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People believe that they are prototypically good or bad

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ABSTRACT

People have been shown to view their beliefs as being prototypical (modal) but their abilities as (falsely) unique (above or below average). It is possible that these two viewpoints – self as prototypical and self as unique – can be reconciled. If the distribution of ability for a given skill is skewed such that many others have high (low) ability and few others have low (high) ability, it is possible that a majority of peoples' self-assessments can be above (below) average. Participants in 5 studies demonstrated an understanding that various skills have skewed ability distributions and their self-assessments were related to distribution shape: high when negatively skewed and low when positively skewed. Further, participants tended to place themselves near the mode of their perceived skill distribution. Participants were most likely to think that they were good at skills for which they thought that most others were also good.

Introduction

Prototypes, the most common or typical example containing the modal features of a particular class or category, are easily brought to mind. People have been shown to prefer prototypes, finding them more memorable (Homa & Vosburgh, 1976) and pleasant (Winkielman, Halberstadt, Fazendeiro, & Catty, 2006). It is not surprising, then, that prototypes also easily come to mind when people form perceptions of themselves. In particular, participants asked to predict their own thoughts and feelings tended to view themselves as prototypical unless they had specific reason to believe that they were somehow exceptional or distinct (Karniol, 2003). Bilingual people change the way that they describe their personality toward the prototypical personality profile for the language that they are using to assess themselves (Chen & Bond, 2010). Participants appear to use prototypical representations of others as their benchmark for their own beliefs about themselves.

As with assessments of their likely thoughts and feelings (Karniol, 2003) and personality (Chen & Bond, 2010), it would seem to follow that people, when assessing their abilities, should view themselves as typical (modal) for a majority of skills (Moore, 2007a). Not only do people "like" prototypes and find them more memorable, but for most abilities, there is often no factual basis for people to believe that they are distinct or unique. For example, when assessing their own abilities, people would likely fall back on the prototype for that ability (I can drive on the street and highway without, for the most part, getting into an accident) unless they see themselves as somehow distinct on the ability in question (I am a competitive NASCAR driver; see also Bartlett, 1932, for a similar process in reconstructive memory).

However, studies examining ability assessment often find "better-than average" and "worse-than average" biases with participants often viewing themselves as unique – not prototypical – scoring themselves as much better than average for a number of common or easy tasks (Kruger, 1999; Moore, 2007a) and worse than average for hard or uncommon tasks (Kruger, 1999; Moore & Kim, 2003; Windschitl, Kruger, & Simms, 2003). For example, Kruger (1999) found that people rated themselves as above average on skills such as driving a car and riding a bicycle and below average on skills such a juggling and programming a computer. In general, researchers have noted that there is a "false uniqueness" effect where participants indicate that they are atypically good or bad for a large range of abilities and personality traits (see Chambers, 2008; Chambers & Windschitl, 2004; Dunning, Heath, & Suls, 2004; Sedikides & Gregg, 2008; Taylor & Brown, 1988, for reviews).

Both motivational and non-motivational causes have been offered to explain people's expressed belief that they are falsely unique. For example – when beliefs are of the "better-than-average" type – people may be motivated to generate a positive self-image, with possible health and productivity benefits (Armor & Taylor, 1998; Taylor & Brown, 1988). Or bias may be due to cognitive

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inadequacies in the way that people process information about their own ability and the ability of others (see Chambers & Windschitl, 2004, for a review). For example, people may, due to egocentrism, easily bring to mind all the steps that they have taken to be a good driver, but struggle to come up with the steps that others have taken (Kruger, 1999; Kruger & Burrus, 2004; Windschitl et al., 2003).

Here we propose an explanation "better-than-average" and "worse-than-average" effects that simply exploits the statistical properties of a skewed distribution of abilities. A skewed distribution has the property of the mode of the distribution being higher (or lower) than the mean. For example, a negatively skewed distribution of ability will necessarily have a larger proportion of people who are better-than-average than worse-than-average. We present studies demonstrating correct identification of the skew of the distribution of ability and corresponding rankings that fall appropriately in the direction of the mode of the distribution. More specifically, we argue that this mechanism allows the two views – self as typical and self as unique – to be reconciled in the literature. For this to be true, we propose that two conditions need to be met:

(1) The skills being assessed must have a skewed (non-symmetric) ability distribution.
(2) Participants must recognize that ability distributions are skewed.

If participants recognize that skills have skewed ability distributions, then participants may believe their abilities to be prototypical, *not* unique. Self-enhancement and self-derogation occurs when a person unrealistically views himself or herself as being more or less skilled than others (Kwan, John, Kenny, Bond, & Robbins, 2004). In contrast, we propose that people may at times indicate that they are above or below average (mean), because they believe that the majority of people are above or below average.

