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On counter-stereotypes and creative cognition: When interventions for reducing prejudice can boost divergent thinking

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ABSTRACT

School-based psychological interventions which require students and pupils to think of counter-stereotypic individuals (e.g., a female mechanic, a Black President) have been shown to reduce stereotyping and prejudice. But while these interventions are increasingly popular, no one has tested whether tasks like this can have benefits beyond promoting tolerance, particularly with respect to the way individuals think and solve problems. We looked at one such intervention and asked whether this task could, in addition to decreasing propensities to stereotype others, contribute to more flexible and original performance. We expected that because exposure to people who disconfirm stereotypes compels students to think "out of the box", they will subsequently not only rely less on stereotypes, but in more general thinking rely less on easily accessible knowledge structures and be more flexible and creative. As predicted, being encouraged to think counter-stereotypically not only decreased stereotyping, but also, on a divergent creativity task, lead to the generation of more creative ideas – but only for individuals who initially reported a lower personal need for structure (PNS).

1. Introduction

A recent IBM poll of 1500 CEOs worldwide identified creativity as the No. 1 "leadership competency" of the future (IBM, 2010). Creativity lies at the heart of personal and professional success: In education and in industry an ability to think 'outside of the box' is critical for problem solving, progress, change and innovation. Many contemporary psychologists agree that everyone has creative potential (e.g., Ward, Smith, & Finke, 2008), and that encouraging greater creativity is universally valued for individuals, groups and organizations (Amabile, 1983). To address the need for creative thinking skills practitioners and academics develop training schemes applied in primary and secondary education (Barak & Mesika, 2007; Burke & Williams, 2008), through foreign language training (Sokol, Oget, Sonntag, & Khomenko, 2008), to graduate (Dewett & Gruys, 2007; Whitelock, Faulkner, & Miell, 2008) and business school students (Pinard & Allio, 2005; also see Mumford, Supinski, Baughman, Costanza, & Threlfall, 1997; Scott, Leritz, & Mumford, 2004). But are there other educational activities that can enhance creativity; and, if there are, how can we understand students' psychological reactions to these interventions?

One intriguing development in recent work is the possibility that creativity can be enhanced as a result of exposure to counter-stereotypes – a technique used in prejudice reduction interventions. Interventions that require students to think of counter-stereotypes have been successful in changing negative stereotypes (Hewstone & Hamberger, 2000; Hewstone &

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Richards, 2001; Weber & Crocker, 1983), and compelling students to stereotype less (Blair, Ma, & Lenton, 2001; Dasgupta, Greenwald, Mcghee, Mellott, & Nosek, 2001; Hutter & Crisp, 2005; Rudman, Ashmore, & Gary, 2001). These interventions are often conducted at schools and in organizations (Cameron & Turner, 2010; Paluck & Green, 2009; Turner & Brown, 2008), but diversity researchers rarely ask whether such activities could have any additional benefits – for instance to performance on tasks measuring creativity.

To test this idea we looked one such prejudice-reducing manipulation – forming impressions of a counter-stereotypic target – and asked whether performing this task could, in addition to decreasing levels of stereotyping, contribute to more flexible and creative performance. Our hypothesis was that because exposure to counter-stereotypes can discourage the subsequent use of stereotypic thought, it could also discourage the use of any easily accessible knowledge (which stereotypes are a special case of) freeing participants from the restraints of what they know, and allowing them to "think out of the box" more easily. This effect would be warranted by a boundary condition that only individuals who feel comfortable with the targets' counter-stereotypicity benefit, because feeling discomfort or dislike of a task may decrease creativity (De Dreu, Baas, & Nijstad, 2008; Zenasni & Lubart, 2011).

2. Prejudice reduction interventions

As the number of international migrants in the world moves towards 200 million (Population Division, 2009) it is becoming increasingly important to ensure positive relations between various minority groups. The issue is of high societal relevance, best illustrated by an estimated $8 billion-worth annual expenditure on corporate diversity training in United States (cited in Hansen, 2003); it is also pertinent to the field of social psychology where researchers have developed a range of prejudice-reducing interventions tested across research laboratories, schools, universities and companies (for a comprehensive review of nearly 1000 papers on prejudice reduction interventions see Paluck & Green, 2009).

