

Painted Minds: Exploring Colour's Role in Attention Span

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Abstract

This study explores how background colour can help in improving mood and attention span especially in students who lack the ability to stay focused for longer durations. In a world full of distractions and attention deficit disorders like ADHD, visual environments play a vital role in cognitive performance. This experiment investigates whether coloured backgrounds, compared to plain and neutral ones, can positively affect mood and focus. Participants were asked to sit in rooms of distinct colours and perform attention-based tasks. Based on this, results were obtained which stated that the students who were seated in the colourful rooms showed sustained focus and higher engagement than the ones in the plain rooms.

Introduction

Colour psychology examines the impact of colour on mood, focus, attention, etc. Warmer tones such as red, orange, and yellow evoke passion, enthusiasm, and emotion, while cooler tones like blue, green and purple evoke peace and calmness.

A marketing study has found that colour can increase brand recognition by up to 80%. Most advertisements use colour as one of the important element in influencing people's attention, attitude towards the product, and pressuring decision making

In majority of the educational settings, attention is crucial towards achieving learning outcomes, yet most classrooms feature plain or neutral backgrounds like beige or white which may not stimulate students cognitively. Given the rising prevalence of attention deficit disorders, understanding whether environmental modifications- such as colour- can improve focus is necessary.

Problem

In today's world, students have many attention deficit disorders those including ADHD, but a common causal factor that is left unspoken is a plain background which may not be stimulating leading to lack of sustained attention. This paper delves into further research on how the colour of our backgrounds can affect our engagement and focus. While some research shows that colour can significantly improve mood and productivity, there is limited information about how it affects attention span. This gives us the need to investigate if colour can be a simple yet effective tool for improving academic focus and success.

Hypothesis : Participants are put in rooms with a certain wall colour ranging from red, green, yellow, etc based on what they say is their preferred colour. It's found that participants who sit in rooms of their colour choice focus more than participants in rooms with a plain background (white, beige, etc).

IV (independent variable) : Colour of background (colourful or plain)

DV (dependent variable) : Attention Span (how long they can focus on a given task without making any errors in a specific coloured room)

Method

20 undergraduate students aged 18-22 from a local university volunteered to be subjects of the experiment. The subjects were made sure to have normal vision and no known colour blindness. Half of the subjects were put in rooms of their colour choice (red, blue, green, etc) (Group-1) and the other half were put in rooms with white or beige walls (Group-2). Both groups were seated in their rooms and were asked to complete a 20-minute computer-based attention test (number recall test). The number-recall test will have a 30-minute preparation. The tests recorded the time taken to complete each question and number of errors made.

Number-recall test

Each number must be recalled correctly. If all 4 digits are answered right, 2 points are rewarded, if only 3 digits are answered right 1 point is rewarded and anything below that will not receive any points.

Question no.	NUMBERS
1	<u>5667</u>
2	<u>8246</u>
3	<u>9543</u>
4	<u>0009</u>
5	<u>4323</u>
6	<u>6609</u>
7	<u>8818</u>
8	<u>3678</u>
9	<u>2425</u>
10	<u>1780</u>
11	<u>7089</u>
12	<u>5893</u>
13	<u>2010</u>
14	<u>0873</u>
15	<u>6574</u>

A post-experiment survey was conducted assessing mood and engagement and followed a scale (1- very low, 5- very high). The students would answer the question based on how they were feeling while doing the test and how they feel after completing the test.

Self Report Survey

SAMPLE 1 – Survey from a student in Group-1(coloured room)

Q no.	Questions	1 (Very low)	2 (Low)	3 (Neither low nor high)	4 (High)	5 (Very high)
1	The colour of this rooms made me more focused.					✓

2	I found it easier to concentrate on the task in this environment.					✓
3	The background colour affected my overall mood.		✓		✓	
4	I felt calm and comfortable while completing the task.				✓	
5	I was easily distracted/ bored while doing the task.	✓				

SAMPLE 2 – Survey from a student in Group-2 (plain room)

Q no.	Questions	1 (Very low)	2 (Low)	3 (Neither low nor high)	4 (High)	5 (Very high)
1	The colour of this rooms made me more focused.			✓		
2	I found it easier to concentrate on the task in this environment.			✓		
3	The background colour affected my overall mood.		✓			
4	I felt calm and comfortable while completing the task.			✓		
5	I was easily distracted/ bored while doing the task.				✓	

Instruments:

- A standardized attention test (computer-based).
- 1 self-report survey (mood).
- Controlled room lighting and temperature to prevent external interference.

Result

It was found that students placed in rooms of their colour choice had more focus and made lesser errors compared to the students who were seated in the white or beige rooms. Participants in coloured rooms achieved an average accuracy of 87.5%, compared to 68.4% for those in neutral rooms. Additionally, after analyzing the post-experiment survey, Group-1 reported feeling more alert, focused and positive (average score-4.4) compared to those in plain rooms (average score- 3.2).

Implication

For educators, interior designers, and psychologists, these findings suggest that strategic use of colour could improve learning and workplace environments. Schools might benefit from introducing mild colour variations instead of plain walls. Even virtual backgrounds in online classrooms could use this principle to sustain students’ focus. Finally, colour in workplaces allow establishment of a positive surrounding and willingness to accomplish tasks.

Conclusion

The results of this experiment support the hypothesis that background colour positively influences both attention span and mood. Participants seated in coloured rooms showed greater focus, fewer errors, and more positive feelings than those in plain environments. These findings align with previous colour psychology research, suggesting that visually stimulating surroundings can boost alertness and engagement.

This study's results are limited by its small sample size and short testing duration. Self-reported measures of mood may also involve personal bias. Future research could include larger groups, longer exposure times, and objective measures of attention. Nevertheless, these findings indicate that colour can serve as a simple yet effective tool to improve focus and emotional well-being, especially in academic or work environments.

Bibliography

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