

Trait mindfulness's effect on junior high school students' social anxiety: psychological resilience acts as a mediation factor

Fengyuan Liu*

Xinjiang normal University, Urumchi, China

Corresponding author: 107622021210651@stu.xjnu.edu.cn

Abstract. The current research studied one's connection between trait mindfulness and social anxiety in junior high school students using mental resilience as an intermediary variable. The Resilience Scale for Chinese Adolescents (RSCA), the Mindful Attention Awareness Scale, and the Social Anxiety Scale for Adolescents (SAS-A) were used for providing a survey to 276 Chinese junior high school students. The key findings were as follows: 1) Social anxiety, psychological resilience, and trait mindfulness were found to be significantly correlated; 2) Psychological resilience acted as a partial mediating factor in establishing a link between trait mindfulness and social anxiety among junior high school students. Thus, the more trait mindfulness junior high school children have, the less social anxiety they experience, with psychological resilience serving as a partly mediation role. All things considered, this results explain this process by which trait mindfulness impacts social anxiety in this age range, providing guidance for interventions aimed at reducing social anxiety in junior high school kids.

Keywords: social anxiety; trait mindfulness; psychological resilience; junior high school students.

1. Introduction

Social anxiety refers to the intense negative emotional responses and avoidance behaviors exhibited by individuals in social interactions, resulting from the influence of interpersonal situations. Typically, it leads to heightened anxiety, tension, and fear, ultimately leading to a decrease in the individual's quality of life [1]. During adolescence, physical development is nearing maturity while there may still be some deficiencies in the psychological aspect, making it an important stage in the individual life course. In this state of imbalanced development, a portion of adolescents are prone to experiencing various psychological issues. A high-risk period for social anxiety during adolescence, with a relatively long duration of the illness. Compared to general anxiety, social anxiety has a more profound impact on individuals' interpersonal relationships. Furthermore, Xin et al. conducted a comprehensive review of literature spanning the past 18 years, revealing a consistent upward trend in levels of social anxiety among Chinese adolescents. They also highlighted the significant correlation between levels of social anxiety in adolescents and both economic conditions and social connectedness within society [1]. Therefore, in the current society characterized by rapid economic development and increasing levels of urbanization, it has become paramount to investigate the influencing factors and internal mechanisms that alleviate and mitigate social anxiety among adolescents.

Mindfulness originated from Buddhism and meditation training, aiming to help individuals establish a conscious state and generate positive energy in pursuit of a happy life. After being introduced and innovated by Western psychology, it has been embraced by modern psychology. With further research, it has been discovered that mindfulness is not a skill acquired through postnatal training but rather an innate psychological quality that exhibits individual differences. This has led to the conceptualization of trait mindfulness. Trait mindfulness focuses on average daily mindfulness, while meditation-derived mindfulness emphasizes internal changes within individuals. Therefore, trait mindfulness means to a person's ability to devote themselves to present-moment characteristics and intents in a non-reactive, non-judgmental state, and has been found to be significantly and negatively predictive of social anxiety [2]. Tan et al. conducted a survey among Chinese university

students and found that trait mindfulness is negatively predictive of individuals' social anxiety [3]. They also suggested that meditation practices can serve as a preventive therapy to help individuals alleviate social anxiety. In summary, the related research indicate a robust link between trait mindfulness and social anxiety, highlighting the potential of trait mindfulness to effectively reduce and alleviate symptoms of social anxiety in individuals.

The ability to effectively stay alive, adapt, and recuperate from life's stresses and unsuccessful attempts in the face of challenges, obstacles, or dangers is known as psychological resilience [4]. The broaden-and-build hypothesis states that an individual's positive reactions may act as an encouragement for the expansion of psychological resilience, a psychological resource, and the creation of long-lasting psychological resources. Furthermore, Garland et al. discovered that a rise in trait mindfulness is connected with an increase in an individual's positive evaluations [5]. Consequently, individuals are more likely to have raised more happy emotions when they have greater trait mindfulness levels. This can facilitate the expansion and construction of enduring psychological resources, which aligns with the broaden-and-build theory.

On the other hand, psychological resilience, as an effective self-regulatory system, can effectively prevent individuals from experiencing psychological issues. Psychological resilience, as a protective factor of individuals, is in opposition to "risk factors". When individuals successfully cope with such "risk factors" through learning in environments with lower risk levels, they are able to weaken the adverse effects caused by these "risk factors" when exposed to more dangerous situations, thereby forming a compensatory or buffering mechanism [6].

