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Effect of Resilient therapy (RT) on Growth Mindset and Stress of Middle School Students: A Pre and Post Study

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Abstract

Resilience is about learning to flourish again, not just survive. We need resilience to get over the short- and long-term pressures we face. Few studies examine the effects of Resilience intervention in clinical, and there is limited research examining the effect of resilient therapy (RT) that is needed to improve growth mindset and reduce in stress. A single case design with pre- and post-assessment was adopted. This study evaluated the effects of RT on growth mindset and stress among secondary school students 56 students meeting the specified inclusion and exclusion criteria were recruited for the study. Students were assessed on the Resilience scale, Growth mindset scale and Stress scale. The significance level for the paired t test, which was used to analyse the data, was<0.05. After the session, there were statistically significant differences in the mean stress scores and growth mindset levels ($p< 0.0000$). Students in secondary schools can experience less stress and greater growth mindset thanks to the resilient therapy (RT) intervention. The treatment programme included instruction on understanding resilience, practise of various resilience skills, goals or commitments, acceptance, and stress-reduction techniques like academic, failure-fear, and problem-solving techniques. Each student had six sessions spread out over 2 days for 10 hours in the form of workshop. The study's findings are reviewed in light of the known research, and implications and limits, as well as ideas for future research, are highlighted.

Keywords- Resilience, Resilient Therapy, Secondary School, Growth mindset, Stress

Introduction

Resilience

Resilience, according to Brooks and Goldstein (2001), is the ability to deal with hardship in the present as well as in the past. Ryff et al. (1998) defined resilience as the ability to preserve and regain one's high level of well-being in the face of adversity. Resilience serves as a protective component when faced with adverse outcomes, according to Connor and Davidson (2003), helping people to retain their bodily and psychological well-being.

The findings of the meta-analysis indicated that resilience interventions had a positive and significant effect on various outcomes, including psychological well-being, academic performance, and resilience itself. The effect sizes were moderate, suggesting that resilience interventions had meaningful effects. Furthermore, the researchers conducted meta regression analyses to explore potential moderators that could influence the effectiveness of resilience interventions. Overall, this meta-analysis suggests that resilience interventions are effective in promoting positive outcomes among higher education students. The findings highlight the importance of implementing resilience interventions in educational settings to support students' well-being and academic performance.

Impact of Growth Mindset on Stress and Resilience

Dweck (1999) defines mindsets as implicit ideas regarding the malleability of personal qualities. The development mentality holds that an attribute, such as intelligence or personality, may be changed; the fixed mindset holds that such attributes are unchangeable. Students' attitudes regularly affect how they react to challenges and failures: students with a rising mindset of intelligence adjust more readily to failure, whereas those with a fixed mentality

of intelligence disengage and feel helpless (Dweck & Leggett, 1988). In order to help students understand academic challenges in a way that fosters learning and resilience, Burnette et al. (2013) claim that growth mindset treatments can increase students' resilience. Even in high-achieving students, academic resilience is decreased by fixed mindset students' interpretation of academic challenges as proof of incompetence (Dweck et al., 1995; Dweck, 2006). The belief that one can grow represents a growth mentality. Resilience is developed through the development of a growth mindset, also known as adaptable qualities, which encourages healthy and adaptive coping mechanisms for anxiety, frustration, and disappointment. Stress levels and self-reported mental illness symptoms may be lower in people with a growth mentality. For example, when teenagers encounter familial stress, growth mindset can impair the protective effects of externalising behaviours (Walker and Jiang, 2022). Fixed thinking (entity theories of personality) has been proven to predict higher levels of self-reported stress (Yeager et al., 2014).

According to the study, living in stressful environments increases the risk of experiencing psychological distress. The general finding that having a growth mindset can mitigate the negative effects of challenging environments has therapeutic psychology implications (Abramson et al., 1978; Infurna and Luthar, 2016). Also study by (Kyoung Hwang, Y., & Lee, C. S. 2018). could be used to increase student happiness by reducing stress, enhancing growth mindset, and increasing self-esteem. Notably, even when children are taught resilience skills at school, they may not implement them sufficiently due to their fixed mindset (Blackwell et al., 2007). Meanwhile, growth mindset students see problems as an opportunity to develop their ability and refine their learning skills, which contributes to their resilience, whether they are high or low achievers.

