



Factors Affecting the Psychological Resilience of Adolescents in Dezhou City, Shandong Province, China

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Abstract

Background and Aim: Adolescents worldwide face significant mental health challenges. Up to 30% of them suffer from mental health problems such as depression and anxiety. In high-pressure educational environments, such as those in China, approximately 40% of students report experiencing high academic stress. Psychological resilience is crucial for adolescents to handle stress and setbacks, reducing the risk of anxiety and depression. In Dezhou city, Shandong province, China, adolescents face modern academic pressures and are also influenced by Confucian values. Confucianism, including benevolence (Ren), righteousness (Yi), propriety (Li), wisdom (Zhi), and fidelity (Xin), is linked to psychological resilience development, shaping adolescents' moral outlook and enhancing their ability to tackle challenges. For educational management, analyzing psychological resilience in this specific cultural and educational context is vital. This examination can offer insights into supporting adolescents' academic success and well-being amid the unique pressures of the Chinese educational system. This study explores factors influencing adolescents' psychological resilience, such as a sense of meaning in life, a growth mindset, a fixed mindset, mindfulness, and Confucianism. It uniquely combines Confucianism with commonly studied factors to provide a comprehensive understanding of resilience in this context.

Methodology: This study used the quantitative research method and data collection through a questionnaire survey. The population was 7,020 adolescents in grades 10-12 from Dezhou city, Shandong Province. The sample size was 365 adolescents obtained by stratified random sampling. The data analysis used the Pearson product-moment correlation coefficient and multiple regression analysis.

Result: The results are as follows: 1) Adolescents' psychological resilience in Dezhou, Shandong, is positively correlated with sense of meaning in life, growth mindset, mindfulness, and Confucianism ($p < 0.001$), and negatively correlated with fixed mindset ($p < 0.001$). 2) Regression analysis indicated Confucianism ($\beta = 0.236$, $p < 0.001$) and the sense of meaning in life ($\beta = 0.234$, $p < 0.001$) were the strongest predictors. Growth mindset ($\beta = 0.167$, $p < 0.05$) and mindfulness ($\beta = 0.107$, $p < 0.05$) also significantly predicted resilience, while fixed mindset ($\beta = -0.186$, $p < 0.01$) reduced resilience.





Conclusion: This study reveals that adolescents' psychological resilience is significantly influenced by a sense of meaning in life, growth mindset, fixed mindset, mindfulness, and Confucianism. These factors collectively explain 47.8% of the variance in psychological resilience among adolescents in Dezhou, Shandong Province, China. The research highlights the importance of integrating cultural values with psychological constructs to enhance resilience in specific cultural contexts. This study also shows that building life meaning, fostering a growth mindset, practicing mindfulness, and engaging with Confucianism can boost adolescents' psychological resilience. This helps them handle academic and life challenges, promoting academic and social development. These results offer valuable insights into educational management for creating targeted school interventions and support systems. Schools can strengthen students' moral and psychological development by integrating Confucianism into modern curricula. Implementing mindfulness programs and fostering a growth mindset through teacher training can build resilience. These strategies are beneficial for designing school-based mental health programs to support adolescents in facing challenges.

Keywords: Adolescents; Psychological Resilience; Sense of Meaning in Life; Growth Mindset; Fixed Mindset; Mindfulness; Confucianism

Introduction

Psychological resilience is crucial for adolescents. It helps them handle stress and setbacks effectively. Resilient adolescents can reduce anxiety and depression risks by using proactive cognitive and emotional strategies (Friborg et al., 2005). In academics, resilience fosters perseverance, helping students develop growth mindsets and achieve more (Dweck, 2006). Socially, it improves interpersonal skills, conflict resolution, and group integration, building supportive networks. Moreover, resilience cultivates positive traits like optimism and self-control, which are vital for lifelong psychological development (Carver, 2014).

Despite its importance, there remains a general lack of awareness and understanding of resilience challenges among Chinese adolescents, their families, and educational institutions (Qi & Yang, 2024). In China today, adolescents have faced unique stressors like fierce academic competition, family expectations, and fast social changes (Dunne et al., 2010). To address these, it's essential to find culturally relevant factors to boost their resilience. In particular, this study focuses on Dezhou, Shandong Province, a city deeply influenced by Confucianism. As part of the birthplace of Confucianism civilization, Dezhou is shaped by the "Five Constant Virtues" (benevolence [Ren], righteousness [Yi], propriety [Li], wisdom [Zhi], and fidelity [Xin]), which align with the Confucianism in our study variables. This creates an ideal setting to explore how traditional cultural frameworks impact adolescent psychological development (Schwartz et al., 2020).





