The Effect of the Color Red on Hirability and Attractiveness

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ABSTRACT. The present study investigated the effect of the color red on hirability and character attractiveness. Initial data were collected from 106 voluntary participants recruited from a Southwestern American university campus. Participants read a personality description, printed on either red or white paper, of either a male or female target, and completed a questionnaire rating the target’s hirability and character attractiveness. The first hypothesis, that people would rate the target as less hirable if the personality description was printed on red paper rather than on white paper, was mostly supported. The second hypothesis, that people would rate the target as more attractive if the personality description was printed on red paper rather than on white paper, was partially supported. The third hypothesis, that this effect would only be true when rating opposite-sex targets, was not clearly supported. The results indicate that the effects of the color red depend on the context in which the color is viewed. A red stimulus may increase undesirable behaviors and attributes in performance-based contexts that foster competitiveness, such as contexts in which a person’s hirability is evaluated, but may increase desirable behaviors and attributes in relational contexts, in which a person’s attractiveness is evaluated.

Colors are present everywhere in our environment. Because symbolic and aesthetic meanings have been attached to certain colors throughout history and across cultures, colors influence our perception of the world around us (Smeesters & Liu, 2011). One color that has been shown to influence humans in various ways is the color red. Red has an impact on our affect (Elliott & Niesta, 2008), cognition (Tanaka & Tokuno, 2011), and behavior (Elliott & Aarts, 2011). Some studies have yielded results indicating a negative effect of red, in that red increases undesirable behaviors and attributes, such as aggression (e.g., Elliot, Moller, Friedman, Maier, & Meinhardt, 2007; Gnambs, Appel, & Batinic, 2010); however, other studies have yielded results indicating a positive effect of red, in that red increases desirable behaviors and attributes, such as physical attractiveness (e.g., Elliot & Niesta, 2008; Elliot et al., 2010). Thus, it seems that the effect of a red stimulus depends on the context of the task and the socio-cultural meaning of the color red regarding this context. In the present study, we will examine the effect of the color red in two different contexts, namely evaluations of a person’s hirability, which includes predictions of a person’s overall qualifications and expected job performance (Dunn, Mount, Barrick, & Ones, 1995), and character attractiveness, which includes perceived desirability of a person based on this person’s nonphysical attributes, such as character traits, attitudes, and behavior patterns (Kniffin & Wilson, 2004).

Several studies have yielded findings indicating
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SPRING 2014

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and rituals. For example, Japanese brides wear the colors white and red at their weddings (Hutchings, 2004). Thus, a red stimulus may have a positive effect on human affect in that it enhances desirable attributes, such as physical attractiveness, by functioning as a sexual symbol in contexts that include the evaluation of individuals of the other sex.

The concept of human attractiveness, however, is not limited to physical aspects, but can also include a person’s character traits, attitudes, and behavior patterns. According to Kniffin and Wilson (2004), people are drawn to potential partners because of their overall fitness value, which consists of physical as well as nonphysical factors. These nonphysical factors may enhance the perceived physical attractiveness of a person and are therefore an important component of what makes a person appear attractive. The importance of nonphysical traits on perceived attractiveness is suggested by the careful manner with which people describe themselves in personal advertisements. Such descriptions typically address hobbies, preferences, interests, and other nonphysical characteristics.

For example, when analyzing personal advertisements in local newspapers, Rajecki, Bledsoe, and Rasmussen (1991) found that while men often stipulated looks, women often stipulated status, a nonphysical characteristic. Red has been shown to enhance people’s perceptions of a person’s physical attractiveness, and physical and character attractiveness go hand in hand to determine a person’s overall attractiveness, or fitness value. Thus, the color red should also have a positive effect on character attractiveness. In fact, red should lead people to evaluate a person’s character traits, attitudes, and behavior patterns more positively.

As previous studies have shown, the effect of a red stimulus depends on the context of the task and the sociocultural meaning of the color red regarding this context. The present study adds to the literature by examining the negative and positive impacts of the color red in two different contexts. We will examine the effects of the color red on perceptions of a person’s hirability during employment applications and on perceptions of a person’s character attractiveness. In the present study, hirability and character attractiveness will be interpreted from reading a personality description.

