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Individual creativity in teams: The importance of communication media mix

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ABSTRACT

We use compensatory adaptation and dual coding theories to explore the effects of communication media use on creativity. Our field study results show that high levels of self-esteem and information-based demographic differences positively influence creativity. Social category differences negatively influence creativity. Communication media mix is an important moderator, improving the relationship of self-esteem and social category demographic differences with creativity when individuals have proportionally more mediated communication. The relationship between information-based demographic differences and creativity is attenuated when individuals use proportionally more mediated communication. The results have implications for managers encouraging creativity among a diverse workforce using multiple communication media.

1. Introduction

Creativity is increasingly important to organizations as they attempt to not only earn short-term profits but also develop new and interesting products and services that enable them to survive over the long term [29,63]. One way to foster creativity is through the use of teams. Organizations use teams to facilitate effectiveness and empowerment [58,91] and to realize the potential benefits of diversity [91] that can contribute to creativity [69]. Technology advances have made the use of teams even more advantageous as organizations are able to bring together the appropriate people to work on a project, regardless of their locations [47]. The increased use of technology presents interesting opportunities and challenges for supporting creativity in organizations [15]. However, little research has examined the role of mediated communication in enhancing (or hindering) creativity.

Mediated communication refers to communication that takes place using some sort of communication technology. Examples include email, telephone, instant messaging, and video conferencing. Research has demonstrated that mediated communication offers both challenges and opportunities for organizations. On one hand, communication technology enables diverse groups of people to collaborate and make decisions, regardless of their geographic locations [53]. On the other hand, some research suggests that the potential for process losses exists when using mediated communication, particularly for certain types of individuals [21,72]. However, process losses that occur because of mediated communication challenges may actually be beneficial when the end result is a *creative* product or process. In addition to creativity stemming from differential mediated communication usage, we explore how differences in demographic characteristics and self-esteem impact individuals working in a team.

Research has suggested that certain personality characteristics such as confidence and high levels of self-esteem may be correlated with individual creativity [37,55]. Other studies have shown that environmental factors such as empathetic and supportive supervisors [63] and workgroup support [3,83] positively affect individual creativity. Czikszentmihalyi [16] argues that individual creativity does not occur in isolation, but is a result of interactions among people; this argument has found support from organizational researchers studying networks, team-level creativity, and team learning behavior [41,67,73,82] Other research argues for the importance of demographic differences among individuals as a means of enhancing creativity [42,43]. These individual characteristics and demographic differences highlight the important contribution that the organizational environment makes to individual creativity. We extend this line of research by focusing on the role of the mediated communication on individual creativity.

Although the current study investigates the effect of mediated communication, demographic differences, and self-esteem on individual creativity, our main contribution is to examine the direct and indirect roles that communication media mix (i.e., the proportion of mediated and non-mediated communication) has on creativity. We do this by examining how multi-modal communication (i.e., the mix of communication media use) [31] directly and indirectly affects creativity based on compensation adaptation and dual coding theories. Second, we investigate how demographic differences influence creativity by distinguishing among different types of diversity using social identity and cognitive resource theories. While previous research has found support for the idea that diversity is

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beneficial for creativity [10], we believe that not all forms of diversity will affect creativity in the same way, particularly when examined in light of communication media use. These contributions will enable us to extend theory in the areas of multi-modal communication, diversity, and creativity as well as provide specific guidance for managers who wish to increase creativity among employees who have access to other employees through both mediated and non-mediated communication.

2. Creativity

Creativity is the generation of novel and appropriate ideas, products, processes, or solutions that are useful or appropriate to the situation [3,63,78]. Creativity often involves bringing together pieces of information from different places, recognizing previously unnoticed connections and combining them into something useful to the organization [2]. Despite the importance of creativity for organizations, creativity is difficult to assess and measure; thus it tends to be understudied, underexplored, and understated.