The research primarily aims to analyze the role of psychological resilience as a mediating factor in the connection between trait mindfulness and social anxiety among learners in junior high school. The hypotheses put forward in this study are based on thorough theoretical analysis and existing research. 1) Trait mindfulness and psychological resilience are negatively respectively related to social anxiety in this age group; 2) Psychological resilience acts as a facilitator and influences the relationship between trait mindfulness and social anxiety in these students (see Figure 1)

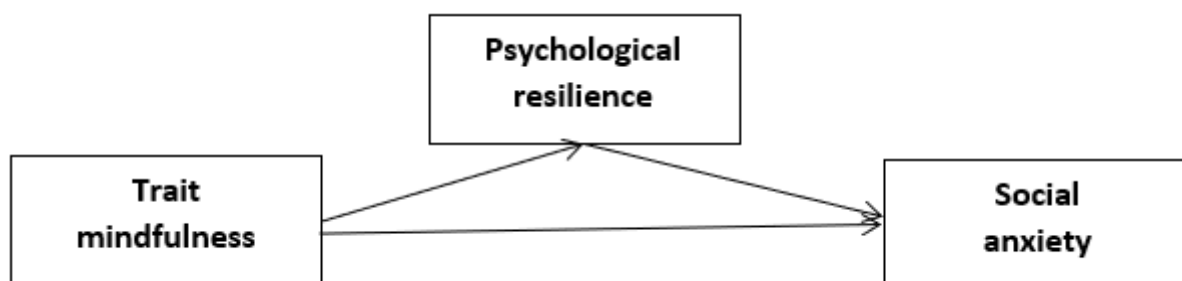


Figure 1. Research Hypothesis Model
(Photo credit:Original)

2. Research Methods

2.1. Research Object

This investigation utilized a cluster sampling technique to select a sample of 311 students from three public middle schools located in Shenyang, Liaoning Province, and Changchun, Jilin Province. Students completed online surveys through a distribution platform. A summary of 276 usable questionnaire responses were generated, resulting in an overall survey compliance ratio of 88.74%. Among the participants, the gender distribution was approximately 1:1.2, with 153 male students and 123 female students. Regarding the grade distribution, it was approximately 1:20.3:22, with Grade1: 12 students, Grade2: 242 students and Grade 3: 22 students.

2.2. Research tools

2.2.1. Social Anxiety Scale for Adolescents (SAS-A)

La Greca was the one who created the Adolescent Social Anxiety Scale in the beginning. This scale is designed to measure the degree of social anxiety among adolescents in social situations and interactions. To ensure its validity and accuracy in the Chinese cultural context, Zhu Haidong conducted appropriate translation and revisions. The scale comprises 13 questions that cover three broad dimensions: fear of being judged poorly, social avoidance and discomfort in socially new settings, and social avoidance and discomfort in socially familiar ones. The test uses a five-point Likert scale, where higher levels of social anxiety are indicated by larger points [7]. The SAS-A scale in this study has a 0.94 Cronbach's alpha coefficient.

2.2.2. Mindful Attention Awareness Scale(MAAS)

Based on the scale that Brown et al. initially set up, Chen Siyi and colleagues translated and altered the Chinese version of the "Mindfulness Attention Awareness Scale" (MAAS). taking into account the Chinese cultural background structure is a single-dimensional with fifteen components. Six points are used in the scoring system, where one point is for "always" and six is for "never." Individual attribute awareness is associated with better scores [8]. The Cronbach's coefficient for the MAAS scale in this investigation was found to be 0.91.

2.2.3. Resilience Scale for Chinese Adolescents(RSCA)

The Resilience Scale for Chinese Adolescents, developed by Hu Yueqin, is a 27-item assessment tool that measures five key characteristics of adolescents: goal orientation, regulation of emotions, affective perception, family supports and interpersonal assistance. Whereby higher levels indicate greater psychological resilience[9]. The RSCA scale's Cronbach's coefficient in this study was 0.91.

2.3. Methods of Statistics

In this research, the data will be inputted into SPSS 26.0 for correlation analysis. The mediating effects of adolescent social anxiety, youth psychological resilience, and trait mindfulness will be examined using the PROCESS method. To avoid any potential common method bias, we will conduct a test on the self-reported data obtained, following the recommendations from previous research.

