piety was conceptualized inconsistently among the 17 studies. Specifically, nine out of 12 quantitative studies utilized the dual filial piety model to measure filial piety and applied filial piety to reciprocal filial piety and authoritarian filial piety. The authors classified the remaining three quantitative studies and five qualitative studies as either reciprocal filial piety or authoritarian filial piety based on the content of the scales and descriptions in the text (please refer to Tables 1 and 2). For detailed information on the quality assessment, please refer to Tables 3 and 4.

## Dual Filial Piety and Mental Disorders/Symptoms

### Depression

Five studies examined the relationship between filial piety and depression (Cho & Lee, 2019; Juang & Cookston, 2009; Pan & Tang, 2021; Yeh, 2006; Yeh et al., 2010). A meta-analysis of cross-sectional data by Pan and Tang (2021), Yeh (2006), and Yeh et al. (2010) revealed a significant negative correlation between reciprocal filial piety

**Fig. 1** PRISMA flowchart depicting the study inclusion/exclusion process



**Table 1** Summary of quantitative studies

Category	Authors/year	Age M±SD	Gender Male/female (Female percentage)	Samples	Identity	Location	Measurements/ Cronbach's Alpha <sup>e</sup>	Mental Symptoms	Measurements/ Cronbach's Alpha <sup>e</sup>	Reciprocal filial piety	Authoritarian filial piety	Quality
Depression	Cho & Lee (2019)	21.86 (NR)	107/209 (66.1%)	316	College students	Korea	Filial responsibility scale/0.74–0.87	Depressive symptoms	Center for epidemiologic depression scale (CES-D)/0.91	NA	.016 <sup>b</sup>	Fair
	Juang & Cookston (2009)	14.7 ± 0.71	145/170(54%)	316	Chinese American high school students	USA	Family obligation measure/0.84–0.85	Depressive symptoms	Center for epidemiologic depression scale (CES-D)/0.85–0.87	NA	-.10 <sup>a</sup>	Good
	Pan & Tang (2021)	13.26 ± 0.55	129/128 (49.8%)	257	Middle school students	Mainland	Dual filial piety scale/0.77–0.95	Depressive symptoms	Children's depression inventory/0.92–0.93	-.46 <sup>**a</sup>	-.132 <sup>*a</sup>	Good
	Yeh et al. (2010)	16.95 ± 0.78	226/377 (62.5%)	603	High school students	Taiwan	Reciprocal filial piety subscale of dual filial piety scale/0.89–0.90	Depression	Self-contempt/depression of Ko's mental health questionnaire/0.89	-.20 <sup>b</sup>	NA	Fair
	Yeh (2006)	16.6 ± 1.87	373/545 (59.24%)	920	Senior and junior high school students	Taiwan	Dual Filial Piety Scale/0.81–0.89	Depression	Self-contempt/depression subscale of Ko's mental health questionnaire/0.90	-.22 <sup>**</sup>	.00	Fair
Anxiety	Wei et al. (2022)	19.94 ± 1.39	305/532 (63.56%)	602	University students	Mainland	Dual filial piety scale/0.89–0.90	Anxiety	General health questionnaire-20/0.92.	-.13 <sup>***</sup>	.20 <sup>***</sup>	Fair
	Yeh et al. (2010)	16.95 ± 0.78	226/377 (62.5%)	603	High school students	Taiwan	Reciprocal filial piety subscale of dual filial piety scale/0.89–0.90	Anxiety	Subscales of anxiety of Ko's mental health questionnaire/0.89	-.10 <sup>b</sup>	NA	fair
	Yeh (2006)	16.6 ± 1.87	373/545 (59.24%)	920	Senior and junior high school students	Taiwan	Dual filial piety scale/0.81–0.89	Anxiety	The anxiety subscale of Ko's mental health questionnaire/0.88	-.11 <sup>**</sup>	.02	Fair

Table 1 (continued)