Although existing studies examined various factors that influence psychological resilience, such as the sense of meaning in life, the mindset, mindfulness, and Confucianism, there is still a research gap in the interaction mechanism among these influencing factors within the unique cultural context of China, which is dominated by Confucianism. Specifically, current studies mostly focus on the individual effects of each factor, and there has been no systematic theoretical interpretation and empirical exploration of how these factors jointly influence psychological resilience in a social context permeated by Confucianism. This study examined how certain Western psychological theories align with traditional Confucianism. For example, a growth mindset, which mirrors Confucianism ideals of continuous self-improvement, motivates adolescents to confront challenges actively (Dweck, 2006; Xie & Wong, 2021). Similarly, mindfulness practices share parallels with Confucianism self-reflection, thereby strengthening ethical orientations (Jing, 2007). The sense of meaning in life, grounded in existential and positive psychology, provides adolescents with purpose and direction, forming the foundation of resilience (Liu et al., 2022). These factors are expected to interact and exert both direct and interactive influences on psychological resilience (Zhang et al., 2024). Therefore, this study will fill this gap by exploring how these psychological and cultural factors jointly impact the psychological resilience of adolescents in Dezhou City, Shandong Province.

Objectives

To examine the influence of sense of meaning in life, growth mindset, fixed mindset, mindfulness, and Confucianism on the psychological resilience of adolescents in Dezhou City, Shandong Province, China.

Literature Review

Psychological resilience is the ability to adapt effectively and recover promptly amid hardships and stress. It develops through life experiences and learning, involving processes like emotion regulation, goal persistence, and finding meaning in adversity. Research shows that individuals with higher resilience levels exhibit better adaptability and maintain positive psychological states when facing life stressors (Lerner & Galambos, 1998; Werner, 1995).

1. The relationship between psychological resilience with meaning in life, mindset orientations, mindfulness, and Confucianism.

This study demonstrates that the sense of meaning in life, growth mindset, fixed mindset, mindfulness, and Confucianism all have an impact on the psychological resilience of adolescents in Dezhou city, Shandong Province.

1) The impact of a sense of meaning in life



In psychology, the sense of meaning in life is defined as an individual's perception of the significance and purpose of their existence (Frankl, 1985; Steger et al., 2006). Previous studies have shown that for adolescents, this sense of meaning in life provides them with goals and directions, helping them cope with challenges and setbacks, thereby enhancing their psychological resilience (Wong & Wong, 2013). However, Swidler (1986) pointed out that sociocultural constraints and structural barriers can limit an individual's ability to construct a sense of meaning in life.

2) The impact of a growth mindset

According to Dweck's mindset theory, mindsets are beliefs about abilities, categorized as fixed (abilities are unchangeable) and growth (abilities can be developed through effort). A growth mindset enhances adolescents' psychological resilience, as it encourages embracing challenges and viewing failures as learning opportunities (Dweck, 2016). Research by Yeager and Dweck (2012) found that adolescents who adopt a growth mindset are more likely to recover from academic failure and demonstrate improved emotional regulation in stressful school environments. Growth mindset reduces the fear of failure and enhances coping mechanisms, contributing to stronger resilience in the face of academic and personal challenges. They concluded that psychological interventions that change students' mindsets were effective, and educators could do to foster these mindsets and create resilience in educational settings.

3) The impact of a fixed mindset

Conversely, a fixed mindset can lead to negative self-perception and reduced motivation to learn from setbacks, undermining resilience (Dweck & Yeager, 2019). However, Özcan and Bulus (2022) found that in collectivistic cultures, despite individuals having a fixed mindset, factors such as strong social cognitive abilities and collective support can enhance their psychological resilience when facing setbacks. This highlights that psychological resilience results from the complex interaction of multiple factors, rather than being solely determined by mindset.

4) The impact of mindfulness

Mindfulness, a non-judgmental awareness of present thoughts and sensations, cultivates resilience in adolescents by enhancing self-awareness and emotional regulation (Aydın Sünbül, 2016; Kabat-Zinn, 2003). Studies by Creswell and Lindsay (2014) and Hofmann et al. (2010) confirm its effectiveness in reducing stress and improving well-being. However, Ren et al. (2018) found cultural disparities in the efficacy of mindfulness-based interventions; they are more potent in East Asian cultures due to cultural fit and group delivery models, indicating that cross-cultural adaptation is crucial for optimal outcomes.