3. Research results

3.1. Common Method Biases

An electronic questionnaire was used in this study to collect data. In order to prevent any potential biases during the research process, an anonymous evaluation was conducted using 59 items that were reverse-scored. The kind of distortions which frequently showed up in each item were examined using the Harman's single-factor test. Thirteen factors had eigenvalues greater than one, according to the results of the research. The first component explained 27.51% of the variation, falling short of the 40% cut-off. This suggests that the research project did not exhibit any appreciable degrees of general methods bias.

3.2. Correlation analysis

This average values, deviations from the mean, and correlation coefficients of the study's characteristics are shown in Table 1. A important negative connection involving social anxiety and trait mindfulness and psychological resilience was identified in junior high school pupils, according to analysis. In addition, research results demonstrate that within junior high school students, trait mindfulness and psychological resilience have a favorable association.

Table 1. The matrix of correlation and the descriptive statistical outcomes for the pertinent variables.

	1.social anxiety	2.trait mindfulness	3. psychological resilience
1.social anxiety	1		
2.trait mindfulness	-0.49**	1	
3. psychological resilience	-0.61**	0.60**	1
M	29.25	59.77	93.70
SD	11.68	13.83	16.80

Note: P<0.05 * P<0.01** p<0.001*** . The following is the same

3.3. Analysis of mediation effect

This study was carried out by a bootstrap mediation analysis by employing the PROCESS from Hayes. The objective was to assess the relationship between trait mindfulness as the independent variable and social anxiety and psychological resilience. The analysis included 5000 bootstrap samples and the bootstrap confidence interval was calculated using the 'bias corrected' method. The 95% significance limit of the confidence interval was used. There was thought to be significant consequences if zero was absent from the confidence interval. Table 2 presents comprehensive findings.

Table 2. Regression analysis of trait mindfulness, psychological resilience on social anxiety

Regression equation		match index			Significance of regression coefficient		confidence interval	
dependent variable	Independent variable	R	R2	F	β	T	LICI	ULCI
SA		0.49	0.24	87.06				
	TM				-0.41	-9.33***	-0.5012	-0.3271
PR		0.60	0.36	151.10				
	TM				0.72	12.29***	0.6083	0.8403
SA		0.63	0.39	88.70				
	TM				-0.17	-3.42***	-0.2671	-0.0720
	PR				-0.34	-8.29***	-0.4184	-0.2580

Note: TM=trait mindfulness, SA=social anxiety, PR=psychological resilience. The following is the same

The mediational effects model is illustrated in Figure 2. Research indicates that social anxiety is significantly impacted negatively by trait mindfulness ($\beta = -0.41$, $P < 0.001$). Trait mindfulness demonstrated a favorable impact on psychological resilience when it was included ($\beta = 0.72$, $P < 0.001$). Social anxiety was significantly impacted negatively by psychological resilience. ($\beta = -0.34$, $P < 0.001$). Trait mindfulness also had a positive predictive effect on social anxiety ($\beta = -0.17$, $P < 0.001$).

Further analysis of the mediation effects shows that the bootstrapped 95% confidence interval for does not include zero, indicating a strong mediating effect of psychological resilience between trait mindfulness and social anxiety. According to Table 3, the mediation effect is 59.11%, indicating that psychological resilience partially moderated the link from trait mindfulness to social anxiety in middle school students.

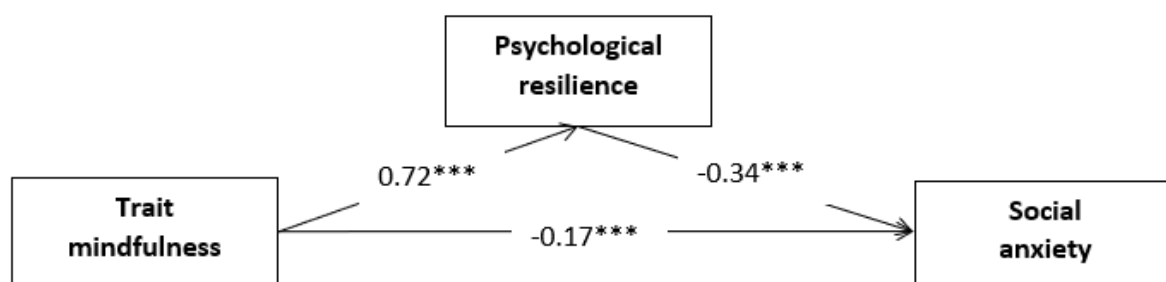


Figure 2. The psychological resilience mediation hypothesis linking social anxiety with trait mindfulness.