Category	Authors/year	Age M±SD	Gender Male/female (Female percentage)	Samples	Identity	Location	Measurements/ Cronbach's Alpha <sup>e</sup>	Mental Symptoms	Measurements/ Cronbach's Alpha <sup>e</sup>	Reciprocal filial piety	Authoritarian filial piety	Quality
	Zhou (2020)	14.06±1.64	441/456 (50.84%)	897	Middle and high school students	Mainland	Dual filial piety scale/0.76–0.87	Anxiety	The depression anxiety stress scale/0.82	–.12**	–.02	Fair
Aggression/ Deviant behaviors	Yeh et al. (2010)	16.95±0.78	226/377 (62.5%)	603	High school students	Taiwan	Reciprocal filial piety subscale of dual filial piety scale/0.89–0.90	Aggression	Deviant behavior subscale of activity experience scale/0.82	–.30**	NA	Fair
	Yeh (2006)	16.6±1.87	373/545 (59.24%)	920	Senior and junior high school students	Taiwan	Dual filial piety scale/0.81–0.89	Aggression	Aggression subscale from Ko's mental health questionnaire/0.82	–.36**	.01	Fair
	Yeh et al. (2010)	16.95±0.78	226/377 (62.5%)	603	High school students	Taiwan	Reciprocal filial piety subscale of dual filial piety scale/0.89–0.90	Deviant behavior	Deviant behavior subscale of activity experience scale/0.82	–.19**	NA	Fair
	Yeh (2006)	16.6±1.87	373/545 (59.24%)	920	Senior and junior high school students	Taiwan	Dual filial piety scale/0.81–0.89	Deviant behavior	Deviant behavior subscale of the activity experience scale/0.81	–.20**	–.11**	Fair
Internet addiction	Wei et al. (2020)	20.63±1.60	461/675 (59.43%)	1136	College students	Mainland	Dual filial piety scale/0.84–0.92	Internet addiction	Internet addiction test/0.88	–.15**	.07*	Fair
	Wei et al. (2019a)	20.64±1.60	470/682 (59.24%)	1152	College students	Mainland	Dual filial piety scale/0.84–0.92	Internet addiction	Internet addiction test/0.88	–.16**	.08**	Fair
	Wei et al. (2019b)	20.63 (NR)	NR	1135	College students	Mainland	Dual filial piety scale/0.84–0.92	Internet addiction	Internet addiction test/0.88	–.15**	–.07*	Fair
Suicide	Zhang & Liu (2012)	26.17±6.20	48%	796	Rural suicide youth and community youth	Mainland	Four items/0.63	Suicide	Suicide history	NA	–.26*	Fair

Table 1 (continued)

Category	Authors/year	Age M ± SD	Gender Male/female (Female percentage)	Samples	Identity	Location	Measurements/ Cronbach's Alpha <sup>e</sup>	Mental Sym- ptoms	Measurements/ Cronbach's Alpha <sup>e</sup>	Reciprocal filial piety	Authoritar- ian filial piety	Quality
Self-harm	Zhou (2020)	14.06 ± 1.64	441/456 (50.5%)	897	Middle and high school students	Mainland	Dual filial piety scale/0.76– 0.87	Self-harm	Adolescent self- harm scale/0.86	–.14***	–.05	Fair
Emotional and behavioral problems	Yang & Sun (2022)	NR	274/648 (70.3%)	922	High school students	Mainland	Dual filial piety scale/0.75– 0.78	Emotional symptoms, conduct problems, hyperactiv- ity, and peer relationship issues	Strengths and difficulties question- naire/0.43–0.74	–.24**	.09**	Poor

NR means not reported, NA means not applicable, and NS means not significant

The significance levels are denoted as \* $P < 0.05$ , \*\* $P < 0.01$ , and \*\*\* $P < 0.001$

Data labelled 'a' are from longitudinal studies that report the association between baseline filial piety data and outcome data

Data labelled 'b' are weighted average correlation coefficients calculated by the authors of the current study