5) The impact of Confucianism

Confucianism, a traditional Chinese philosophical system centered around moral concepts like Ren (Benevolence), Yi (Righteousness), Li (Propriety), Zhi (Wisdom), and Xin (Fidelity)



(Liu, 2015), significantly influences adolescents' psychological resilience. Ren promotes compassion, fostering social support networks that ease stress (Guo et al., 2021), while Yi provides a moral framework for decision-making, strengthening self-identity (Leong & Kiat, 2023). Li helps maintain social harmony by setting norms (Rossano, 2012), Zhi enables effective problem-solving (Kim et al., 2024; Zhang et al., 2023), and Xin builds trust and self-efficacy (Wee, 2011). These values collectively guide moral and behavioral development, enhancing resilience (Ren et al., 2024). However, the application of Confucianism has limitations. Rooted in hierarchical and collectivist traditions, Confucianism may overemphasize group harmony and adherence to social norms, potentially suppressing individual expression and autonomy (Nisbett, 2010). Research has shown that Confucianism's emphasis on fulfilling collective responsibilities and respecting traditions may sometimes conflict with the pursuit of personal goals, especially in the context of modern individualism. Moreover, the Western-centric approach to psychological resilience research has often overlooked the cultural nuances of Confucianism, leading to a lack of culturally adaptive interventions (Xie & Wong, 2021). Cross-cultural studies highlight the need to consider cultural specificities, as different cultural values shape resilience expression in unique ways (Markus & Kitayama, 2014; Oyserman et al., 2002).

2. Developmental aspects of psychological resilience during adolescence

Adolescence, marked by significant physiological, psychological, and social changes, is crucial. Eccles et al. (2013) indicated that unique adolescent developmental tasks like self-identity formation and peer relationship development greatly affect resilience. During this period, adolescents are not only experiencing rapid physical maturation but also undergoing profound cognitive and emotional transformations. As they navigate through academic pressures, social dynamics, and the search for personal identity, psychological resilience, the ability to adapt and bounce back from challenges, plays a pivotal role in their overall well-being. Research has shown that adolescents with higher levels of resilience are more likely to maintain positive mental health, achieve academic success, and build healthy relationships. At this stage, adolescents delve into life's meaning, shifting from external evaluation dependence to autonomous, adaptable thinking.

3. The adaptation of Western psychological theories in the context of Chinese culture.

Western psychological theories often function differently when applied in Chinese cultural settings shaped by Confucianism. For instance, Dweck's mindset theory emphasizes individual effort and personal growth (Dweck, 2006). However, in Confucianism-influenced societies, the concept of "effort" is understood in a broader social context, where personal development is closely tied to fulfilling family expectations and social responsibilities (Triandis, 2018). In China, academic and personal achievement is often driven not only by a desire for self-improvement but also by a sense of duty to honor one's family and contribute to social harmony. This highlights





a key distinction: while Western psychology tends to focus on realizing individual potential, Confucianism emphasizes ability development as a way to fulfill one's relational and societal roles. As a result, mindset-based psychological interventions may need to be adapted to reflect these collectivist cultural values. Similarly, in Western psychology, the search for life's meaning is often centered on personal reflection, self-actualization, and alignment with one's values, goals, and beliefs. In contrast, Confucianism links life's meaning to moral cultivation and social responsibility. Practicing core virtues such as benevolence, righteousness, or propriety is viewed as essential to discovering life's purpose and maintaining social harmony (Kalmanson, 2020). Therefore, it is crucial to integrate contemporary psychological theories with traditional moral values, particularly those rooted in Confucianism, when designing psychological support programs in China. For Chinese adolescents, this integration can be especially effective, as it aligns with their cultural thinking patterns and enhances the relevance and impact of psychological interventions.

4. Methodological approaches

Previous studies have mostly focused on the influence of a single dimension or a few factors on individual psychological resilience. However, this article comprehensively considers multiple factors. Through multiple regression analysis, it reveals the complex relationship between these factors and psychological resilience, providing a more comprehensive perspective for understanding the causes of psychological resilience. This study adopts a quantitative research method and collects data through a questionnaire survey to explore the factors influencing psychological resilience. In light of previous research indicating that cross-cultural adaptation of measurement tools is crucial for accurate results (Van de Vijver & Leung, 2021), this study carefully considered the cultural context of Dezhou when designing the questionnaire. Given that Confucianism has deeply influenced the local values and social norms, the research instrument was developed with specific attention to reflecting Confucianism-related constructs in a culturally appropriate manner.