Stress and impact of resilience on stress

Stress is defined as the sense that a situation or event surpasses one's ability to cope (Lazarus & Folkman, 1984). The challenges of higher education, changing social lives, and living away from carers for the first time can all cause stress among students. Low levels of stress can be beneficial for students' academic performance while also safeguarding their mental and physical wellbeing. Higher education students can benefit from resilience therapies that focus on boosting resilience, reducing depressive symptoms, and overcoming stress-related symptoms (Ang, W. H. D., et al., 2022). Masten and Obradovi's (2006) discussion of competence and resilience in development broadens the topic. They contend that competence, which results from resilient processes, facilitates adaptability, the development of skills, and stress management. The "broaden-and-build" theory of happy emotions is outlined by Fredrickson (2001), who emphasises that pleasant emotions expand one's cognitive and behavioural repertoires, which improves one's ability to adapt to stressors. A multidisciplinary viewpoint on resilience's definitions, theories, and difficulties is provided by Southwick et al. (2014). They emphasise its dynamic character and the need to consider a variety of aspects in order to comprehend its function in stress management. Masten (2001) offers insights into "ordinary magic," highlighting resilience processes in development. Regular adaptive mechanisms help people deal with challenges successfully when they are resilient and according to Hu et al.'s (2015) meta-analysis of trait resilience and mental health. A protective factor against stress-related mental health problems is trait resilience.

Together, this research shed light on the complexity of resilience and how it affects stress. Adversity does not define resilience; rather, resilience is an active process comprising positive emotions, coping strategies, and personal strengths.

The Present Study

Resilience therapies for higher education students on strengthening resilience, lowering depressive symptoms, and overcoming stress symptoms (Ang, W. H. D., et al., 2022) and lack of study has been attempted on impact of RT on growth mindset among school students. Taken together, based on the cited research, growth mindset can be seen as a precursor of resilience. This seems to imply that resilience, the growth mentality, and all of these have an indirect effect on stress. However, none of the earlier research actually provided empirical support for the use of resilient therapy as an intervention to enhance students' growth mindsets and reduce stress.

Accordingly, the current study examines the effect of resilient therapy as potential factor that plays an important role in the mechanisms relating growth mindset and stress. The hypotheses of this study- (a) the RT will be positively related to the growth mindset in the middle school students; (b) the RT will be negatively related to the stress in the middle school students.

Methodology

A single pre–post intervention design was adopted. The sample of 56 students with a diagnosis of less resilience and more stress were recruited from secondary school located in Karnataka. The study excluded participants who had a concomitant diagnosis of mental retardation, a serious illness, or had previously received a resilience intervention. Before the sessions began, their informed agreement to participate was obtained after they had been informed of the study's purpose.

Tools

Perceived Stress Scale –

The PSS is a 10-item survey that questions students about their most recent sensations and thoughts in order to assess their overall stress level (Cohen, S., et al., 1983).

Growth Mindset-

The growth mindset is a 10- item questionnaire developed by Dweck, C. S. (2006).

Brief Resilience Scale -

The six-item Brief Resilience Scale by (Smith, B.W., et al. 2008) was developed to assess one's ability to recover or bounce back from stress. The BRS exhibited a high level of internal consistency (= 0.83) and was associated with number of categories, including depression, perceived stress, and active coping. The BRS displayed good internal consistency in the sample (pre-MBRT = 0.87; post-MBRT = 0.90).

Procedure

Therapeutic program

The therapy programme took the shape of a workshop and included roughly 6 sessions for each student over the course of two days (10 hours). The group sessions were held with between 10 and 12 pupils. The program's specific elements were based on the RT programme. The concept of resilience was taught to the students. Additionally, the following particular tactics (fig 1) were used. Each session lasted roughly 45 to 50 minutes.

Session Plan of Resilient Therapy with Description.