The italicized portion indicates that filial piety was categorized as reciprocal filial piety or authoritarian filial piety based on the measurement scales and descriptions in the original studies rather than using the dual filial piety model

**Table 2** Summary of qualitative studies

Category	Authors/year	Age M (range)	Gender Male/female (Female percent-age)	Samples	Identity	Location	Mental disorders	Description of filial piety	Categorization of filial piety	Result	Quality
Eating disorders	Chan & Ma (2004)	17.25 (6.05)	0/8 (100%)	8	Chinese patients with eating disorders	Hong Kong	Eating disorders (6 anorexia nervosa, 1 bulimia nervosa)	Filial obligations can create a sense of conflict and uncertainty for patients, who may struggle to balance the long-term goal of meeting their parents' expectations with the short-term pressure to reduce their burden through dieting.	Authoritarian filial piety	+	Fair
	Ma and Chan (2004)	15.7 (12–25), 79.4% aged 17 years or younger	0/34 (100%)	34	Chinese anorexia patients and their families	Hong Kong	Anorexia nervosa	Filial piety, perceived as an emotional care of the parents by the patients, has become a driving force to recover.	Reciprocal filial piety	-	Good
	Ma (2007)	15.7 (14–21)	0/7 (100%)	7	Young women with anorexia nervosa in low-income families in China	Hong Kong	Anorexia nervosa	Filial piety was perceived as a social obligation. Patients were passive in taking charge of her own health.	Authoritarian filial piety	+	Fair
	De Montgrémier et al. (2015)	23	1/0 (0%)	1	Chinese anorexia patient	Mainland	Anorexia nervosa	Emotional connection with mother/father has inadvertently become an impetus for recovery.	Reciprocal filial piety	-	Fair
	De Montgrémier et al. (2022)	19.3(12–31)	0/13 (100%)	24 (11 patients' parents)	Chinese inpatients with eating disorders	Mainland	Eating disorders (9 anorexia nervosa, 4 bulimia nervosa)	Filial piety is often associated with conflict avoidance and a lack of complaints about parents.	Authoritarian filial piety	+	Fair
								To be a good child and obedient to parents.	Authoritarian filial piety	+	Good



**Table 3** Quality assessment table for quantitative research studies

Criteria	Cho and Lee (2019)	Juang and Cookston (2009)	Pan and Tang (2021)	Wei et al. (2019a)	Wei et al. (2019b)	Wei et al. (2020)	Wei et al. (2022)	Yang and Sun (2022)	Yeh (2006)	Yeh et al. (2010)	Zhang and Liu (2012)	Zhou (2020)
1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
3	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
6	No	Yes	Yes	No	No	No	No	No	No	No	No	No
7	No	Yes	Yes	No	No	No	No	No	No	No	No	No
8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
10	No	Yes	Yes	No	No	No	No	No	No	No	No	No
11	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
12	No	No	No	No	No	No	No	No	No	No	No	No
13	NA	No	Yes	NA	NA	NA	NA	NA	NA	NA	NA	NA
14	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Rating	Fair	Good	Good	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Fair	Fair

NA not applicable, NR not reported

The criteria for quality assessment were as follows: (1) Was the research question or objective in this paper clearly stated? (2) Was the study population clearly specified and defined? (3) Was the participation rate of eligible persons at least 50%? (4) Were all the subjects selected or recruited from the same or similar populations (including the same time)? Were inclusion and exclusion criteria for the study prespecified and applied uniformly to all participants? (5) Was a sample size justification, power description, or variance and effect estimates provided? (6) For the analyses in this paper, were the exposure(s) of interest measured prior to the outcome(s) being measured? (7) Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed? (8) For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)? (9) Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants? (10) Was the exposure(s) assessed more than once over time? 11. Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants? 12. Were the outcome assessors blinded to the exposure status of participants? 13. Was loss to follow-up after baseline 20% or less? 14. Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?

