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The Effect of Perceived Control on Boredom

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Abstract

This study aims to examine the impact of perceived control on individuals' state boredom. We hypothesized that perceived control is negatively correlated with state boredom and is anticipated to be a significant predictor of state boredom after controlling for pre-task boredom. An experiment was conducted with 98 university students. All participants engaged in an identical task designed to induce boredom, with only participants in the experimental group given a choice during the task to enhance their perceived control. Correlational analysis revealed a significant negative relationship between perceived control and state boredom. Hierarchical regression analysis demonstrated that perceived control remained a significant predictor of post-task boredom even after controlling for pre-task boredom. The study concludes with a discussion of the limitations, the implications of the findings, and suggestions for future research.

***Keywords**: boredom, perceived control, state boredom*

1. INTRODUCTION

Boredom is known to be one of the common emotions experienced by humans [1]. Temporary experiences of boredom are referred to as state boredom, and common reactions to state boredom include behaviors such as twirling a pen, fidgeting, and twisting one's body while studying. State boredom is perceived negatively, leading individuals to view it as something to be reduced or eliminated. Consequently, people tend to employ various conscious and unconscious strategies to alleviate boredom [2]. While individuals often seek intense stimulation to combat boredom, intense stimulation does not necessarily reduce boredom [3].

Actions to reduce boredom include discovering meaning in tasks, finding engaging activities, and utilizing perceived control [4]. Perceived control, defined as the degree to which an individual believes they can influence events and outcomes within their environment, allows individuals to manage boredom through their thoughts alone [5]. Additionally, unlike the recent trend in Western cultures where researchers are increasingly recognizing the importance of boredom and bringing it into the mainstream of psychological science [6], research on boredom in Korea remains limited to certain fields and subjects [7]. Recently, research on boredom has been conducted in Korea, but it is primarily focused on specific areas such as leisure, education, and adolescence, rather than on boredom itself [7].

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This study aims to determine whether merely perceiving a sense of control can reduce the state boredom frequently experienced in daily life. Prior to the main experiment, a pilot test was conducted to confirm that the task indeed elicits boredom. In the main experiment, participants in an experiment group were given choices to manipulate varying levels of perceived control, after which all participants performed the boring task. This approach seeks to examine the correlation between perceived control and state boredom and to establish whether perceived control is a significant variable influencing state boredom.

2. THEORY

2.1 Boredom

Boredom refers to the uncomfortable and unsatisfactory feeling that arises when one desires to engage in an activity but cannot find any fulfilling engagement [8]. It can be categorized into state boredom, which occurs temporarily in boring situations, and trait boredom, which is a tendency to feel bored easily due to an individual's dispositional characteristics [8,9].

Boredom can be triggered by a lack of meaning, challenge, interest, or motivation [10-14]. Previous studies have indicated that boredom generally arises from prolonged exposure to monotonous stimuli or from simple and repetitive tasks that lack goals or a sense of purpose [15-17]. Additionally, individuals experience boredom in situations where they lack engagement and face difficulties in exercising control [8,18]. Consequently, repetitive, aimless situations where individuals do not feel a sense of control tend to increase state boredom.

2.2 Perceived Control, PC

Perceived control encompasses both state-like and trait-like characteristics. As a trait, perceived control demonstrates consistency across time and situations [19,20]. However, it also possesses state-like features, as it can fluctuate due to temporary situational manipulations [21-23]. Therefore, perceived control can immediately affect the experience of boredom in temporarily induced situations [24].

Previous studies have manipulated perceived control using two main methods [25]. The first method involves providing decision-making power and choices regarding the situation. Suzuki (1997) confirmed that an appropriate number of alternative options can enhance perceived control. Another study reported varying levels of perceived control when participants were given different numbers of choices regarding the order of task performance and the time allocated to each task [26]. Thus, perceived control can be manipulated by varying the presence of decision-making power or the number of available choices. The second method involves manipulating task outcomes to create an illusion of personal influence. According to previous research, individuals exhibit different levels of perceived control based on the predictability of outcomes and how they perceive and feel about the results of their tasks, even if the outcomes are identical [27,28].