Sessions	Description
Session 1- Understanding The concept of resilience.	This requires an understanding of our baseline resilience, whether it be for individual children or school communities. Therefore, identifying their resilience strengths and limitations is essential to averting future problems.
Session 2- Accepting	Which includes concentrating on the tasks at hand and moving forward rather than lamenting the way things ought to be (although any staff room will undoubtedly have some of this going on, we all need to vent a little, but maybe just a little?) not all day long).
Session 3- Conserving	It's easy for students to forget about many good things that have happened to them, especially when things aren't going well. Keeping those lovely things close by, noticing them, and occasionally even going the extra mile to revive them are essential. There should be no adulation without any deconstruction in this situation, since doing so just serves to nag pupils (and staff/parents) and make them feel worse about themselves than they already do. This is an important principle to keep in mind.

Session 4- Commitment	You can always begin by focusing on some little successes. However, building resilience is rarely a quick answer. Check your level of dedication to employing this tactic. By keeping dedication as a key consideration in mind, you may distinguish between those who are in it for the long haul and those who are simply there temporarily. Additionally, it will be beneficial if you are open about this so that students won't be caught off guard by who will be hanging out.
Session 5 – Enlisting	You might need to expressly hire people to help you achieve some clearly specified resilience objectives since some kids might need additional support. It stands to reason that some of the students at the top of our pyramid of needs would have too many people working with them. We refer to the issue of too many different administrations interfering with students' lives for too little time as "administrative promiscuousness." It's crucial to think about when we might not be able to handle a situation on our own and require assistance, as well as when we might be taking on too much.

fig(1)

Statistical analysis

Statistical analysis was carried out on the 57 students. Using independent t test pre and post.

Using the SPSS programme version 24 for data analysis, research data were examined. For analysis, descriptive and independent t test statistics were utilised. To gauge how strongly a linear link exists between two variables, Pearson Moment Product Correlation was used. To investigate the impact of resilient therapy on growth attitude and stress among secondary school students, a paired t-test was used to compare participants' pre-test and post-test results.

Ethical Consideration

Participation in the study was entirely voluntary. The researcher explained the need for the investigation as well as a brief description of the study. The participants' consent was secured before they began filling out the offline answer questions. Participants had the option to cease therapy at any time. While informed that therapy sessions would be discussed with the research guide for supervision, anonymity and confidentiality were ensured and maintained. Therapy was also carried out by a trained resilience practitioner. Everyone who took part in the treatment sessions was thanked in advance.

Results

Table (1) The level of resilience, growth mindset and stress

Table (1)

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
GM	Male	28	10.32	4.137	.782
	Female	28	9.25	3.922	.741
Resilience	Male	28	19.00	3.006	.568
	Female	28	17.39	3.270	.618
Stress	Male	28	22.00	4.522	.854
	Female	28	23.75	4.377	.827

Table-2 Pre and post Intervention effects on resilience, growth mindset and stress
Table (2)

Paired Samples Test

		Paired Differences					t-value	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Resilience	Pre & Post	-4.036	3.950	.528	-5.093	-2.978	-7.647	55	.000
Stress	Pre & Post	7.857	7.250	.969	5.916	9.799	8.110	55	.000
Growth Mindset	Pre & Post	-2.982	3.768	.504	-3.991	-1.973	-5.922	55	.000

A total of 56 individual were included in this study. The total number of females is 28 and 28 males were participated. The mean of participants in growth mindset in female was 9.25 (SD= 3.270) and male 19.00 (SD= 3.006) resilience in female was 17.39 (SD= 3.270) and male 19.00 (SD= 3.006) , (Table 1), suggesting both male and female participants are associated with strong level of resilience. The above average mean indicates that both the gender was pretty good at the rolling with punches, and they have an impressive track record of turning setbacks into opportunities.

We included the population of secondary school students (56 participant). The current study was conducted in a school setting, of secondary school students located in one city of Karnataka. Participants mainly included 28 girls (mean range of growth mindset, resilience, and stress reported, 9.25, 17.39, and 23.75) and 28 boys. The pre-test (mean range of growth mindset, resilience and stress reported, 10.32, 19.00, and 22.00) which shows in this study boys are having more resilience and growth mindset and low level of stress than female, Post test (mean range of growth mindset, resilience and stress reported, 11.93, 21.07 & 17.14) and boys (mean range of growth mindset, resilience and stress reported, 13.61, 23.39 , and 12.89) which shows in this study boys are having more resilience and growth mindset and low level of stress than female. Using paired samples, the straightforward effects analysis In the intervention group over the course of the trial, a statistically significant (p .000) improvement in positive affect, resilience, and growth mindset was seen, as well as a decrease in perceived stress and negative affect (table 1).