**Table 4** Quality assessment table for qualitative research studies

Criteria	Chan and Ma (2004)	Ma and Chan (2004)	Ma (2007)	De Montgrémier et al. (2015)	De Montgrémier et al. (2022)
1	Yes	Yes	Yes	Yes	Yes
2	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes	Yes
4	Yes	Yes	Yes	No	Yes
5	Yes	Yes	Yes	Yes	Yes
6	Yes	Yes	Yes	Yes	Yes
7	Yes	Yes	Yes	Yes	Yes
8	Yes	Yes	Yes	Yes	Yes
9	Yes	Yes	Yes	Yes	Yes
10	Valuable	Very valuable	Valuable	Valuable	Very valuable
Rating	Fair	Good	Fair	Fair	Good

Criteria for quality assessment: (1) Is the research purpose clear and well defined? (2) Are the research methods reasonable? (3) Are the study participants appropriate? (4) Is the data collection method appropriate? (5) Is the data analysis method appropriate? (6) Are the results presented adequately? (7) Is the interpretation of the results reasonable? (8) Are the conclusions based on the research results? (9) Is there a clear statement of findings? (10) Is this qualitative study valuable?

and depression ( $r = -0.20$ , 95% confidence interval [CI]  $[-0.37; -0.01]$ ,  $p < .05$ ). The meta-analysis exhibited high heterogeneity, indicating substantial variability in effect sizes across studies ( $I^2 = 89%$ ,  $p < .01$ ) (details in Table 5). Based on the forest plot, it appears that the study by Pan and Tang (2021) had a larger effect size and a wider confidence interval than the other two studies (Yeh, 2006; Yeh et al., 2010). Upon further examination, it was discovered that all three studies utilized samples of middle and high school students; however, the study by Pan and Tang was conducted in mainland China, while the other two were conducted in Taiwan (Yeh, 2006; Yeh et al., 2010). Reciprocal filial piety was positively associated with depression with a greater correlation coefficient than the other two studies (Yeh, 2006; Yeh et al., 2010).

A meta-analysis of cross-sectional data by Cho and Lee (2019), Juang and Cookston (2009), Pan and Tang (2021), and Yeh (2006) showed a nonsignificant negative correlation between authoritarian filial piety and depression among adolescents ( $r = -0.0221$ , CI  $[-0.0943; 0.0504]$ ,  $p = .551$ ). The meta-analysis demonstrated low heterogeneity ( $I^2 = 47%$ ,  $p = .13$ ).

Pan and Tang (2021) and Juang and Cookston (2009) also reported a lagged association between filial piety and depression. Notably, both reciprocal filial piety and authoritarian filial piety are negatively associated with depression, but the strength of this relationship changes over time. Specifically, the 1-year lagged association is strongest and gradually diminishes (Juang & Cookston, 2009; Pan & Tang, 2021).

## Anxiety

The association between filial piety and anxiety was discussed in four studies: including Wei et al. (2022), Yeh (2006), Yeh et al. (2010), and Zhou (2020). These studies were subjected to meta-analysis, which revealed a significant negative correlation between reciprocal filial piety and anxiety ( $r = -0.11$ , 95% CI  $[-0.15, -0.08]$ ,  $p < .001$ ). The meta-analysis exhibited low heterogeneity, indicating little variability in effect sizes across studies ( $I^2 = 0%$ ,  $p = .96$ ) (details in Table 5). These findings suggest that there is a stable and significant negative correlation between reciprocal filial piety and anxiety. A nonsignificant positive correlation between authoritarian filial piety and anxiety was observed ( $r = 0.07$ , 95% CI  $[-0.07, 0.20]$ ,  $p = .33$ ). The meta-analysis demonstrated high heterogeneity ( $I^2 = 90%$ ,  $p < .01$ ) (details in Table 5), suggesting substantial variability in effect sizes across the three studies. The forest plot was analyzed, revealing that the study by Wei et al. (2022) showed more significant differences than the other two studies. Authoritarian filial piety and anxiety were significantly positively correlated in Wei et al. (2022), while a significant correlation was not found by Yeh (2006) or Zhou (2020). Upon comparison, it was found that Zhou (2020) and Wei et al. (2022) samples were from mainland China, while Yeh (2006) sample was from Taiwan. However, both Zhou (2020) and Yeh (2006) samples consisted of middle school students, while Wei et al. (2022) Sample consisted of university students.