Table 3. Mediation effect analysis

	Effect value	Boot SE	Boot CI	Relative Proportional Mediation Effect
Total effects	-0.41	0.04	[-0.502; -0.327]	
TM->SA	-0.17	0.05	[-0.267; -0.072]	40.89%
TM->PR->SA	-0.25	0.04	[-0.324; -0.174]	59.11%

4. Discussion

4.1. Analysis of the Current State of Social Anxiety Levels Among Middle School Students

The study's conclusions show that junior high school students had a moderate level of social anxiety (29.25 ± 11.68). This stage, which coincides with adolescence, plays a significant role in psychological development as it marks the transition from childhood to adulthood. Adolescents exhibit a blend of adult and childlike qualities. During this stage, individuals start becoming more self-conscious, and their interpersonal relationships become more sensitive. Their attention is being drawn more and more to how other people see them, which can cause anxiety about being evaluated and social interaction avoidance. These factors contribute significantly to social anxiety.

4.2. The Direct Impact of Trait Mindfulness on Social Anxiety

Conclusions from the research point to a considerable inverse correlation among trait mindfulness and social anxiety. Trait mindfulness reduces people's level of social anxiety, which is in line with earlier study findings [3]. This shows that junior high school students who display higher trait mindfulness levels additionally exhibit lower scores of social anxiety. These results are corroborated by the Meta-cognitive model of mindfulness, indicating that individuals can re-evaluate their current social avoidance state from a non-judgmental perspective, through the eyes of a third party. By doing so, they are able to accept their own shortcomings with a more objective attitude, thereby alleviating and resisting their social anxiety. They exhibit meticulous emotional awareness, a tolerant attitude, and positive beliefs about interpersonal relationships, facilitating high-quality interpersonal interactions. As such, they place a higher importance on listening to others and understanding their needs and emotions than the average person does, as opposed to focusing just on their own interests. They try to understand, show compassion, and assist others in easing their loads and troubles rather than placing blame or criticism on others. They regard cooperation and helping one another in social situations highly. Along with fostering positive relationships, these attributes advance their social abilities and personal growth.

4.3. An Examination of Psychological Resilience Mediating Role

The findings of this research indicate the trait mindfulness and psychological resilience have a highly positive relationship. Psychological resilience was found to be positively predicted with trait mindfulness. Additionally, it has been that a negative correlation is present between psychological

resilience and social anxiety, with psychological resilience being a negative predictor of social anxiety. According to the findings of this study, psychological resilience served as a partial mediator between trait mindfulness and social anxiety. This backs the hypothesis of the study. According to the process model of psychological resilience, when individuals encounter external environmental stimuli, their "psychosomatic balance" is disrupted, prompting the activation of several protective factors to resist these stimuli. Thus, trait mindfulness, acting as a crucial protective factor and regulatory mechanism of psychological resilience, enhances individuals' ability to confront internal and external challenges by bolstering their level of psychological resilience in the face of external stimuli.

Firstly, from the perspective of physiological mechanisms, mindfulness training can induce changes in cortical thickness or gray matter density in brain structures such as the prefrontal cortex, temporal lobe, and anterior insula, thereby influencing individual perception, memory, and emotional regulation abilities, thereby enhancing individual psychological resilience. Meanwhile, in contemporary mindfulness theory, mindfulness is regarded as a cognitive process that involves observing the target object in a neutral and non-judgmental manner, while maintaining sustained attention in the present moment. As one of the core components of mindfulness, sustained attention is itself a fundamental cognitive process of high level. The relevant studies suggest that individuals' accurate perception of their internal and external environments, proactive seeking of protective factors, and emotion regulation are key factors in promoting and mobilizing psychological resilience [10]. Thus, people who show high levels of trait mindfulness are better able to deal with stress and adversity by being calm, objective, and accepting of the situation, which increases their resilience to such challenging circumstances. This is an important pathway for promoting the growth of psychological resilience. Secondly, higher levels of psychological resilience contribute to alleviating social anxiety behaviors in individuals. This leads to higher levels of satisfaction with their own companions and enables them to face challenges with a positive and optimistic attitude, stronger adaptive capacity, and psychological stress resistance. Consequently, having outstanding psychological resilience is capable of combating and limiting the occurrence of individual social anxiety. It acts as one of the most important safeguards against reducing personal social anxiety. To summarize, junior high school students who possess a higher level of trait mindfulness tend to adopt a more positive approach towards coping with negative emotions and adapting to changing environments by regulating their emotions. Furthermore, students with high levels of trait mindfulness develop strong psychological resilience, which enables them to handle academic and social challenges and setbacks more effectively. This ultimately reduces the likelihood of experiencing social anxiety. When faced with difficulties or setbacks, these students can stay calm, approach the problem with a clear mind, and find solutions instead of being overwhelmed by confusion and negative emotions.

