Original Research Article

Influence of Color Therapy in Alleviating Academic Stress in High School Students

Abstract:

Color Therapy as a powerful communication tool possesses the potential to impact emotions, moods, and psychological reactions. This study delves into the significance of colors and their influence on academic stress levels. The research aims to investigate the efficacy of color therapy, specifically utilizing blue and yellow, in alleviating academic stress among high school students. The sample comprised 150 high school students, whose academic stress levels were initially measured. Subsequently, students exhibiting moderate to extreme stress levels were exposed to a color intervention. The findings of the study revealed a substantial reduction in academic stress levels among students after exposure to blue and yellow color therapy. The results suggest that employing specific colors in educational settings may offer a viable and non-intrusive approach to addressing academic stress among high school students.

Key words: Color Therapy, Blue Color, Yellow Color, Academic Stress..

Introduction :

Color Therapy is a fascinating and multifaceted field of science that explores the intricate relationship between colors and human psychology. The people get affected both physiologically and psychologically through colors (Eric, John, & Paraag,2007). Beyond being merely a visual experience, it is capable of profoundly influencing moods as well as emotions(Johnson 2007,Airey 2006). It serves as a powerful tool for communication, projecting one's personality and identity (Cerbus, G., & Nichols,1963). .The colors around us affect how we feel and act, influencing our moods and guiding our behavior (Babin, Hardesty, & Suter, 2003; Kwallek, Lewis, & Robbins, 1988; Kwallek, Woodson, Lewis, & Sales, 1997; Rosenstein, 1985). Colors, too have many emotional impacts, explicitly, temperature, strong and weak, hard and soft, and active and calm. (Birren F, 2006). Perception of color is a complex process influenced by various factors. Some of the key determinants of color perception include:

Color Context: The cultural and societal context plays a significant role in shaping the meaning and interpretation of colors. Specific colors with distinct emotions or symbolism lead to diverse perceptions of color (Airey, 2006).

Linguistic Relativity: The language a person speaks can influence their perception of colors. Benjamin Whorf's linguistic relativity hypothesis suggests that language shapes how individuals perceive and categorize colors.

Individual Differences: Personal experiences, memories, and individual preferences can also impact how colors are perceived.

Environmental Factors: The physical environment, including the climate and geographical location, can influence color perception.

Psychological and Emotional Associations: Colors are often linked to specific emotions and psychological responses.

Social and Cultural Symbolism: Colors are frequently used as symbols in society, representing various concepts, ideologies, or group affiliations.

Academic stress refers to the emotional, cognitive, and physical strain experienced by individuals engaged in educational pursuits. Stress is influenced by multiple factors, stemming from a variety of sources (Reddy et al., 2018; Karyotaki et al., 2020). It’s more than just a passing unease; it’s a complex persistent and complex challenge that profoundly affects students, impacting their well-being, academic performance and future opportunities. Studies reveal that academic stress adversely affects student’s health. (Li and Lin, 2003; Eisenberg et al., 2009; Green et al., 2021). As society places a growing emphasis on educational achievement and competitiveness, the prevalence of academic stress has surged, making it imperative to comprehensively examine its origins, manifestations, and potential mitigation strategies.As a result, students may experience anxiety, depression, and other related disorders, impacting their social, emotional, and academic well-being. Colors can have a significant impact on our physical, emotional, and psychological well-being, and understanding their effects can help us manage stress more effectively. Colors have been identified to directly link with an individual’s mental well-being, emotions,and the presence of emotional or psychiatric imbalances/disorders (Hettiarachchi & Perera, 2022).

Blue: Blue is often associated with calmness and serenity (Mehta, R., & Zhu, R. J, 2009).Being surrounded by blue hues or spending time in environments with blue elements can promote relaxation and a sense of tranquility.

Green:Green is linked to nature and has a refreshing and rejuvenating effect. It is known to promote feelings of balance, harmony, and renewal. Being in natural surroundings or incorporating green elements in one's environment can aid in stress reduction (Mahnke, 1996).

Yellow: Yellow is a warm and cheerful color, associated with positivity and optimism. It can uplift the mood and promote feelings of happiness and energy (Goldstein,1942).

Pink:Pink is a gentle and nurturing color that can evoke feelings of comfort and calmness. It is often used in settings where relaxation and stress relief are the main goals.

Purple:Purple is associated with creativity and spirituality. It can stimulate the imagination and encourage a sense of introspection and mindfulness, potentially reducing stress levels.

White: White signifies purity and cleanliness, and it can create a sense of spaciousness and simplicity. A clutter-free and white-themed environment can promote a sense of calm and clarity.

Neutral colors:Neutral colors like beige, gray, and taupe can provide a sense of stability and balance. They can serve as a calming backdrop and complement other more vibrant colors.

Objective of the study:

To see the impact of presence of blue and yellow colorin reducing academic stress of high school students.

Hypothesis

Blue and yellow colors will have a significant impact on the academic stress levels of high school students.

Method:

Sample

Total 150 students ranging from 17 to 18 years of age participated in the study of which total number of boys was 78 and girls were 72. All the participants were from the same school located in Vidisha (MP). They all did not have any previous history of diagnosed psychiatric disorders, and all provided their consent to be included in the study. It was made assured to them about maintaining the confidentiality.

Design

Purposive sampling method of research and Student's t-test was used as the statistical tool for hypotheses testing in the study.

Variables

Independent Variable: Blue and Yellow color

Dependent Variable: Academic stress

Measure

Standardized Academic stress scale by Rajendran and Kaliappan was used to measure the academic stress of students. The scale was originally developed by Kim in 1970 and later it was adapted to Indian conditions by Rajendran and Kaliappan (1990). The academic stress scale comprises of 40 items. Each item had five alternatives varying from the response 'No Stress' to 'Extreme Stress'. The tool has established content validity and item validity as well as reliability of 0.82.