**Table 5** Summary forest plot: meta-analysis of correlations between dual filial piety with depression/anxiety

Outcome	Indicator	Forest Plot																																																	
Depression	Reciprocal filial piety	<table border="1"> <thead> <tr> <th>Study</th> <th>Total</th> <th>Correlation</th> <th>COR</th> <th>95%-CI</th> <th>Weight (common)</th> <th>Weight (random)</th> </tr> </thead> <tbody> <tr> <td>Pan &amp; Tang, 2021</td> <td>255</td> <td>-0.46</td> <td>-0.46</td> <td>[-0.55; -0.36]</td> <td>14.2%</td> <td>30.7%</td> </tr> <tr> <td>Yeh, 2006</td> <td>920</td> <td>-0.20</td> <td>-0.20</td> <td>[-0.26; -0.14]</td> <td>51.8%</td> <td>35.1%</td> </tr> <tr> <td>Yeh et al., 2010</td> <td>603</td> <td>-0.30</td> <td>-0.30</td> <td>[-0.37; -0.23]</td> <td>33.9%</td> <td>34.1%</td> </tr> <tr> <td><b>Common effect model</b></td> <td><b>1778</b></td> <td><b>-0.27</b></td> <td><b>-0.27</b></td> <td><b>[-0.32; -0.23]</b></td> <td><b>100.0%</b></td> <td><b>--</b></td> </tr> <tr> <td><b>Random effects model</b></td> <td></td> <td><b>-0.32</b></td> <td><b>-0.32</b></td> <td><b>[-0.46; -0.16]</b></td> <td><b>--</b></td> <td><b>100.0%</b></td> </tr> </tbody> </table> <p>Heterogeneity: <math>I^2 = 89\%</math>, <math>\tau^2 = 0.0190</math>, <math>p &lt; 0.01</math></p>	Study	Total	Correlation	COR	95%-CI	Weight (common)	Weight (random)	Pan & Tang, 2021	255	-0.46	-0.46	[-0.55; -0.36]	14.2%	30.7%	Yeh, 2006	920	-0.20	-0.20	[-0.26; -0.14]	51.8%	35.1%	Yeh et al., 2010	603	-0.30	-0.30	[-0.37; -0.23]	33.9%	34.1%	<b>Common effect model</b>	<b>1778</b>	<b>-0.27</b>	<b>-0.27</b>	<b>[-0.32; -0.23]</b>	<b>100.0%</b>	<b>--</b>	<b>Random effects model</b>		<b>-0.32</b>	<b>-0.32</b>	<b>[-0.46; -0.16]</b>	<b>--</b>	<b>100.0%</b>							
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COR correlation coefficient, CI confidence interval

**Aggression/Deviant Behaviors**

Two studies investigated the relationship between filial piety and externalizing behaviors, such as aggression and deviant behaviors (Yeh, 2006; Yeh et al., 2010). Reciprocal filial piety was negatively associated with aggression and deviant behaviors (Yeh, 2006; Yeh et al., 2010). In contrast, authoritarian filial piety was unrelated to either behavior (Yeh, 2006).

**Internet Addiction**

A negative correlation was found between reciprocal filial piety and internet addiction. However, the relationship between authoritarian filial piety and internet addiction was found to be negative in Wei et al. (2019b) and positive in Wei et al. (2019a, 2020), although the authors acknowledged a high level of overlap between the datasets (Wei, 2023).

## Self-Harm

Zhou (2020) investigated the relationship between dual filial piety and self-harm and found that reciprocal filial piety was negatively correlated with self-harm, while authoritarian filial piety showed no significant correlation. There appears to be a link between reciprocal filial piety and a lower likelihood of adolescents engaging in self-harm.