5. Research Gaps and Future Directions

Although previous research by Schwartz et al. (2020) has noted the influence of culture on psychological resilience, there are deficiencies in specifically exploring the relationship between Confucianism and psychological resilience. As an important part of Chinese culture, Confucianism plays a unique role in shaping individuals' psychological resilience. However, previous studies have not deeply explored how specific values in regional culture are related to and function in psychological resilience (Zhang, 2015). Furthermore, previous research has mostly focused on the influence of single factors on psychological resilience. For example, it only studies the relationship between mindsets or mindfulness and psychological resilience (Gunnarsdóttir, 2021; Zhang et al.,



2024), while there is relatively little research on the mechanism by which multiple factors act on psychological resilience together. Future research should focus on the dynamic relationships between these variables and their combined effects on resilience, exploring their interactions within the Chinese cultural context and creating integrated theoretical models. Additionally, following the suggestion, more research is essential to evaluate the long-term impacts and sustainability of resilience interventions in educational settings.

Conceptual Framework

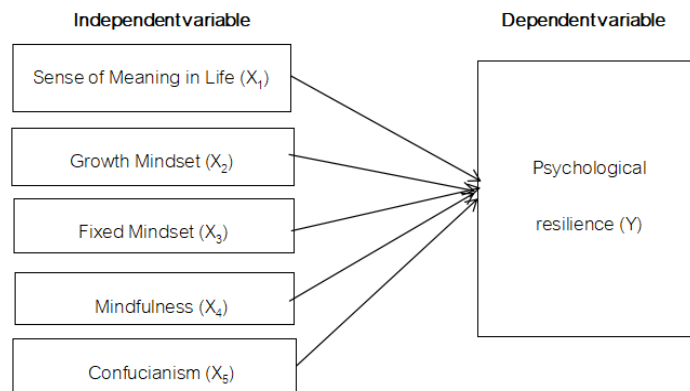


Figure 1 Conceptual Framework

This study hypothesizes that 1) the sense of meaning in life, growth mindset, fixed mindset, mindfulness, and Confucianism were related to the psychological resilience of Chinese adolescents in Dezhou City, Shandong province. 2) Sense of life, meaning, growth mindset, fixed mindset, Mindfulness, and Confucianism were affecting the psychological resilience of Chinese adolescents in Dezhou City, Shandong province.

Methodology

This study adopts a quantitative research method and collects data through a questionnaire survey to explore the factors influencing the psychological resilience of adolescents in Dezhou, Shandong Province. The questionnaires were administered online. Descriptive statistics, Pearson correlation analyses, and Multiple regression analyses were employed to address the research objectives and examine the relationships between the variables.

1) population

This study focuses on 7020 high school students in grades 10-12 in Dezhou city, Shandong Province, with 2330, 2332, and 2358 students in Grades 10, 11, and 12, respectively. Using Krejcie and Morgan's table, the recommended sample size for this population is 365. The choice of this

population is based on the understanding that high school is a critical period for adolescent psychological development, during which they face various academic and social pressures, making them an ideal group to study psychological resilience.

2) The participant

This study surveyed 365 students via stratified random sampling from Grades 10-12 of a high school in Shandong Province, with 121 from Grade 10, 121 from Grade 11, and 123 from Grade 12. All participants were selected from students attending classes during the study period and consented to participate.

3) Research Instrument

This study developed a Likert 5 5-point Likert scale questionnaire. To ensure the reliability and validity of the measurement, the development of the questionnaire drew on multiple existing scales related to psychological resilience, life meaning, mindset, and mindfulness, which were then adjusted and refined according to the local cultural characteristics. It has 44 items in total. The study utilizes adapted and newly developed scales to measure key variables. For the sense of meaning in life, it was adapted from the Meaning in Life Questionnaire (MLQ) (Steger et al., 2006). The mindset variable, distinguishing between growth and fixed mindsets, was adapted from items from Dweck (2006). Mindfulness was adapted from the Mindful Attention Awareness Scale (MAAS) (Brown & Ryan, 2003), focusing on present-moment awareness. The Confucianism scale was adapted from items from Confucian values such as benevolence, righteousness, propriety, wisdom, and fidelity (Monkhouse et al., 2013). In the final part, psychological resilience was adapted from the Connor-Davidson Resilience Scale (CD-RISC) developed by Connor and Davidson (2003). Content validity was checked by three experts. Results of the validity and reliability are described below. (Table 1)

Table 1 shows the validity and reliability of the questionnaire

Variable Scale	N of Items	Adapted from	IOC	Cronbach's Alpha	CITC
Sense of Meaning in Life	8	Steger et al. (2006)	1.00	0.970.	0.827-0.931
Growth Mindset	4	Dweck (2006)	1.00	0.956	0.866-0.914
Fixed Mindset	4	Dweck (2006)	1.00	0.976	0.936-0.965
Mindfulness	8	Brown and Ryan (2003)	1.00	0.931	0.723-0.842

Variable Scale	N of Items	Adapted from	IOC	Cronbach's Alpha	CITC
Confucianism	10	Monkhouse et al. (2013)	1.00	0.954	0.745-0.844
Psychological Resilience	10	Connor and Davidson (2003)	1.00	0.905	0.576-0.724
Overall	44			0.925	0.296-0.619

Results

Symbols used in data analysis and interpretation are as follows.