First, we hypothesized that people would rate a person as less hirable if they read the personality description of a potential job applicant printed on red paper rather than on white paper. Second, we hypothesized that people would find a person to be more attractive if they read the personality description of a potential partner printed on red paper rather than on white paper. Third, we hypothesized that red would only increase attractiveness ratings of men reading about women and of women reading about men.

Method

Overview

The present study used existing data initially collected for a class project, in which men and women had been asked to read a personality description of either a male or female target, printed on either red or white paper. In addition, participants were asked to rate the target’s hirability and attractiveness. In the present study, the data were analyzed to test our hypotheses that (a) targets described on red paper would be perceived as less hirable, (b) targets described on red paper would be perceived as more attractive, and (c) red would increase attractiveness ratings of targets of the other sex.

Experimental Design

The study used a 2 x 2 x 2 between-subjects design. The independent variables were comprised of two levels of paper color (white and red), two levels of sex of the participant, and two levels of sex of the target person. The dependent variables were perceived hirability and character attractiveness of the target person.

Participants

One hundred six voluntary participants recruited from a Southwestern American university campus took part in the initial study. There were 39 (36.8%) men and 67 (63.2%) women ranging in age from 18 to 62 (M = 21.09, SD = 5.61). Seventy-three (68.9%) participants were single and 33 (31.1%) participants were in a committed monogamous relationship. Due to the small number of lesbians, gay men, and bisexual individuals (n = 2), these participants were excluded from the analyses.

Materials

Personality description. A brief personality description of either a male target (“John”) or a female target (“Joan”) was developed by the researchers of the initial study and was printed on either red or white paper, such that there were four different personality description versions. The description was the same for both target sex conditions, so the only thing different was the name of the target. The personality description consisted of one paragraph,
in which the target’s character traits (“Joan is nice and fun to be around”; “Some people describe her as impulsive”), attitudes (“She values relationships... but it is difficult for her to keep in touch”) and behavior patterns (“Being active outside is one of Joan’s favorite things to do”) were outlined. The goal in developing the personality description was to obtain and even balance of the target person’s positive and negative attributes.

Hirability. The hirability measure, printed on white paper, consisted of six items assessing the target’s hirability. Examples included “I would hire this person” and “This person would bring good ideas to the company.” All items were rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). The six hirability items were preceded by a brief job description. Participants were instructed to imagine they were on a selection committee for a job that required moderate job demands and no previous experience. If the person described were hired, the participant would be working in close contact with this person. All six item scores were added up to yield a hirability summation, with high scores indicating higher perceptions of hirability. In our sample, scores ranged from 14 to 30. Cronbach’s alpha was .84.

Attractiveness. The attractiveness measure, printed on white paper, consisted of nine items assessing the target’s character attractiveness. Examples included “This person and I would probably have a good connection” and “I find this person appealing.” All items were rated on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). All nine item scores were added up to yield an attractiveness summation with high scores indicating higher perceptions of attractiveness. In our sample, scores ranged from 16 to 45. Cronbach’s alpha was .83. Three of the items included in the attractiveness measure were adapted from Elliot et al. (2010). Instead of Elliot et al.’s (2010) question format (“How attractive do you think this person is?”), a statement format addressing the participant’s perception (“I think this person is attractive”) as well as the participant’s estimate of other people’s perceptions (“Others would find this person attractive”) was used. The item “If I were to meet the person in this picture face to face, I would think he is attractive” (Elliot et al., 2010) was changed to “If I were to meet this person, I would think he/she is attractive.” These three core attractiveness items as adapted from Elliot et al. (2010) were examined separately.

The order of the grouped hirability and attractiveness items was counterbalanced. There were eight demographic items to assess participants’ age, sex, ethnicity, sexual orientation, and relationship status. A full list of the hirability, attractiveness, and demographic items can be obtained by contacting the first author.

Procedure

Individual participants were approached on campus and asked if they would like to participate in a short study on first impressions. If they agreed, they were handed one of the four versions of the personality description (of either a male or female target and printed on either red or white paper) and the test battery. Participants were instructed to first read the personality description, and then, based on what they had read, answer the questions in the questionnaire without consulting with others. All participants were informed that their answers would be anonymous and would be handled confidentially.