## Suicide

Zhang and Liu (2012) conducted a case–control study to investigate the differences in filial piety between a suicidal group and a control group of rural Chinese adolescents and youths. The measurement of filial piety included only four items, and participants were inclined toward authoritarian filial piety. According to Zhang and Liu (2012), the two groups exhibit significant differences in authoritarian filial piety, suggesting that young people who strongly adhere to authoritarian filial piety are less likely to experience suicidal thoughts or behaviors.

## Eating Disorders

Five qualitative studies explored the relationship between filial piety and eating disorders (Chan & Ma, 2004; De Montgrémier et al., 2015; Montgrémier et al., 2022; Ma and Chan, 2004; Ma, 2007). In descriptive terms, reciprocal filial piety provides greater motivation for recovery among patients with eating disorders (Ma and Chan, 2004; Ma, 2007), while authoritarian filial piety is associated with more significant family distress and does not contribute to recovery (Chan & Ma, 2004; Ma, 2007). De Montgrémier et al. (2015, 2022) discussed the challenges faced by patients with eating disorders in relation to their parents' expectations and their own desire for independence. The authors suggested that this disorder may be a way for children to express anger and discomfort. Additionally, the authors highlighted the difficulties that arise from parents' sense of children's obligation to prioritize family time, which can make it challenging for parents to comprehend the disorder (De Montgrémier et al., 2022).

## Summary

Table 6 shows the associations between dual filial piety and various mental disorders/symptoms.

## Discussion

Research has helped to build a link between filial piety and mental health in adolescents. However, a systematic review is still needed to explore what mental disorders or symptoms

**Table 6** Summary of the relationships between filial piety and mental disorders/symptoms

Category	Number of articles	Reciprocal filial piety	Authoritarian filial piety
Depression	5	–	n.s.
Anxiety	4	–	n.s.
Aggression/Deviant behavior	2	–	n.s.
Internet addiction	3	–	±
Suicide	1	NR	–
Self-harm	1	–	n.s.
Eating disorders	5	–	+

In the table, '+' indicates a positive correlation between two variables, suggesting that the factor may increase the likelihood of the disorder or symptom

'–' indicates a negative correlation between two variables, indicating that the factor may decrease the likelihood of the disorder or symptom

'n.s.' indicates no statistically significant correlation between two variables, meaning that there is no significant relationship between the factor and the disorder or symptom

'NR' indicates that no studies have examined the relationship between the variables

would be associated with filial piety, as well as the specific direction and strength of this association in this population. This study aimed to explore the relationship between filial piety and mental disorders and symptoms by analyzing 17 articles, including 12 quantitative and 5 qualitative studies, that examined the association between filial piety and various mental disorders/symptoms, such as depression, anxiety, aggression/deviant behavior, internet addiction, suicide, self-harm, and eating disorders. The participants were from mainland China, Hong Kong, Taiwan, Korea, and the U.S. and included Chinese and Korean individuals.

Previous investigations have demonstrated variation in filial piety among individuals from different geographical regions and age cohorts. For example, a comparative study of filial piety in contemporary Chinese societies revealed that filial piety values differed in Taiwan, Hong Kong, and mainland China (Chen et al., 2020; Yeh et al., 2013). Tsao and Yeh (2019) argued that examining differences in the levels of filial piety across individuals or cultures is insufficient; instead, it is essential to consider the varying impact of filial piety on individuals. The review focused on the relationship between filial piety and mental disorders/symptoms and found that the heterogeneity in the relationship between filial piety and mental disorders/symptoms may be attributed to differences in the age and geographic location of the sample. Specifically, mainland Chinese adolescents had a greater association between reciprocal filial piety and depression than Taiwanese individuals. Yeh et al. (2013) argued that even within the same cultural background, there

may be significant differences in values of filial piety and their impact on individuals across different countries and regions, such as mainland China and Taiwan/Hong Kong, due to differences in modernization and political systems. This observation may also contribute to the varying impact of filial piety across different societies. Additionally, the association between authoritarian filial piety and anxiety was significantly negatively correlated among university students compared to high school students. Research has suggested that individuals may be more likely to consider their social and familial responsibilities during the university stage (Wood et al., 2018). An emphasis on the obligation of authoritarian filial piety may also lead to more pressure and stress among college students. However, further research is needed to fully understand the complex interplay between filial piety, cultural values, and specific mental disorders/symptoms in different populations and contexts.