This study manipulated perceived control by varying the presence of choice and then had all participants perform a meaningless, simple, and repetitive task devoid of challenging stimuli to induce boredom. The aim was to examine the relationship between perceived control and boredom and to determine whether perceived control is a significant variable influencing state boredom.

Hypothesis 1: Perceived control will have a negative correlation with state boredom.

Hypothesis 2: After controlling for pre-task state boredom, perceived control will have a significant effect on post-task state boredom.

3. EXPERIMENTS

3.1 Participants

This study was conducted with 98 university students in South Korea. The experiment was carried out in pairs, resulting in a total of 49 groups. It took about 40 minutes, and participants were rewarded with a gift certificate worth approximately 6,000 won. The sample consisted of 59 females (60.2%) and 39 males (39.8%). The average age of the participants was 21.76 years (SD=2.24). Participants' majors were Social Sciences (61.1%), Business Administration and Humanities (18.5%), Engineering (14.3%), and Natural Sciences (6.1%).

During data analysis, three participants were identified as outliers and excluded, resulting in a final analysis based on data from 95 participants.

3.2 experimental design

This study aimed to investigate the impact of perceived control on boredom by having all participants perform a meaningless and monotonous task after manipulating their perceived control. Prior to the main experiment, a pilot study was conducted to ensure the task sufficiently induced boredom. In the pilot study, 16 participants took part, and 88.2% reported feeling bored. The task involved viewing photos of four foreigners and selecting the candidate they believed was most likely elected as a congressman. Participants were shown four photos for 20 seconds and then had 10 seconds to make their selection. They completed 43 questions over 23 minutes. This task was designed based on previous research indicating that simple, repetitive tasks lacking meaning, purpose, or challenging stimuli effectively induce boredom [16,17].

In the main experiment, participants took part in pairs. Only one member of each pair was given decision-making power. The choices included the total number of questions, response time for each question, the countries of origin of the people in the photos, and the type of photos (black-and-white or color). The decision-maker used a drawing method to make these choices. Although the actual drawing contained identical options, creating no real change, it aimed to make participants perceive a difference in the situation to manipulate perceived control effectively.

To further ensure effective manipulation of perceived control, participants completed seven practice questions and then selected the countries again. The main task consisted of 43 questions to be answered within 23 minutes. State boredom was measured before and after the experiment to compare changes in boredom levels. Additionally, participants' levels of perceived control were assessed after the experiment. This design aimed to confirm the correlation between perceived control and state boredom and to determine whether perceived control significantly influenced post-task boredom after controlling for pre-task boredom.

3.3 Research tool

State Boredom. To measure participants' state boredom, the Multidimensional State Boredom Scale (MSBS) developed by Fahlman was used both before and after the task [8]. This scale consists of 29 items across five factors: time perception, disengagement, inattention, high arousal, and low arousal. All items are rated on a 7-point Likert scale, ranging from 1 ('not at all') to 7 ('very much'). In Fahlman's study, the overall internal consistency (α) of the MSBS was 0.89.

Perceived Control. The manipulation check for perceived control was measured using four items related to the sense of control, autonomy of decisions, and influence (e.g., "How well did you feel you could control the situation during the experiment?"). All items were rated on a 5-point Likert scale, ranging from 1 ('not at all') to 5 ('very much'). The internal consistency (α) of the perceived control items was confirmed to be 0.81.

3.4 Data analysis

Pearson correlation analysis was conducted to examine the relationships between perceived control, pre-task boredom, and post-task boredom. Hierarchical regression analysis was then used to determine whether perceived control significantly influenced post-task boredom after controlling for pre-task boredom.

4. RESULTS

The correlation analysis revealed a significant positive correlation between pre-task state boredom and post-task state boredom ($r = 0.638$, $p < 0.01$), and a significant negative correlation between post-task state boredom and perceived control ($r = -0.371$, $p < 0.01$). This indicates that state boredom levels were consistent before and after the task, and higher perceived control was associated with lower post-task state boredom.