X₁ stands for the Sense of meaning in life

X₂ stands for Growth Mindset

X₃ stands for Fixed Mindset

X₄ stands for Mindfulness

X₅ stands for Confucianism

Y stands for psychological resilience

By conducting correlation analysis on the existing data and variables, the researchers found out what the most prominent issues affecting the psychological resilience of adolescents in Dezhou city, Shandong province, China.

Table 2 Pearson correlation coefficients among variables affecting psychological resilience of adolescents in Dezhou, Shandong.

	Y	X ₁	X ₂	X ₃	X ₄	X ₅
Y	1	0.528***	0.537***	-0.542***	0.388***	0.520***
X ₁		1	0.389***	-0.390***	0.416***	0.473***
X ₂			1	-0.850***	0.286***	0.381***
X ₃				1	-0.290***	-0.389***
X ₄					1	0.347***
X ₅						1

	Y	X ₁	X ₂	X ₃	X ₄	X ₅
X						1

*** Correlation is significant at the 0.001 level (2-tailed)

The table presents Pearson correlation analysis results for five variables. It shows four factors have a significant positive correlation with adolescents' psychological resilience in Dezhou, Shandong, at the 001 level: growth mindset (X₂), sense of meaning in life (X₁), Confucianism (X₅), and mindfulness (X₄). Conversely, fixed mindset (X₃) has a significant negative correlation at the 001 level.

Table 3 Model summary of multiple regression analysis for psychological resilience among adolescents in Dezhou, Shandong.

Model Summary					
Model	R	R Square	Adjusted R-Square	Std. Error of the Estimate	Durbin-Watson
1	.691a	.478	.471	.67440	1.876

The tables show a multiple linear regression model with Y as the dependent variable and X₁-X₅ as independent variables. The R value of .691 suggests a moderate to strong correlation. R Square of .478 means predictors explain 47.8% of dependent variation. Adjusted R-Square is .471, The model's standard error (Std. Error of the Estimate) was 0.67, which was a measure of the model's prediction error. The Durbin-Watson statistic result of 1.876 provides robust support for the internal validity of the model. This value indicates that the observed relationships between the independent variables and psychological resilience have not been confounded by the sequential patterns in the error terms. As a consequence, it enhances the credibility of the analytical framework employed in this study.

Table 4 Anova results of multiple regression analysis of the psychological resilience of adolescents in Dezhou, Shandong.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.033	5	32.007	70.373	.000b

ANOVA ^a					
Model	Sum of Squares	df	Mean Square	F	Sig.
Residual	174.647	384	.455		
Total	334.680	389			

The ANOVA table shows that the regression model is significant with an F statistic of 70.373, and its p-value is less than 0.005. The Regression SS is 160.033, the Residual SS is 174.647, and the Total SS is 334.680. This indicates the model's predictor variables significantly affect the dependent variable, validating the model. The table also shows that five factors can predict the psychological resilience of adolescents in Dezhou, Shandong, with a statistically significant linear relationship at the 005 level.

Table 5 Multiple Regression Analysis of Predictors of Psychological Resilience Among Adolescents in Dezhou, Shandong

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.197	.405		2.954	.003**
Sense of Meaning in Life (X ₁)	.228	.044	.234	5.191	.000***
Growth Mindset (X ₂)	.154	.065	.167	2.364	.019*
Fixed Mindset (X ₃)	-.170	.065	-.186	-2.618	.009**
Mindfulness (X ₄)	.104	.040	.107	2.569	.011*
Confucianism (X ₅)	.232	.043	.236	5.391	.000***

R=.691 R²=.478 F=70.373 P=0.000 * **p<0.001 **p<0.01 *p<0.05

The table shows that in Dezhou, Shandong, Confucianism and sense of meaning in life influence adolescents' psychological resilience at the 0.001 significance level, fixed mindset at 0.01, and growth mindset and mindfulness at 0.05. These five factors, ranked from most to least influential as Confucianism (X₅), sense of meaning in life (X₁), growth mindset (X₂), mindfulness

