Replications and Refinements

Under this heading are brief reports of studies providing data that sub-
stantiate, disprove, or refine what we think we know. These notes con-
sist of a summary of the study's procedure and as many details about the
results as space allows. Additional details concerning the results can be
obtained by communicating directly with the author.

The Reason for Asian Overconfidence

SHU LI
Institute of Psychology, Chinese Academy of Sciences
WEI-WEI CHEN
Central Laboratory, Fujian Academy of Agricultural Sciences
YAO YU
Institute of Psychology, Chinese Academy of Sciences
Graduate School of Chinese Academy of Sciences

An overconfident person, whose average probability judgments exceed the
proportions of items he or she answers correctly (Yates, Lee, & Shinotsuka,
1996), tends to make decisions based on faulty assumptions, resulting in less than
optimal decisions (Lee et al., 1995). Researchers (Yates, Lee, & Bush, 1997;
Yates et al., 1996; Yates, Lee, Shinotsuka, Patalano, & Sieck, 1998) indicated that
respondents in Asian cultures (e.g., in China) exhibit markedly higher degrees of
overconfidence than do respondents in Western cultures (e.g., in the United
States), but the reciprocal predictions are in opposition.

Overconfidence has been explained in a variety of ways, ranging from a ten-
dency to favor positive above negative evidence (Koriat, Lichtenstein, & Fischhoff,

1980) or confirmatory bias (Rabin & Scharg, 1999) to a lack of complete, imme-diate, and accurate feedback (Arkes, 2001). It has also been explained as an arti-fact, as a result of biased sampling of questions (Gigerenzer, Hoffrage, & Klein-bölting, 1991), or as a regression effect resulting from random errors and unreliable measures (Erev, Wallsten, & Budescu, 1994; Soll, 1996). Participants may not have direct access to the certainty of any particular proposition and thus may have to make indirect assessments based on probability cues or by comparisons with a lim-ited number of memory exemplars (Juslin & Persson, 2002).

According to the argument recruitment model described by Lee and col-leagues (1995), when a person is confronted with a general knowledge question, the person first tries to bring to mind, or recruit, arguments for and against each of the possibilities being considered and then evaluates the relative strengths of the arguments. Cross-national differences in overconfidence are at least partly the result of differences in educational traditions that affect argument recruitment cus-toms. Yates, Lee, and Shinotsuka (1992) proposed that the overconfidence observed in most Asian countries, relative to Western countries, reflects differences in the number of arguments typically recruited in those countries. Western methods of education (i.e., the constructivist approach) result in the recruitment of more arguments than do Asian methods (i.e., the direct instruction approach). The more arguments he or she recruits, the more a person is in doubt about any decision.

In this study, we predicted that overconfidence would be less pronounced for individuals educated in Singapore than for individuals educated in China, given that the education system in Singapore in terms of the medium of instruction, textbooks, and tutorials used[1] was more highly Westernized than that in China (Sanderson, 2002; for a more detailed discussion about the difference between Singaporean and Chinese educational systems, see Tan, 1997), whereas the stu-dents from both systems had a common ethnicity and shared their linguistic (Chan, 1999) and culture heritage (Bond, 1996). We also reasoned that evidence for the educational traditions theory should be more supportive if the Chinese students were chosen from Fujian (Fukien), China, in the sense that, historically, Chinese Singaporeans were predominantly descendants of migrants from the Fujian province, and most of them still speak the same Hokkien/Fuchienese dialect (Zhu, 1990).

Our participants were 316 Chinese Singaporean students from Nanyang Technological University, National University of Singapore, Temasek Polytech-nic, and Institute of Technical Education (East Tampines) in Singapore, and 340 Chinese students from Fujian Normal University and Fujian Hwa Nan Women's College in China. The average age was 21.7 years ($SD = 1.2$ years). We admin-istered booklets that contained the peer-comparison problem to 656 student par-ticipants. The peer-comparison problem (Lee et al., 1995) reads as follows:

> Imagine a random sample of 100 university students, the same sex as you and who
> entered the university the same year you did. Assume that you yourself are one of

those 100 students. Suppose that all 100 students in the sample are ranked accordingly to the date that they get a job. What is your best estimate of the number of students in the sample (0–99) who would get a job earlier than you?

According to Lee and colleagues (1995), if participants are neither overconfident nor underconfident, their average estimates of their percentile ranks relative to their peers should be the 50th percentile. Any estimate over the 50th percentile is an indication of overconfidence, whereas an estimate below the 50th percentile reflects underconfidence. The higher the percentage quoted by the participant, the higher the confidence level exhibited, and vice versa. To be comparable to the general knowledge bias, the peer comparison overconfidence (or possibly underconfidence if negative) is computed by the following bias equation:

$$\text{Mean Bias}_{\text{Peer Comparison}} = \text{Mean Percentile Estimated} - 50\% \qquad (1)$$

In this question, responding with a higher number implied a lower overconfidence. Therefore, the number of people getting a job before participant has an inverse relationship with the overconfidence level. The analysis of variance (ANOVA) for the estimates of participants' percentile ranks yielded a significant effect of country, $F(1, 654) = 37.26, p < .001$, with Singaporean students tending to estimate that more students would get a job before themselves ($M = 36.63$) than did their Chinese counterparts ($M = 27.36$).

These results confirm our prediction that Chinese students would exhibit higher degrees of overconfidence than would Singaporean students. Because the participants from the two deliberately selected groups were culturally better matched than those in any other existing cross-national studies, the observed difference in overconfidence was more likely attributed to differences in educational traditions alone.

NOTE

1. We borrowed the rating criterion of Critical/Analytical Thinking from Nanyang Technological Univeristy in Singapore for students at Fujian Hwa Nan Women's College in China to evaluate their instructors on a 5-point Likert-type scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Of all rating criteria, this score was the lowest in Hwa Nan in 2003 ($M = 3.72$, $SD = 0.83$; Overall rating = 4.01, $SD = 0.77$).

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