Creativity is important to study because it is necessary to acknowledge that acts of creativity can and do occur in any workplace environment. One's job or one's occupation does not always determine the extent to which one can be creative. In addition, because creativity is not always externally-driven (e.g., not formally rewarded) and outcomes of the creative process may differ, the drivers of creativity within organizations may come about in surprising ways. Specifically, we focus on how individual-level creativity is affected by the mix of communication media use, demographic diversity, and self-esteem. The research model is presented in Fig. 1.

3. Theoretical background

We use a number of theoretical frameworks to develop our hypotheses. Since there is no unifying theoretical framework that explains creativity, it is important to use theories relevant in other domains and apply them to the area of creativity. In addition to the main theories of compensatory adaptation and dual coding that we explain in more detail below, we draw from social identity, social categorization, and cognitive resource theories. Because the theories of social identity, social categorization, and cognitive resources are central only to specific hypotheses, we discuss them in the hypothesis development section.

3.1. Compensatory adaptation theory

Compensatory adaptation theory (CAT) is based on the idea that human brains are designed for face-to-face communication because this was the only means of communication among humans for thousands of years [50]. The result is that newer forms of communication, such as the telephone, email, instant messaging, and video conferencing, all have limitations in effectively conveying a message. Other theories such as social presence theory [79], media richness theory [17], and adaptive structuration theory [24] have recognized that mediated forms of communication not only hinder the way that people communicate but can also be catalysts for changes in the way that people communicate [51].

Kock, the main proponent of CAT, has developed and tested a number of components of the theory [48–51]. In a recent study, Kock

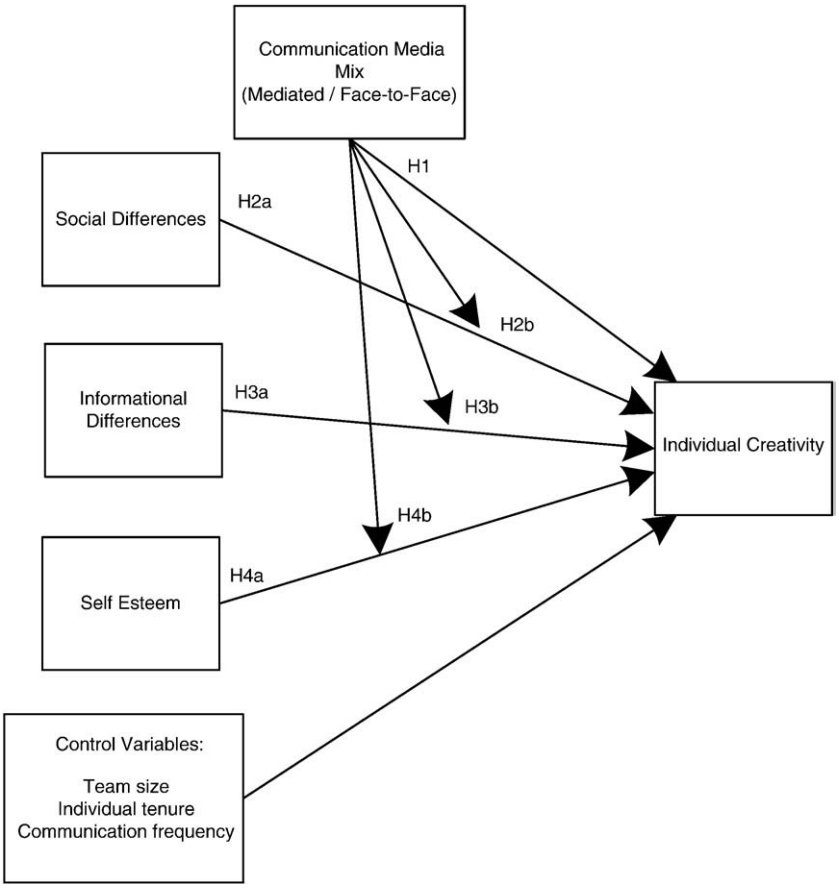

Fig. 1. Research model.