Results

Overview of Analyses

After computing the hirability and attractiveness summations, five separate 2 x 2 x 2 between-subjects analyses of variance were conducted. We examined the influence of color, sex of participant, and sex of target on (a) the hirability summation, (b) the attractiveness summation, (c) the dependent attractiveness item “I think this person is attractive”, (d) the dependent attractiveness item “If I were to meet this person, I would think he/she is attractive,” and (e) the dependent attractiveness item “Others would find this person attractive.” For simplification purposes, the results of the last three analyses, which examined the influence of the independent variables on the three dependent core attractiveness items as adapted from Elliot et al. (2010) are reported in one combined section.

Influence of Color, Sex of Participant, and Sex of Target on Hirability

A 2 x 2 x 2 between-subjects analysis of variance examining the influence of color, sex of participant, and sex of target on the hirability summation yielded the following results. A marginally significant main effect of color was found for the hirability summation, $F(1, 98) = 3.77, p = .055$. Participants rated targets as less hirable if their description was printed on red paper ($M = 22.56, SD = 4.16$) than if their description was printed on white paper ($M = 24.11, SD = 3.42; r = .20$). No significant
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Differences were found when examining the effects of sex of participant, $F(1, 98) = 3.44, p = .07$, and sex of target, $F(1, 98) = 0.54, p = .47$, on hirability as measured by the hirability summation.

**Influence of Color, Sex of Participant, and Sex of Target on Attractiveness**

A 2 x 2 x 2 between-subjects analysis of variance examining the influence of color, sex of participant, and sex of target on the attractiveness summation yielded no significant results. No significant differences were found when examining the effects of color, $F(1, 98) = 0.14, p = .71$, sex of participant, $F(1, 98) = 0.02, p = .88$, and sex of target, $F(1, 98) = 1.55, p = .22$, on attractiveness as measured by the attractiveness summation.

**Influence of Color, Sex of Participant, and Sex of Target on Core Attractiveness Items**

Three 2 x 2 x 2 between-subjects analyses of variance examining the influence of color, sex of participant, and sex of target on the three core attractiveness items adapted from Elliot et al. (2010) yielded the following results:

A main effect was found for color for the dependent measure “I think this person is attractive,” $F(1, 98) = 5.84, p = .02$. Participants rated targets whose description was printed on red paper ($M = 3.50, SD = 0.87$) as more attractive than targets whose description was printed on white paper ($M = 3.22, SD = 0.89, r = .16$).

A color x sex of participant x sex of target interaction was found for the dependent measure “Others would find this person attractive,” $F(1, 98) = 5.38, p = .02$. As can be seen in Figure 1, women rated male targets on red paper ($M = 3.53, SD = 0.74$) as less attractive than male targets on white paper ($M = 4.21, SD = 0.80, r = .40$). Women rated female targets on red paper ($M = 3.80, SD = 0.56$) as more attractive than female targets on white paper ($M = 3.35, SD = 0.65, r = .35$). There were no significant differences for men rating male and female targets on red or white paper.

**Discussion**

The present study examined the extent to which the color red would influence perceptions of hirability, defined as a person’s capability of being hired (Dunn et al., 1995), and character attractiveness, defined as the power of irresistible attraction based on a person’s character traits, attitudes, and behavior patterns (Kniffin & Wilson, 2004). We hypothesized that (a) people would rate a person to be less hirable if they read the personality description of a potential job applicant printed on red paper rather than on white paper, (b) people would rate a person to be more attractive if they read the personality description of a potential partner printed on red paper rather than on white paper, and (c) the effect of the color red on character attractiveness would be consistent with the effect of the color red on physical attractiveness in that red would increase attractiveness ratings of opposite-sex partners but not of same-sex partners (Elliot & Niesta, 2008; Elliot et al., 2010).

The first hypothesis, that reading a personality description on red paper rather than on white paper decreases perceived hirability of the target, was mostly supported. The job description preceding the hirability items might have provided a competitiveness-fostering context in that it stated that if the person described were hired, participants would be working in close contact with this person on the same project. As a result, participants might have perceived the target to be their competitor in the work place. This would be consistent with previous literature, which indicates that red has a negative effect on human behavior in performance and competitiveness-based contexts (e.g., Rutchick et al., 2010). However, it should be noted that this finding was marginally significant ($p = .055$) and its effect size was small to medium ($r = .20$). Thus, conclusions should be drawn with caution.