(X_4), and fixed mindset (X_3), explain 47.8% of the variance in psychological resilience. The predictor equation is as follows:

$$\hat{Y} = 1.197 + 0.232 X_5 + 0.228 X_1 + 0.154 X_2 + 0.104 X_4 - 0.170 X_3$$

In terms of the standard score were:

$$Z = 0.236 X_5 + 0.234 X_1 + 0.167 X_2 + 0.107 X_4 - 0.186 X_3.$$

The results of this analysis provide conclusive evidence supporting all hypotheses posited in this study. Specifically, a significant positive correlation was found between psychological resilience and each of the following factors: sense of meaning in life, growth mindset, mindfulness practices, and Confucianism. Conversely, the hypothesized negative correlation between psychological resilience and fixed mindset was also confirmed. These findings not only validate the theoretical framework underpinning this research but also underscore the critical roles these variables play in shaping adolescent psychological resilience within the Chinese cultural context.

Discussion

1. This study reveals that five factors, the Sense of Meaning in Life, Growth Mindset, Fixed Mindset, Mindfulness, and Confucianism, are significantly related to the psychological resilience of adolescents in Dezhou, Shandong, with statistical significance at the 0.001 level.

1.1 A growth mindset is positively correlated with psychological resilience. ($r = 0.537$, $p < 0.001$). This empirical evidence demonstrates a high degree of congruence with the comprehensive insights synthesized from the meta-analytic study conducted by Burnette et al. (2020), which synthesized extensive research data and demonstrated that individuals embracing a growth mindset tend to exhibit better stress adaptation. Similarly, Zeng et al. (2016) found that those with a growth mindset are more resilient in the face of setbacks, as they perceive challenges as opportunities for development.

1.2 A fixed mindset is negatively correlated with psychological resilience. ($r = -0.542$, $p < 0.001$). This result echoes the findings of Boullion et al. (2021), who identified a notable negative link between the fixed mindset and resilience during setbacks. Additionally, Gunnarsdóttir (2021) confirmed this relationship, showing that individuals with a fixed mindset often struggle with self-doubt and have difficulty learning from failures, resulting in lower levels of resilience. Collectively, these findings from both the present study and previous research underscore the contrasting impacts of growth and fixed mindsets on adolescents' psychological well-being.

1.3 Sense of Meaning in Life is positively correlated with psychological resilience ($r=0.528$, $p < 0.001$). This result is consistent with Frankl's theory that purpose-driven individuals better adapt to adversity. Miao and Cao (2024) further supported these findings, indicating that boosting life meaning enhances resilience and mental well-being.

1.4 Confucianism is positively correlated with psychological resilience ($r=0.520$, $p < 0.001$). Xi et al. (2015) found that the Confucianism "pro-adversity mindset," viewing setbacks as self-improvement opportunities, and the focus on "responsibility consciousness" both positively correlate with resilience. These aspects effectively reduce depressive symptoms and anxiety, highlighting Confucianism's unique role in enhancing resilience within the Chinese cultural context

Benevolence (Ren):

Based on Confucianism philosophy, research shows that the "pro-adversity mindset" and "sense of responsibility" are key parts of Confucianism coping strategies, significantly enhancing psychological resilience and reflecting "benevolence" (ren). Li and Hou (2012) found that ren, which stresses caring for others and fulfilling social duties, positively impacts resilience. Fan et al. (2017) further revealed that ren can strengthen social support, promote harmonious relationships, and deepen moral development, solidly proving that ren is positively linked to psychological resilience.

Righteousness (Yi)

The Confucian virtue of "righteousness" (Yi) is crucial for enhancing psychological resilience. Fan et al. (2017) found that upholding righteousness benefits one's mental state during adversity. It urges individuals to adhere to moral standards even in tough situations, ensuring consistency between actions and beliefs. This reduces cognitive dissonance, prevents mental energy depletion, and improves decision-making, thereby boosting psychological resilience.

Propriety (Li)

Confucianism's "propriety" (Li) is key for social stability, mental health, and psychological resilience. Jing (2007) noted that Li involves self-discipline, which enhances emotional regulation. Practicing Li shows a strong positive correlation with resilience. Socially, it establishes interaction norms, reducing ambiguity and conflict; psychologically, it builds self-discipline and emotional control. Thus, Li stabilizes social relations and helps individuals manage emotions in adversity, highlighting its importance for social order and mental well-being and its relevance in modern psychology and personal growth.