One group of these interventions has specifically looked at the consequences of exposure to counter-stereotypic exemplars. Merely thinking of such targets has been shown to decrease stereotyping. For instance when participants created a mental image of a counter-stereotypic *strong woman*, they exhibited significantly weaker gender stereotyping on a subsequent task (Blair et al., 2001). In other research, when White participants were exposed to *positive Black* group members, they demonstrated weaker associations of Black and negative stimuli on a measure of implicit (i.e., automatic and unconscious; Moors & De Houwer, 2006) prejudice, even 24 h after the experimental manipulation (Dasgupta et al., 2001). Similar effects could be observed in field studies: Those attending a college staffed by female leaders stereotyped less, compared to those attending a mainstream school (Dasgupta & Asgari, Study 2004, Study 2). Other studies showed that individuals encouraged to think about others in ways that contradict stereotypic expectations – meeting a *Black CEO*, a *gay soldier*, a *woman engineer* – formed impressions of these targets that were more "individuated" and relied less on the recall of stereotypic information from memory (e.g., Hall & Crisp, 2005; Hastie, Schroeder, & Weber, 1990; Hutter & Crisp, 2005; Kunda, Miller, & Claire, 1990). The results of these studies suggest that counter-stereotypes compel people not-to-stereotype. But if this ability to suppress schematic knowledge apparent when thinking of counter-stereotypes were to carry over to other types of information, it could boost people's potential to think "out of the box" – allowing them to come up with more flexible and creative ideas.

3. Creative thinking

When generating ideas people are often bound to recently activated knowledge, which limits their capacity for generative and creative thinking (Galinsky, Magee, Gruenfeld, Whitson, & Liljenquist, 2008; Marsh, Ward, & Landau, 1999; Smith, Ward, & Schumacher, 1993). But certain environmental stimuli can help people overcome that by triggering a creative "mindset" – a cognitive orientation in which individuals think more creatively and more flexibly (Friedman & Förster, 2001; Maddux, Adam, & Galinsky, 2010). In such situations individuals would be more likely to suppress easily accessible knowledge (Dijksterhuis & Meurs, 2006; Galinsky et al., 2008; Gocłowska, Crisp, & Labuschagne, 2012) including stereotypes (Sassenberg & Moskowitz, 2005).

Consistent with this, when researchers activated in people a tendency to be creative those participants were subsequently less compelled to use stereotypes in thinking of others (Sassenberg & Moskowitz, 2005). More recently two studies showed a reversal of this effect: that thinking of counter-stereotypes compelled participants to more flexible and creative performance (Gocłowska et al., 2012). In one experiment participants were asked to form impressions of an individual whose group membership was consistent/inconsistent with stereotypic expectations – a male/female mechanic. On a second, unrelated task, participants were asked to produce original names for a new brand of pasta, and were given existing pasta names as an example. Results showed that participants asked to form impressions of a counter-stereotype were more flexible: they relied less on schematic knowledge embedded in the task instruction (Gocłowska et al., 2012, Experiment 1). In a second experiment thinking up various counter-stereotypes lead participants to think up more creative ideas for a night out at the university nightclub (Gocłowska et al., 2012, Experiment 2). Together this research suggests that certain stimuli can trigger a mode of thinking in which participants will rely less on recently activated knowledge (Marsh et al., 1999; Smith et al., 1993), apparent in decreased stereotyping (Sassenberg & Moskowitz, 2005) and increased creativity (Gocłowska et al., 2012).

Accruing from these findings we ask whether exposure to counter-stereotypic individuals could contribute to an increase in the production of flexible and original ideas, especially across many conceptual categories? One way to test this is via the use of a divergent thinking task in which participants are asked to generate multiple uses of an object. Divergent thinking