The second hypothesis, that reading a...
personality description printed on red paper rather than on white paper increases perceived character attractiveness of the target, is partially supported. For the dependent measure “I think this person is attractive,” which, compared to the other attractiveness items, assessed attractiveness in the most explicit way, participants rated targets whose description was printed on red paper as more attractive than targets whose description was printed on white paper. These findings replicate and extend previous work by Elliot and Niesta (2008) and Elliot et al. (2010), who found that viewing a photograph of a target person on red background increased perceived physical attractiveness of the target. Therefore, we can conclude that the positive effect of the color red on human affect may not be limited to visual stimuli, as perceived when seeing a target’s photograph, but may generalize to verbal information, as perceived when reading a target’s personality description.

The third hypothesis, that red increases attractiveness ratings of partners of the other sex but not of partners of the same sex, was not clearly supported. Women rated female targets whose description was printed on red paper as more attractive than female targets whose description was printed on white paper. However, women rated male targets whose description was printed on red paper to be less attractive than those whose description was printed on white paper. There were no significant differences for men rating male and female targets whose description was printed on red and white paper. These findings are inconsistent with Elliot and Niesta (2008) and Elliot et al. (2010). It may be that this inconsistency is due to the difference in stimuli used in the present study (a personality description) and the previous studies (a photograph). De Vries (2010) found that for men assessing the attractiveness of a potential female partner based on dating profiles, personality descriptions were only half as influential as photographs. However for women, expressed dating interest was equally affected by personality descriptions and photographs of male targets. Because personality descriptions were used in the present study, these findings might explain why there were no significant differences for men rating the attractiveness of male and female targets on red and white paper but why there were differences for women rating male and female targets.

It is also possible that the meaning of the color red may change when associated with different sexes. Because women only perceived female targets described on red paper as more attractive than female targets described on white paper but perceived male targets described on red paper as less attractive than male targets described on white paper, it may be that the color red only enhances women’s attractiveness. The reason behind this effect might be that the biological force that causes women to appear more attractive to others during ovulation when their skin tones are reddened should not have an influence on men’s attractiveness, because men’s fertility is not indicated by a reddening of the skin (Waitt et al., 2006).

**Theoretical and Practical Implications**

The present study indicates that the valence of the effect of red is context-dependent. Red had a marginally significant negative effect on the dependent measure of hirability, but had a positive effect on the most explicit dependent items of character attractiveness. The dependency of the effect of the color red on the context in which red is viewed may be explained by the symbolic meaning of the color in the given situation. The job description preceding the hirability questions provided a performance-based context, which seemingly enhanced red’s symbolic meaning of competitiveness and danger. Ratings of attractiveness include a context that is based on the evaluation of partners of the other sex, in which red is thought to serve a symbol of sex, love, and romance. It is possible that this issue of context-dependency may extend beyond the simple context in which the color is presented to how red is used and also to how much red is used (e.g., purpose, channel, dominance in the visual field).

Our findings may be of interest to users of online dating services or other social media, whose goal it is to attract potential partners. By constructing their profiles to include a red background or red font they may increase the probability of successfully reaching that goal. However, individuals in online dating and other social media settings should be careful when using the color red in their profiles. Although red has been shown to increase positive feelings in relational contexts, it has also been shown to increase negative feelings in competitiveness-based contexts and to be related to perceptions of aggression and danger. People searching for the best suitable partner through the use of social media compete with a great number of other social media users. In fact, several users may be interested in a single person’s profile. In addition, a person using red in their profile may be
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perceived by others as dangerous or aggressive, two personality traits that are not helpful when trying to attract potential mates. Thus, red may not only have positive effects in these contexts but may also have negative effects in that red could appear attractive to potential mates but competitive to rivals.

In job application settings, it generally may be advisable to shy away from the use of the color red in either clothing or application materials because red may decrease one’s chances of being hired. However, it is possible that there may be hiring benefits of the red ‘power tie’ for men and similar smaller accessories. Red suits/dresses may be bad, but red accents (tie, kerchief, lipstick) may be good. It is also interesting to note that it may be possible that, depending on the job, competitiveness and aggression could be job assets and, thus, the use of the color red may be advantageous.

Limitations

The results of the present study and their implications should be viewed in light of several limitations. First, implications for the present study may be constrained by the relatively small size of the sample in terms of gender. Effects of the color red may be stronger if the study had been conducted using a larger sample.

