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Reducing within-group overconfidence through group identity and between-group confidence judgments

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ABSTRACT

Individuals belonging to a social group make judgments about their relative standing within the group as well as about the relative standing of their group among other groups. On average, individuals exhibit overconfidence bias in both types of judgments in a variety of settings. We hypothesize, however, that the latter bias counteracts the former; therefore, the salience of between-group judgments should mitigate within-group overconfidence. Our second hypothesis is that within-group overconfidence is reduced in the presence of group identity. Using a 2×2 between-subject design, we test, and find strong support for, these hypotheses in a laboratory experiment.

1. Introduction

Many studies have shown that, on average, individuals tend to overestimate their own ability, both in absolute terms and relative to a reference group (for recent reviews see, e.g., Dunning, 2005; Hoffrage, 2004; Moore & Healy, 2008). Such overconfidence may have negative consequences for decision makers, organizations and clients (Dunning, Heath, & Suls, 2004). Examples include over-entry by entrepreneurs (e.g., Camerer & Lovallo, 1999; Cooper, Woo, & Dunkelberg, 1988; Koellinger, Minniti, & Schade, 2007), excessive trading and overexposure to risk by investors (e.g., Barber & Odean, 2001; Daniel, Hirshleifer, & Subrahmanyam, 1998; Malmendier & Tate, 2005; Shefrin & Statman, 2000), and mistakes by medical

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lab personnel (Haun, Zeringue, Leach, & Foley, 2000). Experience, feedback and accountability have been shown to reduce overconfidence in some environments, but not in others (see, e.g., Ferraro, 2010; Ryvkin, Krajč, & Ortmann, 2012 and references therein); therefore, researchers and practitioners remain interested in the assessment and development of techniques that help improve calibration (Russo & Schoemaker, 1992).

In addition to being overconfident in their own ability, individuals also tend to be overconfident about the ability of the group to which they belong (Healy & Offenberg, 2007; Hoelzl & Rustichini, 2005).[1] In every-day life, people associate themselves with various types of groups (e.g., schools or firms), and make absolute and relative judgments about their performance within their social group as well as about the performance of their social group as a whole relative to other groups. For example, a student in a Ph.D. program makes judgments on her performance relative to her peers within the same program as well as compares her program as a whole to those at other universities. Likewise, an employee in an organization makes judgments about her performance relative to her co-workers and about the performance of the organization as a whole relative to others in the industry.

In this paper, we explore how the two types of judgments, when present simultaneously, interact with each other. Specifically, we hypothesize that the presence of judgments about one's group should mitigate within-group overconfidence. The underlying intuition is as follows. Suppose an individual believes that her group's performance relative to other groups is high. Such a belief would be consistent with inflating the beliefs about the performance of her peers relative to representative "others." For a given level of overconfidence in own performance relative to representative others, this will lead to a reduction in overconfidence relative to the peers. Therefore, given that overconfidence about one's own group is a robust phenomenon, we should see, on average, a reduction in within-group overconfidence when between-group confidence judgments are present as compared to the case when they are not.

Moore and Healy (2008) classify studies of overconfidence (or, more generally, miscalibration) about self by the type of judgments subjects make into those measuring overestimation (miscalibration regarding one's absolute performance or ability), overplacement (miscalibration regarding one's relative standing in a group) and overprecision (miscalibration regarding the accuracy of one's beliefs). The latter is typically measured using probability judgment tasks (e.g., Lichtenstein & Fischhoff, 1977), while the former two are measured with a variety of methods including multiple-item confidence tasks (e.g., Kruger & Dunning, 1999), market entry decisions (Bolger, Pulford, & Colman, 2008; Camerer & Lovallo, 1999) and betting on own performance (Hoelzl & Rustichini, 2005). The focus of the present paper is on the phenomenon of overplacement, which we label *relative overconfidence* following Bolger et al. (2008). One manifestation of relative overconfidence is the Better-Than-Average (BTA) effect whereby significantly more than 50% of people place themselves above average along various ability and performance dimensions (Alicke & Govorun, 2005; Svenson, 1981). It has been demonstrated, however, that the BTA effect can be eliminated or even reversed in tasks that are perceived as hard (Hoelzl & Rustichini, 2005; Moore & Gyu Kim, 2003; Windschitl, Kruger, & Nus Simms, 2003). The effect of task difficulty on relative overconfidence is attributed to reference group neglect (Kruger, 1999; Moore & Cain, 2007): on easy (respectively, hard) tasks, subjects believe that they performed well (respectively, poorly) but neglect the fact that others likely performed well (respectively, poorly) too, and hence overplace (respectively, underplace) themselves. In this paper, we use an easy multiple-item confidence task – addition of two-digit numbers – that has been shown to generate significant relative overconfidence (see, e.g., Healy & Pate, 2011; Niederle & Vesterlund, 2007; Ryvkin et al., 2012). For comparison, we also assess subjects' *absolute overconfidence* (i.e., overestimation) and find relatively good calibration. This is consistent with the confidence-frequency effect (Dhami, Hertwig, & Hoffrage, 2004; Gigerenzer, Hoffrage, & Kleinbölting, 1991; Juslin, Winman, & Olsson, 2000) as the number addition task uses multiple representative stimuli from a well-defined and familiar class.

Our first experimental manipulation is the salience of confidence judgments about the subject's own group. Overconfidence about one's social group is a related but distinct type of miscalibration. Similar to overconfidence about self, different types of overconfidence about one's group can be defined, including absolute overconfidence (i.e., overestimation of the group's performance or ability) and relative overconfidence (i.e., overplacement of the group relative to other groups). People tend to believe that all members of their group are better than a generalized "average" person. This effect persists both in groups with high levels of within-group familiarity and in groups of nearly anonymous peers, and has been attributed to a singular-target model of comparative judgments (Klar & Giladi, 1997), which is, essentially, reference group neglect applied to any singular target, not just to self. Healy and Offenberg (2007) and Healy and Pate (2011) find that subjects exhibit relative overconfidence when asked to rank their group among other groups on the number addition task. Suppose that, after performing an easy and familiar task, a subject first evaluates the relative standing of her group, and immediately thereafter evaluates her own relative standing within the group. First, focusing on her peers and neglecting the members of other groups, she overplaces her group. Then her focus is shifted to self and her own group becomes the reference group. If, as suggested by Moore and Healy (2008) and Huttenlocher, Hedges, and Vevea (2000), the effect of reference group neglect producing relative overconfidence is linked to coarse-grained categorization and imperfect memory, it will be mitigated in this case due to the near simultaneity of the two judgments. In other words, if the subject's group members have been

[1] Individual overconfidence in one's group is not the same as group overconfidence. While the former represents a miscalibration in individual judgment (about others), the latter is a miscalibration in the judgment of a group as a whole (about itself). Groups, on average, tend to be as overconfident as individuals (e.g., Plous, 1995), although some studies found them to be more overconfident (Dunning & Ross, 1992) or less overconfident (Russo & Schoemaker, 1992; Sniezek & Henry, 1989).