Procedure

The study involved 150 high school students from classes 11th and 12th who were selected based on specific inclusion criteria using purposive sampling.To ensure clarity, the respondents were provided with a well-explained questionnaire, and they took approximately 15 minutes each to complete it.After the pre-test, individual scoring was done on each participant's questionnaire, and their overall academic stress occurrence was quantitatively classified into moderate, high, and extreme stress categories. Color therapy intervention was then introduced to participants falling into these stress categories, involving the use of yellow and blue pens while studying and surrounding them with yellow and blue posters in the classroom. This exposure to colors lasted for 8 hours daily, five days a week, for a month. After completing the intervention, the same 100 participants were given the academic stress questionnaire again to assess the impact of color on their stress levels.

Results and Discussion

The scoring of the test was done according to the manual and raw scores were obtained. The scores were coded and tabulated as per the objectives of the study. Data was analyzed by Student's t-test method.

Table-1: Pre-test and Post-test score of students' academic stress.

Category	No. of participants	Pre-test mean score	Post-test mean score	t-value	P
Moderate stress	48	84.83	38.89	19.43**	<0.01
High stress	29	113.37	46.37	23.26**	<0.01
Extreme stress	23	145.13	52.91	34.92**	<0.01

Figure-1: Comparison of students pretest and post test scores of academic stress in the categories of moderate stress, high stress, and extreme stress.

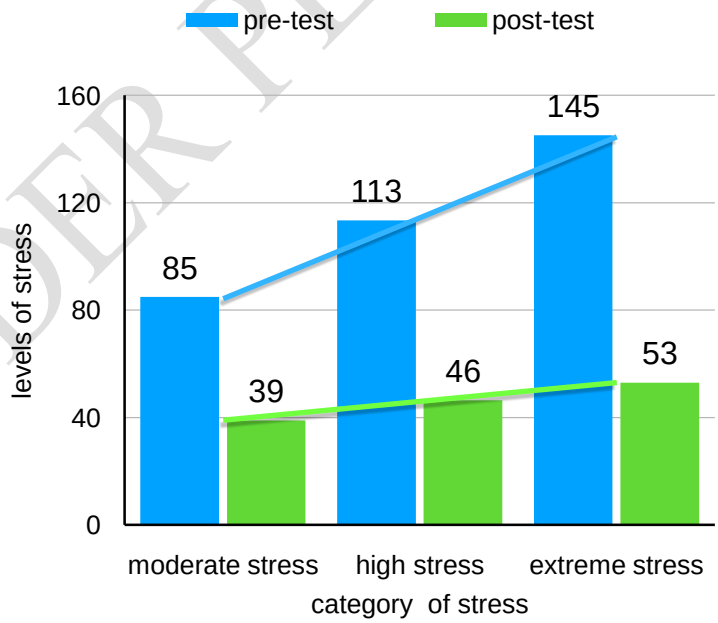

Table 1 The provided tabular data underscores a substantial enhancement in academic stress levels consequent to the implementation of a color therapy intervention within the context of high

school students. Within the delineated stress stratifications – moderate, high, and extreme – the observable alterations in pre-test and post-test mean scores reflect notable enhancements.

Moderate Academic Stress:

The data for students experiencing moderate academic stress reveals a substantial reduction in stress levels following the color therapy intervention. The pre-test mean score of 84.83 indicates that these students were grappling with notable stress related to their academic performance. However, after undergoing the intervention, their post-test mean score plummeted to 38.89. This stark decline highlights the effectiveness of the color therapy intervention in alleviating moderate academic stress. The accompanying statistical analysis, with a significant p-value of less than 0.01, underlines the robust evidence of this positive change.

High Academic Stress:

For students encountering high academic stress, the initial pre-test mean score of 113.37 demonstrated a considerable burden of stress associated with their studies. Subsequent to the color therapy intervention, their post-test mean score dropped remarkably to 46.37. This substantial decrease in stress levels underscores the success of the intervention in addressing high academic stress. The exceptionally high t-score of 23.26, along with the p-value of less than 0.01, provides strong statistical backing for the effectiveness of the color therapy intervention in reducing high academic stress.

Extreme Academic Stress:

Among students facing extreme academic stress, the pre-test mean score of 145.13 indicated an alarming level of stress that could have detrimental effects on their academic performance and overall well-being. After participating in the color therapy intervention, their post-test mean score demonstrated a remarkable decline to 52.91. This drastic reduction showcases the intervention's efficacy in mitigating extreme academic stress. The associated t-score and p-value, both less than 0.01, reinforce the significance of this change, offering compelling evidence of the intervention's impact. The study done by Lubos (2012) also supports that color therapy has an impact on reducing stress levels.

Conclusion

It can be clearly revealed that the color therapy intervention has a substantial positive impact on reducing academic stress levels of high school students'. Across all three categories of stress - moderate, high, and extreme - there were remarkable reductions in stress levels following the intervention.

These findings underscore the effectiveness of color therapy as a viable intervention strategy for mitigating academic stress among high school students, regardless of the initial severity of their stress. The consistent and significant improvements observed across all stress categories suggest that color therapy has the potential to alleviate academic stress. This study provides valuable insights into the practical application of color therapy in educational settings and highlights its promise as a holistic approach to address the growing issue of academic stress among students.

Implication of the study

The implication of this research extend beyond the confines of this study, pointing towards the importance of exploring alternative therapeutic interventions in education to support students in managing stress and fostering a conducive learning environment. Further research and continued exploration of such interventions can contribute to the development of comprehensive strategies to promote the mental and emotional well-being of students, ultimately enhancing their educational experiences and outcomes.

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