

The Effect of Social Exclusion on Color Preferences

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Abstract

The current study examined the effects of social exclusion on color preference. Previous researches have suggested that people are more likely to choose hot food when they feel lonely than to choose cold food when they feel sociable. We hypothesized that participants who recalled social exclusion experiences are more likely to prefer warm colors than cool colors compared to participants who recalled social inclusion experiences. Fifty-two undergraduates participated in the present study. A 2 x 2 mixed factorial design is used to manipulate independent variables - social exclusion (included group/excluded group) and color category (warm colors/cool colors) - and we measured color preference. There were 52 participants, half of the participants were asked to recall a social exclusion experience and the other half were asked to recall a social inclusion experience. After that, a total eight color stimulus were given and the participants were asked to rate their color preferences. In our results, people who recalled a social exclusion experience prefer cool colors over warm colors. Also, the tendency of a preference in the social exclusion group was significantly higher compared to that in the social inclusion group. It seems that social exclusion impairs self-regulation. Thus, it triggers distorted time perception which causes an emphasis on the present, rather than the future. Therefore, the excluded group tended to maintain the situations and exhibited a preference for cool over warm colors.

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Introduction

Color influences people's feelings and behavior in an unconscious way. While there are huge individual differences in color preferences, universal preferences with regard to color are also observed (Ou, Luo, Woodcock, & Wright, 2004). For example, there are color standards for interior design, visual communication design, product design, fashion design, and so on (Korean Society of Color Studies, 2009). The existence of these standards for color design opens up the possibility that color may help people who suffer from psychological pain.

Social exclusion has come to the fore these days. At school, at work, even at home — everywhere many people suffer from social exclusion. Social exclusion is very painful to all social animals, including humans (Zhong & Leonardelli, 2008). Furthermore, social exclusion caused by other people induces anxiety and depression and activates the brain domain responsible for physical pain (Coie, Terry, Zakriski, & Lochman, 1995; Eisenberger, Lieberman, & Williams, 2003). Therefore, if color can help people who feel socially excluded, an examination of the tendencies in color preferences is necessary. When people see a cool color, they recall positive emotions; therefore, a general preference for cool colors is higher than that for warm colors (Ou et al., 2004). In this study, we expect that there are some general preferences for color, regardless of considerable individual differences. Another expectation is that specific visual functions, such as colors, can trigger different moods.

Zhong and Leonardelli (2008) compared self-reported measurements of room temperature between the social exclusion group and social inclusion group. Their results suggest that the social exclusion group evaluated room temperature to be lower than the inclusion group did. Also, according to Zhong and Leonardelli (2008), when people feel socially excluded, they show a preference for warm food and drinks. The authors conclude that social exclusion is related to temperature. In the present study, we expect that this tendency in preferences will also manifest itself with regard to color. Specifically, our expectation is that the participants primed on social exclusion would prefer warm colors to cool color. Thus, which means the colors that are generally assumed to be warm (such as red, yellow, and orange) would be preferred by socially excluded group.

Participants

The participants were 52 undergraduate students at Yonsei University. To rule out the possibility of culture-specific biases, respondents from the same cultural group, Koreans, were recruited.

Materials

The color samples were taken from the NCS (Natural Color System) and the sample size was 500-px for both width and height. The following eight hue groups from the NCS were used: yellow, yellow-20-red, yellow-60-red, red, blue, blue-10-green, red-80-blue, red-90-blue.

Procedure

In the first step, the participants took a simple color-blindness test. The social exclusion group (50% of the participants) was asked to recall a social exclusion experience and the social inclusion group (the other 50%) was asked to recall a social inclusion experience. All participants were provided with a questionnaire to recall their experiences. Priming items included questions such as “When did you feel socially excluded?”, “Where did you experience social exclusion?”, “At that time, who was with you?”, “How much did you feel social exclusion during that experience?” Afterwards, a total of eight color stimuli (four warm colors, four cool colors) were randomly displayed on the monitor and the participants were asked to rate their color preferences by using a 7-point Likert scale (from 1 = ‘least’ to 7 = ‘most’).

Results

The data analyzed by 2 (group: social exclusion vs. social inclusion) x 2 (color categories: warm vs. cool) repeated-measure ANOVA. There was no main effect in group, $F(1, 50) = 0.08$, *ns*. The preference for color was different by color categories, $F(1, 50) = 25.76$, $p < .05$. Also, the interaction between group and color was significant, $F(1, 50) = 4.14$, $p < .05$.