An over reliance on prototypes (the prototype heuristic) is thought to explain a number of errors and biases on judgment and decision-making tasks (Kahneman & Frederick, 2002). Here, a reliance on prototypes might cause ratings that, on face value, appear to indicate a belief in the self as unique. If people are aware that the skill has a skewed distribution, they are also likely to easily recall a prototypical, or modal, ability level for that skill – either fairly good or fairly bad. Past research indicates that when asked to assess their ability level, people likely use the least amount of effort and supply a prototypical ability rating if they have no reason to see themselves as distinct for that ability (Karniol, 2003). As with many other heuristics and shortcuts that ease judgment and decision-making (Shah & Oppenheimer, 2009), it is possible that participants often rely on prototypical ability ratings because to do so requires little effort. An over reliance on prototypes may cause participants to give themselves high ability ratings when they believe most are good and low ability ratings when they believe most are bad.

We are not proposing that people first bring up a representation of the whole distribution and then settle on a prototypical value for that distribution when assessing their ability. Rather, that people have a strong representation for the prototypical skill levels that are easily brought to mind due to previous exposure to people performing these skills. A similar theory of judgment has been proposed for *decision by sampling* (Stewart, Chater, & Brown, 2006), which proposes that the subjective value of a target object is derived from a series of ordinal comparisons with objects retrieved from memory, based on previous exposure to the naturally existing distribution of such objects. Therefore, skills that will likely lead to self-as-prototypical ratings are those for which information about others is available, such as when they are familiar and public.

Recognizing skewed distributions

Easy or hard tasks frequently have a non-symmetric distribution of performance. Easy tasks often have negatively skewed ability distributions (most are good while a few are bad) and hard tasks often have positively skewed ability distributions (most are bad while a few are good). When the ability distribution for the skill being scored is negatively skewed, with high ability much more common than low ability, most people are above average (Gigerenzer, 2002; Krueger, 1998; Moore, 2007a). Conversely, most are below average if the distribution is positively skewed.

Importantly, people can be adept at perceiving environmental statistics (Fiedler & Juslin, 2006). Previous research indicates that people properly assess distributions that are skewed or non-normal for various social and everyday phenomena. For instance, college students were accurate in describing the varying, often non-symmetric, distributions of the behaviors and attitudes of their classmates, such as frequency of drinking alcohol and beliefs about political issues (Nisbett & Kunda, 1985). Similarly, participants made accurate predictions about duration and extent of everyday phenomena, such as box office waiting times and eventual movie grosses, which also had non-symmetrical distributions (Griffiths & Tenenbaum, 2006). Further, people are sensitive to and influenced by both the range and skew of previous observations for a wide variety of judgments (Pettibone & Wedell, 2007; Smith, Diener, & Wedell, 1989; Wedell & Pettibone, 1999; Wedell, Santoyo, & Pettibone, 2005). People appear to appreciate that a number of social and everyday stimuli have non-symmetric distributions and often take this information into account in their assessments and predictions.

Knowledge of environmental statistics should be greatest for tasks that are routinely performed since these tasks provide the opportunity for people to gain perspective on their own ability by comparing themselves to others (Festinger, 1954). Ability comparisons with others tend to be automatic and non-discriminate (Mussweiler, Ruter, & Epstude, 2004). If people often assess the ability of others, then they are likely to have a good idea of whether or not the ability has a skewed distribution and also the prototypical ability level for that skill. In support, people seem to be most knowledgeable about themselves and others for behaviors (Vazire & Mehl, 2008) and personality traits (Vavire, 2010) that are public and easy to observe.

Comparison to previous explanations and research

It should be noted that our argument is distinct from previous alternative explanations for "better-than-average"-type effects such as egocentrism (Kruger, 1999; Kruger & Burrus, 2004; Windschitl et al., 2003) or the LOGE model (Giladi & Klar, 2002). The egocentrism and LOGE alternatives posit that people make improper comparisons to others that either (a) do not sufficiently weigh others' ability (egocentrism) or (b) use an incorrect benchmark for others that combines local and general exemplars (LOGE model; this combination can lead participants to improperly assess all in-group members as unique). We propose that people correctly understand the asymmetric nature of others' ability and believe that they often fall near the mode of those ability distributions. Easy access to the likely prototypical ability level causes them to at times give themselves high or low self-assessments. Instead of incorrectly using others' ability level when forming their assessments, the prototypical ability level of others often constitutes their assessment. Similarly, bias in estimation for how long it will take to complete a task may have more to do with the nature of distributional information available in memory than due to ignoring or improperly using past experience (Roy, Christenfeld, & McKenzie, 2005).