5. Conclusion

Studying the relationships between trait mindfulness, psychological resilience, and social anxiety among junior high kids was the aim of this project. The analysis revealed a significant negative correlation between trait mindfulness and social anxiety. This shows that social anxiety is less common in people who exhibit higher trait mindfulness. Additionally, the results indicated a strong positive association between trait mindfulness and psychological resilience, implying that individuals with higher trait mindfulness also tend to have greater psychological resilience. Further research demonstrated that psychological resilience acted as a mediator between trait mindfulness and social anxiety. To be more precise, trait mindfulness promoted psychological resilience in individuals in question, which in turn reduced social anxiety. This suggests that via increasing psychological resilience, trait mindfulness might assist people in reducing their social anxiety. The results of this exploratory examination imply that trait mindfulness can directly influence the reduction of social anxiety. Additionally, by enhancing psychological resilience, it indirectly affects social anxiety as

well. The results also indicate that psychological resilience partially mediates the connection between having a trait mindfulness and experiencing social anxiety. To prevent and alleviate social anxiety in individuals, both school education and family education during junior high school should focus on cultivating trait mindfulness and psychological resilience. Mindfulness training methods can be used to guide students in solving and adapting to challenges. By increasing levels of trait mindfulness and fostering psychological resilience, students can engage in social activities with a positive and proactive mindset, ultimately reducing social anxiety among junior high school students.

References

- [1] Xin, S., Peng, H., & Sheng, L. Changes of Social Anxiety in Chinese Adolescents During 2002~2020: An Increasing Trend and its Relationship with Social Change. *Children and Youth Services Review*, 2022
- [2] Carpenter, J.K., Conroy, K., Gómez, A.F., Curren, L.C., & Hofmann, S.G. The relationship between trait mindfulness and affective symptoms: A meta-analysis of the Five Facet Mindfulness Questionnaire (FFMQ). *Clinical psychology review*, 2019, 74, 101785.
- [3] Tan, J., Lo, P., Ge, N., & Chu, C. Self-esteem mediates the relationship between mindfulness and social anxiety among Chinese undergraduate students. *Social Behavior and Personality*, 2016, 44, 1297-1304.
- [4] Xie, L., Yan, W. Relationship between sense of security and children's self-supporting behavior: The mediating role of resilience. *China Journal of Health Psychology*, 2023.
- [5] Garland, E. L., Gaylord, S. A., Fredrickson, B. L. Positive reappraisal coping mediates the stress-reductive effect of mindfulness: an upward spiral process. *Mindfulness*, 2011, 259-67.
- [6] Good, D.J., Lyddy, C.J., Glomb, T.M., Bono, J.E., Brown, K.W., Duffy, M., Baer, R., Brewer, J.A., & Lazar, S.W. Contemplating Mindfulness at Work. *Journal of Management*, 2016, 42, 114-142.
- [7] Zhu, H. A study on the relationship of attachment to social anxiety among adolescent. Southwest University, 2008
- [8] Chen, S., Cui, H., Zhou, R., et al. Revision of mindful attention awareness scale (MAAS). *Chinese Journal of Clinical Psychology*, 2012, 20(2), 148-151.
- [9] Hu, Y., Gan, Y. Development and psychometric validity of the resilience scale for Chinese adolescents. *Acta Psychologica Sinica*. 2008(8), 902-912.
- [10] Ma, W., Sang, B, Hong, L. Research Review of Psychological Resilience and Its Mechanisms of Action. *Journal of East China Normal University (Educational Sciences)*, 2008, 99(1): 89-96.