Second, it is uncertain whether the results of the present study are due to the color red itself or to the novelty of the paper color. The color red is more unusual and novel than white, not only relative to general expectations (most books, tests, and letters are printed on white paper as opposed to red paper), but also within the packet of papers in the present study (the hirability, attractiveness, and demographic items were printed on white paper). For example, in an organizational setting, an application printed on red paper rather than white paper is untraditional and thus, may be viewed as unprofessional. This may decrease an applicant’s chance of being hired.

Third, the use of an extended attractiveness measure, as opposed to the shorter measure used in previous studies (e.g., Elliot et al., 2010), might have impacted the results, as indicated by the finding that the 9-item attraction summation did not yield any significant findings although analyses of the individual core items as adapted from Elliot et al. (2010) did yield significant findings. Examining the three core attractiveness items separately may present a threat to statistical conclusion validity, particularly the effects of fishing on Type I error rates. It is possible that some of the additional items included in the nine-item attractiveness measure might not have exclusively tapped attractiveness but might have tapped a related construct. For example, the item “This person and I would probably have a good connection” might have tapped compatibility rather than perceived attractiveness. However, although plausible, the present data do not support this possibility. When testing for inter-item reliability, the reliability of the overall scale was not increased through the removal of certain items. Nevertheless, it may be advisable to use a shorter, three-item measure of attractiveness, consistent with measures used in previous studies (e.g., Elliot et al., 2010), and consisting of the items “I think this person is attractive,” “If I were to meet this person, I would think he/she is attractive,” and “Others would find this person attractive” in future studies. However, it should be considered that scale reliability may be sacrificed through the use of a shorter scale.

Finally, it remains unclear whether the attractiveness questions used in the present study actually tapped character attractiveness. Although it is possible that participants evaluated the personality characteristics of the target person as outlined in the personality description to infer character attractiveness, it is also plausible that they evaluated physical attractiveness by inferring physical appearance based on the information from the description (e.g., they might have imagined the person described to be athletic because “being active outdoors is one of Joan’s favorite things to do.”) However, because no photograph was used, we may assume that participants were evaluating the target person’s nonphysical rather than physical attractiveness.

Future Directions

Future studies may address some of the previously described limitations. Given the small to medium effect sizes, researchers may consider increasing the size of the overall sample. Furthermore, researchers may use a nonred but novel (e.g., green or blue) color to control for the effect of novelty of the color red. Methods may be augmented by limiting the attractiveness measure to the three core items adapted from Elliot et al. (2010) if doing so does not decrease scale reliability. Finally, a subset of the participants may be interviewed after completion of the questionnaire to determine which strategies they used to evaluate the target’s attractiveness. This would allow researchers to determine whether participants actually are evaluating the target’s
character attractiveness or whether they are inferring physical information from the description provided. This follow-up interview also may shed light on the issue of whether participants were under the impression that the target chose to use the color red for their description. A target’s intention of using an unusual background color for their description may have an impact on participants’ impressions of the target.

In addition, it may be of interest to test the effect of the color red in online dating and other social media contexts. Will red have a positive effect by enhancing a user’s attractiveness or will red have a negative effect by increasing feelings of competition with this user or by increasing perceptions of danger and aggressiveness? Similarly, it may be interesting to take a closer look at red’s context-dependency. Does the effect of red simply depend on the context itself or also on the way in which red is used in this context and on the amount of red used? As mentioned earlier, it may be possible that although red suits and dresses decrease a job applicant’s chances of being hired, red accessories may be advantageous in this context.

Finally, it would be useful to determine whether the effect of other colors, such as blue or black, is also context-dependent. Given the previous literature suggesting the importance of the color red in regards to human affect and behavior, we concentrated on this color in the present study. However, assumptions about the symbolism of other colors (such as “black symbolizes eroticism” versus “black symbolizes evil and death,” Elliot & Maier, 2007) exist as well.

**Conclusion**

Bearing the limitations previously discussed in mind, it can be concluded from the present findings that the effects of the color red are context-dependent. Red may increase undesirable behaviors and attributes in performance-based contexts that foster competitiveness, such as contexts in which job applicants’ hirability is being evaluated, but may also increase desirable behaviors and attributes in more pleasant context, such as contexts in which people’s attractiveness is being evaluated.

**References**


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The authors would like to thank professor and faculty mentor, Dr. Richard Graf, and teaching assistants, Ralf Schuster, Andrew Galletta, Jamie Kiseec, and Melissa Cervantez, for their help and support in conducting the present study as a class project.

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