Table 1. Descriptive statistics for group and color categories

	Mean	SD	N
Exclusion, warm	3.89	0.86	26
Exclusion, cool	5.09	1.01	26
Inclusion, warm	4.23	0.89	26
Inclusion, cool	4.75	1.00	26

The interaction was significant, so we used a paired t-test to analyze it. In social exclusion group, there was a significant difference on color categories, $t(25) = -4.60$, $p < .05$. In other words, the participants manipulated for social exclusion tended to prefer cool colors ($M = 5.09$, $SD = 1.01$) over warm colors ($M = 3.89$, $SD = 0.86$). Also, there was a significant result on color categories in social inclusion group, $t(25) = -2.52$, $p < .05$. Thus, the participants manipulated for social inclusion tended to prefer cool colors ($M = 4.75$, $SD = 1.00$) over warm colors ($M = 4.23$, $SD = 0.89$). Therefore, regardless of the group, all participants preferred cool colors, but the tendency for a preference in the social exclusion group was higher than in the inclusion group (see Fig. 1).

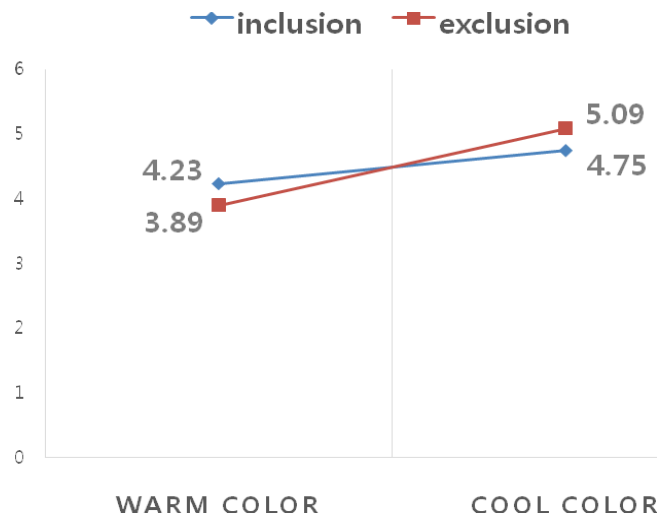


Figure 1. Color preferences at groups and color categories.

Conclusion

The results of the present experiment shows that people who recalled a social exclusion experience prefer cool colors over warm colors. Also, the tendency of a preference in the social exclusion group was significantly higher compared to that in the social inclusion group. These findings contradict our expectation that the color preference for warm colors would occur in the socially excluded group. These results are also inconsistent with a previous study where people who felt socially excluded preferred warm food (Zhong & Leonardelli, 2008).

There are several explanations to the pattern observed in the results. First, we used the stimuli that are different from those used in Zhong & Leonardelli's (2008) study. These stimuli might be felt differently by the participants, because warm food or drinks are perceived with tactile sense, while colors are perceived through a psychological process. In other words, feeling the temperature of colors occurs through a mental process rather than a physical feeling. Also, according to Ou and Luo(2004), there is a general preference for the blue color by people, even infants or animals like monkeys and pigeons (Bornstein, 1975; Humphrey, 1972; Sahgal & Iverson, 1975; Sahgal, Pratt, & Iverson, 1975; Teller, Civan, & Bronson-Castain, 2004; Zemach, Chang, & Teller, 2007). Thus, the obtained pattern of results might have emerged because people manipulated for social exclusion felt pain caused by recalling a social exclusion experience, which they attempted to alleviate by presenting their preferences for cool colors. Another possibility is an impairment of self-regulation. Previous research revealed that social exclusion impairs self-regulation (Baumeister, DeWall, Ciarocco, & Twenge, 2005). Thus, it triggers distorted time perception which causes an emphasis on the present, rather than the future, so it can be assumed that a failure of self-regulation induced a preference for cool colors. Therefore, participants who recalled social exclusion experiences failed at self-regulation and they might have tended to maintain their current state of mood.

The results of our study show that cool colors were preferred over warm colors by all groups. However, our results cannot account for a potential influence of mood on the participants' preference for colors. Also, while we did not analyze gender differences,

gender-stereotyped preferences for different colors might have influenced to our results. Therefore, in future research, gender differences for colors have to be discussed.

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