Discussion

Improving Resilience and Growth Mindset in Secondary School Students to Reduce Stress

The purpose of the current study was to look into how stress, a growth mindset, and resilience interrelate among secondary school pupils. The findings of this study shed important light on the potential advantages of interventions aimed at boosting resilience and encouraging a growth mindset to lower students' stress levels. The results support other studies in the subject and highlight how these psychological aspects are interrelated.

Intervention effects on resilience and growth mindset

The post-intervention statistics show that the resilience and growth mindset therapies were successful. Following the session, the mean scores for resilience and growth mindset increased for both the male and female participants. Notably, the growth mindset scores of male participants increased more than those of female participants, potentially closing the gender difference. This supports prior research on growth mindset interventions (Dweck, 1999; Kyoung Hwang & Lee, 2018) and emphasises the impact of interventions in boosting students' positive evaluations of their adaptability and capacity for growth.

Resilience interventions for stress reduction

The research showed that after the intervention, participants' stress levels significantly decreased. These findings are consistent with the idea that building resilience and encouraging a growth mindset might be stress-reduction strategies. The results are consistent with earlier studies by Abramson et al. (1978) and Infurna and Luthar (2016), who highlighted the protective effects of resilience against psychological distress. Walker and Jiang's study from 2022 also highlighted the importance of growth mindset in reducing the effects of pressures, particularly in difficult family situations. The observed decrease in stress highlights the potential for these interventions to improve students' capacity to successfully handle stresses.

Growth mindset and resiliency as protective factors

The findings showed that resilience scores after the intervention had significantly increased. This is consistent with earlier research by Ang et al. (2022), who proposed that resilience programmes increase people's capacity to deal with difficulties. Participants' resilience scores improved, which implies that educational programmes aimed at improving participants' ability to bounce back from setbacks and adapt to challenging situations can be successful. The idea put forth by Lazarus and Folkman (1984), which emphasises the relevance of efficient coping techniques in handling stressors, is consistent with the observed gain in resilience.

Limitations

The limited sample size is a significant disadvantage of the current study, as it prevents comprehensive data analysis and generalisation of conclusions. The addition of a control group would have improved the study. Another disadvantage is the lack of follow-up, which would provide information on the preservation of treatment gains. A more homogenous sample would have been more instructive in terms of treatment, whereas the sample was variable in terms of diagnosis.

The time when the study was conceived, we did resilient therapy intervention for 2 days (10 hours) as a workshop. Future studies could conduct for 6- 8 weeks. The brief duration of the trial precludes a thorough understanding of the long-term impact of the therapies. Future studies should include a variety of demographics and employ longitudinal methods to monitor the longevity of the noted effects across time.

Conclusion

In conclusion, the findings suggest that RT can be an effective intervention in stress management and increasing growth mindset. The study has important consequences. This is the first study in India to use Resilient Therapy in the treatment of students with stress and a poor growth mentality. Training in RT is time-efficient and adaptable to a diverse variety of students. The considerable reduction in stress symptoms observed in secondary school students following the intervention suggests that RT is an effective therapy strategy for managing stressed students. Also, the significant improvements in growth mindset that occurred in the secondary school students following the intervention indicates that RT is an effective mechanism in improving the growth mindset of secondary school students.

Authors' conclusions:

Extremely little evidence exists to support the effect of resilience training on growth mindset, resilience, and stress perception among healthcare students. The numerous interventions, the lack of short-, medium-, or long-term data, and the geographic restriction to high-income countries limit the generalizability of the results. As a result, drawing inferences should be done very carefully. Resilience training appears to have positive effects on medical students, according to the findings' very-low confidence evidence, high-quality replications, and improved study designs (such as a consensus on the definition of resilience, the assessment of individual stressors).

The complicated relationships between gender, resiliency, development mindset, and stress among secondary school students are highlighted by this study, which concludes. The interventions showed promise in raising resilience and encouraging a growth attitude, which in turn affected stress levels. The results highlight the need for RT to manage stressors while fostering general psychological well-being in educational environments. Future

research should be conducted with larger samples and follow-up to establish the efficacy of this program. The assessment of functioning and in academic performance can be analysed it will help to understand the impact of the RT program on academic.

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