Wisdom (Zhi)

Zhi enables individuals to make sound judgments and rational decisions, especially in complex social situations. This virtue aids in cognitive restructuring and self-regulation, allowing individuals to view challenges as opportunities for growth rather than insurmountable obstacles (Shek et al., 2013). Jing (2007) noted that Zhi combines intellectual ability with moral judgment in complex social situations, aiding stress decision-making and resilience. Studies confirm a significant positive correlation between them. Researchers using CD-RISC found that Zhi-based

interventions increased resilience scores. Huo et al. (2013) highlight that Zhi fosters adaptive thinking and rational cognition, which are crucial for resilience development.

Fidelity (Xin)

Xin, encompassing honesty and trustworthiness, strengthens social support networks and enhances self-efficacy. By building reliable relationships based on trust, individuals gain emotional comfort and practical support during stressful periods. This virtue also reinforces goal persistence, enabling individuals to maintain their efforts even under pressure (Yeo et al., 2017). Liu and Wang (2018) found that Xin is positively linked to resilience, particularly in helping individuals stay mentally stable and view challenges as growth opportunities.

1.5 Mindfulness is positively correlated with psychological resilience ($r=0.388$, $p<0.001$). Pidgeon and Keye (2014) supported this through their research on college students, mindfulness training to boost resilience. Oh et al. (2022) showed mindfulness training can boost the psychological well-being and resilience of young adults, confirming it's an effective strategy for enhancing resilience.

2. This study reveals that 5 factors affect the psychological resilience of adolescents in Dezhou City, Shandong province. Confucianism and a sense of meaning in life significantly influence adolescents' psychological resilience at the 0.001 level. Fixed mindset is a significant predictor at the 0.01 level, while growth mindset and mindfulness show significant effects at the 0.05 level.

2.1 Confucianism significantly impacts the psychological resilience of Dezhou adolescents, with a B value of 0.232 and $P < 0.001$, the highest among the studied factors. As Zhang (2015) and Luo et al. (2010) indicate, Confucianism, like benevolence, righteousness, propriety, and wisdom, cultivates positive mindsets, fosters harmonious relationships, and enhances psychological well-being. Benevolence (Ren), central to Confucianism, promotes compassion and respect, strengthening resilience and forming strong social support networks. Righteousness (Yi) enhances resilience through moral responsibility, reducing uncertainty and boosting self-confidence. Propriety (Li) regulates social interactions, maintaining harmonious relationships and fostering positive social connections. Wisdom (Zhi) is crucial for cognitive adaptation, enabling individuals to view challenges positively and make rational decisions. Fidelity (Xin) enhances resilience by boosting self-efficacy and social trust. These virtues work together to form a comprehensive system for building resilience, covering cognition, emotion, behavior, and social interaction, offering moral guidance, and serving as a psychological model for individuals.

2.2 Sense of life purpose significantly impacts psychological resilience, with a B-value of 0.228 and $P < 0.001$. Arslan and Yildirim (2021) found that life purpose directly enhances adaptability in adversity by providing purpose and value. Understanding one's worth helps people



draw strength from life's meaning during setbacks, prompting mindset shifts and effective coping. Boreham and Schutte (2023) confirmed via meta-analysis that life purpose reduces the negative mental health impacts. Individuals with this sense view stress as a growth opportunity, better regulate emotions, stay optimistic, and build greater resilience, especially post-trauma.

2.3 Growth mindset is significantly impacting psychological resilience, with a B-value of 0.514 and $P < 0.05$. As Tao et al. (2022) and Burnette et al. (2020) proposed, a growth mindset enhances resilience by enabling individuals to perceive challenges as growth opportunities, adopt positive coping strategies under academic pressure, and boost self-efficacy. This contrasts with the fixed mindset, which is associated with negative emotions and avoidance behaviors.

2.4 Mindfulness significantly impacts psychological resilience with a B-value of 0.104 and $P < 0.05$. Oh et al. (2022) suggested mindfulness enhances present-moment awareness and a non-judgmental attitude, helping individuals handle life's uncertainties and improving psychological well-being and resilience. Liu et al. (2022) confirmed this, showing that higher mindfulness levels are linked to stronger psychological resilience in students, thus highlighting mindfulness's key role in developing resilience.