Table1. Correlational Analysis

	1	2	3
1. before state boredom	-		
2. perceived control	-0.051	-	
3. after state boredom	0.638**	-0.371**	-

**p<.01

Hierarchical regression analysis was conducted to examine the impact of perceived control on post-task state boredom. Model 1 tested whether pre-task state boredom significantly influenced post-task state boredom, and Model 2 included perceived control as an additional predictor. The results showed that Model 1 explained 40.7% of the variance in post-task state boredom, while Model 2 explained an additional 11.5%, bringing the total explained variance to 52.2% ($p < 0.001$). This indicates that perceived control is a significant predictor of post-task state boredom even after controlling for pre-task state boredom.

Table2. Hierarchical Regression Analysis

Variable	Model 1				Model 2			
	B	SE	β	t	B	SE	β	t
Constant	23.555	8.569		2.749	62.167	11.275		5.514***
Before state boredom	0.809	0.101	0.638	7.981***	0.787	0.092	0.620	8.591***
Perceived control					-2.697	0.573	-0.340	-4.706***
F				63.703***				50.169***
R^2				0.407				0.522
adj. R^2				0.400				0.511

***p<.001

5. DISCUSSION

The primary aim of this study was to determine the significant impact of perceived control on state boredom. To achieve this, an experiment was conducted with 98 participants, manipulating their perceived control regarding the task. State boredom was measured before and after the experiment, showing a positive correlation between pre-task and post-task boredom, and a negative correlation between post-task boredom and perceived control. Additionally, hierarchical regression analysis revealed that perceived control remained a significant negative predictor of post-task state boredom, even after controlling for pre-task boredom.

The significance of this study lies in confirming that perceived control is a significant predictor of state boredom. This finding aligns with previous research, which suggests that a lack of autonomy or insufficient control and choice leads to increased boredom [29-32]. Moreover, since perceived control may not always align with actual control, this indicates that individuals' subjective perceptions and judgments about control can influence their levels of boredom. Additionally, by experimentally manipulating perceived control, this study provides practical insights into methods for enhancing perceived control. The experiment demonstrated that granting individuals the freedom to make decisions about their situation increases their perceived control, consistent with previous experimental research on perceived control [27].

Finally, this study verified that perceived control, rather than trait boredom, significantly influences state boredom, demonstrating that perceptions of control can impact temporary boredom. While previous research has extensively explored the relationship between perceived control and trait boredom, studies on the influence of perceived control on state boredom are limited [33-35]. This study fills a gap in the literature by confirming that perceived control also affects state boredom, thus contributing to the existing body of research.

In addition to its academic significance, this study offers various practical applications in real-life contexts. To reduce student boredom in educational settings, teachers can grant more choices and autonomy to students. Student-led learning, where students take an active role in selecting the topics or activities, can enhance their sense of autonomy and control over the class. This approach is an effective way to foster engagement and reduce boredom.

Similarly, the findings can be applied in the workplace. Providing autonomy and decision-making power to employees can increase their sense of control over their tasks and reduce boredom, similar to the principles emphasized by the Job Characteristics Theory, which highlights job autonomy as a crucial factor for enhancing intrinsic motivation and job satisfaction [36]. Participative decision-making processes and flexible work arrangements are effective strategies for decreasing job boredom and enhancing perceived control in the workplace.

This study confirmed that perceived control is a significant predictor of state boredom; however, several limitations exist. The first limitation is the inability to identify various factors that predict state boredom. Besides perceived control, numerous other variables, such as personality traits, motivation levels, and environmental factors, may influence state boredom. By not considering these diverse factors, the study falls short of providing a complete picture of the determinants of boredom. Future research should explore the predictors of state boredom by including a broader range of variables.

The second limitation is the failure to determine the optimal level of perceived control. Both excessively low and excessively high levels of perceived control can pose problems [24,30]. While perceived control negatively impacts state boredom, the study did not establish the precise level of control that most effectively reduces boredom. Subsequent research should aim to identify the optimal level of perceived control, thereby providing strategies for effectively managing boredom in individuals.

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