It is widely recognized that there is a strong relationship between symptoms and the environment. Although different symptoms may have different etiologies (Uher & Zwicker, 2017), family factors are transdiagnostic predictors of general and specific psychopathologies in young people (Lynch et al., 2021). This explains why reciprocal filial piety, described as a kind of family relationship in Confucian culture, may play a role in different symptoms among adolescents. Studies provide different explanations of regarding this relationship: reciprocal filial piety is associated with better family relationships (Yeh, 2006; Yeh et al., 2010), social support and social interactions (Wei et al., 2022; Zhou, 2020), and cognitive autonomy (Pan & Tang, 2021), which can help adolescents cultivate positive emotions and a healthy mindset and reduce negative emotions and stress (Zhou, 2020).

Regarding the link between authoritarian filial piety and mental disorders, meta-analyses have shown that authoritarian filial piety is not associated with depression or anxiety. The relationship is unstable in internet addiction despite showing a very small effect size (Wei et al., 2019a, b, 2020). Zhang and Liu (2012) proposed that authoritarian filial piety may play a role in reducing the risk of suicide by promoting an obligation to care for parents and enhancing social support and a sense of belonging. According to the descriptions of individuals with eating disorders, authoritarian filial piety produces more significant pressure and conflict between family expectations and personal achievement, increasing the complexity of recovery. Yeh (2003) provides a possible explanation for this relationship and heterogeneity, suggesting that authoritarian filial piety can have both functional and harmful aspects. Authoritarian filial piety can be used as a social strategy or as a means of social control and is used by Chinese individuals to maintain psychological homeostasis

(Hwang, 1999). However, authoritarian filial piety may also suppress the development of individual will, which can negatively affect mental health (Yeh, 2003). Therefore, it is essential to understand the context and the groups for which authoritarian filial piety may have functional or harmful effects.

Several limitations should be acknowledged and addressed in future research. First, this review is limited by the search terms, databases included, and the temporal window during which the searches for articles were conducted, which is a common limitation in all systematic reviews. Second, the available evidence on the relationship between dual filial piety and mental disorders is primarily based on cross-sectional and longitudinal investigations, which can identify only correlation and temporal associations but not causation. However, it is still important to present the evidence to comprehensively understand the study's findings and their implications.

## Conclusion

Despite the potential link between filial piety and adolescents' mental disorders and symptoms, there has been a notable absence of systematic reviews examining this relationship. The current study addresses this gap by systematically reviewing the relationship between dual filial piety and mental disorders/symptoms among adolescents. Based on the existing evidence, reciprocal filial piety appears to be negatively associated with various mental disorders/symptoms, including depression, anxiety, aggression, deviant behaviors, internet addiction, self-harm and eating disorders. In contrast, authoritarian filial piety is not associated with mental disorders/symptoms but rather with specific outcomes such as suicide and eating disorders. The findings suggest that filial piety is significantly related to various mental disorders and symptoms, and that different types of filial piety may have unique associations with mental health.

**Acknowledgements** We would like to thank the Editor and the anonymous reviewers of the *Adolescent Research Review* for their expertise and valuable feedback.

**Authors' Contributions** XH conceived the study, contributed to the methodology, conducted the review and evaluation, performed the meta-analysis, and was responsible for the original draft preparation; MCC contributed to the review, evaluation, and editing, provided supervision, and approved the final manuscript. All authors have read and agreed to the published version of the manuscript.

## Declarations

**Conflict of interest** The authors report no conflicts of interest.

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