2.5 Fixed mindset is significantly predicting psychological resilience with a B-value of -0.170 and $P < 0.01$. Teens with a fixed mindset on personality traits face more stress and lower resilience when encountering social rejection or academic failure. They view failure as an inherent flaw rather than a surmountable obstacle, leading to negative self-evaluation and worse emotional distress. Consequently, they often feel helpless and anxious under stress, undermining their psychological resilience. (Yeager et al., 2014)

Conclusion

As the core of Chinese traditional culture, Confucianism has profoundly influenced contemporary adolescents over its two thousand years of inheritance and evolution. In this study, our data reveal that in Dezhou, Shandong Province, a cradle of Confucianism heritage, Confucianism is the most significant predictor of adolescent psychological resilience, accounting for 47.8% of the variance in psychological resilience. Its core values of benevolence (Ren), righteousness (Yi), propriety (Li), wisdom (Zhi), and fidelity (Xin) permeate adolescents' cognitive frameworks through family education, schooling, and social discourse. For example, benevolence encourages seeking social support and altruistic strategies, while righteousness guides adherence to moral principles in challenges. These values underpin adolescents' overall development and serve as a foundation for multidimensional growth. The Confucian ideal of "striving to become stronger" regulates psychological resilience by prompting positive attribution strategies and cognitive restructuring during academic setbacks. Longitudinal studies show that adolescents





embracing this Confucian spirit exhibit enhanced adaptability and faster psychological recovery in adverse situations.

Our empirical findings demonstrate that Confucianism is the strongest predictor of psychological resilience among adolescents in Dezhou. This result aligns with the theoretical importance of Confucianism in enhancing resilience. Life meaning, closely aligned with Confucianism, enhances adolescents' self-worth and helps them view challenges as growth opportunities. A growth mindset, consistent with Confucianism ideals of continuous self-improvement, motivates adolescents to confront challenges and learn from failures. In contrast, a fixed mindset conflicts with Confucianism principles of perseverance and progress, impeding growth. Mindfulness, sharing conceptual similarities with Confucianism self-reflection practices, effectively regulates emotions and enhances self-awareness. Together, Confucianism, life meaning, growth mindset, and mindfulness form an interconnected system that shapes adolescent psychological resilience.

Confucianism is transmitted across generations through family education, school curricula, and social-cultural dissemination. It shapes individual behavior and values, constructs a social and cultural community via collective identity, and maintains social order while ensuring cultural continuity and rejuvenation. Core concepts like "benevolence and propriety" and "cultivating the moral self" are internalized into moral cognition and behavioral norms, aiding personality shaping and social responsibility cultivation. This forms the cornerstone of national cultural identity and supports modern cultural confidence.

Future research should focus on integrating Confucianism ideas with modern educational systems to identify practical pathways within adolescents' socialization processes. This will promote the creative transformation and innovative development of this enduring cultural heritage. Additionally, further exploration of how to combine Confucianism with modern interventions to enhance adolescent psychological resilience is needed.

Research Limitations

The study acknowledges several limitations. The sample was drawn from specific schools in Dezhou city, which may limit the generalizability of the findings to other regions or cultural contexts. Additionally, the cross-sectional design restricts the ability to infer causal relationships between variables. Future research could benefit from a longitudinal approach to better understand the dynamic interplay of these factors over time.





Recommendation

Research shows that the psychological resilience of adolescents in Dezhou, Shandong Province, China, is influenced by Confucianism, sense of meaning in life, growth mindset, mindfulness, and fixed mindset. Here are some suggestions for adolescents in Dezhou, Shandong:

1. Suggestions for School

To support adolescents' psychological resilience, schools should include Confucian values, mindfulness, a growth mindset, and career planning in both the curriculum and school activities. This can be done by teaching Confucian classics, offering career planning lessons, and using teaching methods that encourage effort and see challenges as learning opportunities. Mindfulness activities suitable for each age group should be part of the daily routine. Cultural programs such as role plays, contests, and classroom discussions on philosophical topics can help students reflect on themselves. Creating a supportive and inclusive classroom environment that values difference, promotes peer support, and encourages students to take risks and track their progress can further strengthen their emotional and academic development.

2. Suggestions for Family

Families play a key role in shaping adolescents' values, learning attitudes, and emotional well-being. Parents should promote Confucian values at home, adopt positive approaches that turn failures into learning opportunities, and model a growth mindset through their actions. Teaching mindful communication can also help children express their emotions openly and without judgment. In addition, parents can support learning by helping adolescents set clear and achievable goals, focus on the learning process rather than the outcomes, and encourage the use of diverse problem-solving strategies. This supportive environment fosters both academic growth and emotional resilience.

3. Suggestions for Society

To strengthen adolescents' psychological resilience, society should develop supportive community structures and raise public awareness. This includes establishing community learning centers, mentorship programs, and mindfulness services. Public campaigns can help promote Confucian values, a growth mindset, and mindfulness practices. Additionally, cross-sector collaboration and supportive policies from local governments are essential for ensuring long-term impact.

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