Does the Color of Feedback Affect Investment Decisions?

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ABSTRACT

This paper presents a multi-period experiment that extends a classic experiment on investment allocation preferences by adding colors to the feedback returned to participants. The results show that investors allocate the same proportion of their investment to the stock and the bond funds without regard to the colors. However, red feedback activates an avoidance motivation (vs. an approach motivation), and this reduces chasing past returns. The authors also found that the color of the feedback affected the time needed to make a decision. Financial institutions might use colored feedback to encourage approach or avoidance motivations in their clients.

Keywords: Allocation Task, Approach, Avoidance, Colors, Feedback

INTRODUCTION

A great deal of research has been conducted over the past century focusing on the physics, physiology, and psychology of color. Yet little is currently known regarding the effect of color on psychological functioning (Fehrmam & Fehrmam, 2004; Whitfield & Wiltshire, 1990), and the results of research on this issue are inconsistent. Some have proposed that red enhances cognitive task performance, as compared with blue or green (Kwallek & Lewis, 1990), while others have shown exactly the opposite (Elliot, Maier, Moller, Friedman, & Meinhardt, 2007; Soldat, Sinclair, & Mark, 1997). Studies that examined the effect of red color (Elliot et al., 2007; Maier, Elliot, & Lichtenfeld, 2008) documented a link between red and avoidance motivation or behavior. Avoidance motivation is taking (or not taking) action to avoid something unpleasant. It is a defense mechanism by which a person avoids unpleasant situation or unpleasant feelings like loss. An opposite behavior is the approach motivation. Approach motivation is taking action because you desire something “good” to come into your life. In approach motivation, which is activated by the colors blue or green, behavior is directed by
positive situation or positive feelings like gain (Elliot & Covington, 2001). Elliot et al. (2007) focused on the effect of color on performance in achievement contexts. They conducted six experiments to test the hypothesis that that red impairs performance in achievement contexts, and that it does so in non-conscious fashion. They wrote, “achievement contexts are situations in which competence is evaluated and both positive outcomes (success) and negative outcomes (failure) are possible” (p. 156). They proposed that in achievement contexts red is associated with the psychological danger of failure. Over time, people learn to link red and danger in many contexts with possible negative outcomes. The results of their experiments provided strong support for their hypothesis about the effect of red on performance. Specifically, they demonstrated that the perception of red prior to an achievement task, evokes an avoidance motivation more often than a perception of green. They suggested that red carries the meaning of danger, specifically, the psychological danger of failure.

Experimental results obtained by Elliot, Maier, Binser, Friedman, and Pekrun (2009) indicated that a brief perception of red in an achievement context induces avoidance behavior, and does so without conscious awareness. They suggested that one source of the link between red and danger is the societal association between red and danger in situations where negative possibilities are salient, such as stop signs, fire alarms, and warning signals. Another source is biologically based predisposition across species who interpret red as a danger signal in competitive situations (e.g. Setchell & Wickings, 2005).

Mehta and Zhu (2009) conducted a series of six studies, using various tasks in several different domains. They demonstrated that red (vs. blue) can activate an avoidance motivation (vs. an approach motivation), and subsequently enhance performance on detail-oriented cognitive tasks (vs. creative tasks).

Although there are many studies on the effect of color on decision making, to the best of our knowledge, there is no research testing the influence of color on financial decision making or assets allocation. This is surprising since it is common in financial markets to use different colors for gain and loss. Usually red is used for losing assets, and green for gaining assets. Based on the hypothesis that red can activate an avoidance motivation and green can activate approach motivation, it is interesting to test how the different colors change the behavior of decision makers in an investment context. We suggest that beside the effect of losses or gains, decision makers are also affected by the color in which the losses or the gains are presented. Specifically, a return on the decision maker’s investment which is presented in red will activate avoidance behavior. Avoidance behavior in the context of investment means that the decision maker might take less risky action in his portfolio to avoid the unpleasant feelings of loss or to avoid any potential regret from loss (Bar-Hillel & Neter, 1996; Loomes & Sugden, 1982). On the other hand, a return on the decision maker’s investment which is presented in green will activate approach motivation. The approach motivation in the context of investment means that decision makers are more active in their portfolio and possibly will take more risk. The investment task is different from learning tasks or other assignments that were used in previous studies on the effect of colors on decision making. As mentioned above, Elliot et al. (2007) found that red impairs performance in achievement contexts. We suggest that investment task is an achievement task, because it is a task in which competence is evaluated, and both positive outcomes and negative outcomes are possible.

To test the effect of colors on the decision makers’ investment behavior, we conducted a multi-period experiment using the same assets, bond fund (BF) and stock fund (SF) as in Thaler, Tversky, Kahneman, and Schwartz (1997). We explore how the color of feedback on investments’ return might affect investment strategy. We conducted four experimental treatments with different subjects in each treatment. Each subject in each group allocated funds between the assets for 120 experimental periods. Differ-
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