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To what extent do culture-related factors influence university students' critical thinking use?☆

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ABSTRACT

This study sought to elucidate some aspects of the relationship between culture and critical thinking by examining whether a number of culture-related factors might relate to university students' reported use of critical thinking. The participants were 363 undergraduate university students from Kyoto and Okinawa in Japan, and Auckland in New Zealand. They completed a questionnaire that assessed critical thinking use and the following factors: study self-efficacy, regulatory mode (assessment/locomotion), and self-construal (independence/interdependence). Critical thinking use was found to correlate with study self-efficacy, locomotion, assessment, and independent self-construal. The Auckland students scored higher than both Japanese student groups in those factors, except for assessment (in which the groups did not differ). In contrast, the Okinawa students scored higher than the other two groups in interdependent self-construal. No differences were found between the groups on reported critical thinking use. A model, which produced an acceptable fit to the data, is proposed in which self-construal influences regulatory mode and study self-efficacy, and these in turn influence critical thinking. Together, these findings suggest that culture-related factors (self-construal, regulatory mode, self-efficacy) do influence students' critical thinking use, but that differences in those factors need not necessarily equate to locational group differences in critical thinking use.

1. Introduction

Critical thinking can be defined as "skilled and active interpretation and evaluation of observations and communications, information and argumentation" (Fisher & Scriven, 1997, p. 21). There are simpler definitions: for example, Ennis (1962, p. 81) concisely put it as "correct assessing of statements." But there are also more complicated aspects to explaining the concept: for example, Yanchar, Slife, and Warne (2008) argued that critical thinking is "inescapably perspectival" (p. 276), meaning that it cannot overlook the "identification and evaluation of implicit theoretical assumptions" (p. 265); and West, Toplak, and Stanovich (2008) emphasized that, when thinking critically, evidence and arguments need to be evaluated

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independent of prior beliefs and opinions that one may hold. Halpern (1998) also pointed out that critical thinking is "an attitude or disposition to recognize when a skill is needed and the willingness to apply it" (p. 452).

Irrespective of the definition that is used, there appears to be general agreement that critical thinking is a desirable attribute in academic settings, and that its development ought to be facilitated in students. Halpern and Nummedal (1995, p. 82) observed that "assignments that develop critical thinking skills . . . have taken center stage in many of our classrooms." There are clear indications that such developments have occurred across different subject disciplines: in medicine, for example, Scott and Markert (1994, p. 920) noted that "generally, it is held that medical education trains students to use critical thinking skills in active problem solving regarding patient care," and in engineering, Siller (2001, p. 108) argued that the "development of students' abilities to think critically about engineering problems and design projects is an important educational objective."

Educators and researchers generally agree that critical thinking as a skill can be developed in students (see, e.g., Halpern & Nummedal, 1995). However, generally accepted guidelines for the effective promotion of critical thinking skills development are lacking. One important reason for the absence of such guidelines is that there are many different factors believed to influence students' critical thinking skills development and application. Without adequate understanding of how these various factors may influence critical thinking, it is difficult to confidently design programs for promoting critical thinking skills development that would address individual or shared needs of target groups of students.

Culture and culture-related factors constitute one of the debated factors that may influence students' capabilities in, and use of, critical thinking. Some authors have argued that critical thinking is more difficult for some cultural groups. For example, some Asian student groups (e.g., Chinese, Japanese, Korean) have been characterized as being more group-oriented, harmony-seeking, hierarchical, and non-critical thinking in comparison to students from Western cultures who are characterized as being more individualistic, adversarial, non-hierarchical, and critical thinking (e.g., Atkinson, 1997; Fox, 1994; Ramanathan & Kaplan, 1996). Other authors, however, have disagreed with such a view. Paton (2005), for example, referred to cases drawn from the history of science in China to illustrate the extent to which critical thinking is well embedded in traditional Chinese culture. Stapleton (2002) reported evidence that Japanese undergraduate students generally had a firm grasp of the requirements of critical thought and were capable of expressing opinions contrary to those held by authority figures. His findings were congruent with those of other researchers who have examined the quality of Japanese students' writing and found that individual differences, rather than notions of sociocultural patterns, were more important determinants of "critical thought" and other measures of quality in students' work (e.g., Kubota, 1998; Sasaki & Hirose, 1996).

1.1. Independent and interdependent self-construals

The question remains, however, as to whether there are certain cultural influences that affect not so much an individual's understanding of critical thinking but his or her predisposition to apply it in different settings. One theory that has been quite influential in promoting the notion of psychological differences between Western and non-Western cultures is Markus and Kitayama's (1991) theory of independent and interdependent self-construals. The term "self-construal" pertains to people's interpretation or view of their own self, including their understanding of themselves as being physically distinct from others (cf. Hallowell, 1955) and their perceptions of that self in relation to the physical environment (cf. Neisser, 1976). According to Markus and Kitayama, culture plays a crucial role in determining the content and structure of that notion of self, including how the self relates to others. Their theory proposes that people from Western cultures have more independent self-construals. In essence, this means that their behavior is "organized and made meaningful primarily by reference to [their] own internal repertoire of thoughts, feelings, and actions, rather than by reference to the thoughts, feelings, and actions of others" (p. 226). In contrast, people from many non-Western cultures have more interdependent self-construals. This basically means that they view themselves as part of "an encompassing social relationship" and recognize that their behavior is "determined, contingent on, and to a large extent organized" (p. 227) by what they perceive as the thoughts, feelings, and actions of significant others.

An individual's self-construal could conceivably have significant consequences for his or her cognition. Markus and Kitayama (1991) referred to authors like Bloom (1981, 1984) who have noted Chinese participants' apparent difficulty in cognitive activities that require taking a counterfactual perspective. As Markus and Kitayama pointed out, however, it may not have been that the Chinese participants experienced difficulties in counterfactual reasoning per se but that, coming from a more interdependent orientation, they applied counterfactual thinking skills more selectively. In other words, they could have simply placed greater emphasis on the pragmatic implications of the situation they were in, considering questions about the expectations on themselves and the potential ramifications of answering in one way or another on their relationship with the test administrator.

Critical thinking skills, or more specifically its application, could likewise be affected by an individual's orientation toward independence or interdependence. Critical thinking, by necessity, requires making judgment calls about the quality of presented information, and in most situations such judgment calls cannot be entirely divorced from the social context. If Markus and Kitayama (1991) were correct in their views about interdependent individuals and cultures then it is likely that, similar to the other aspects of cognition they discussed, there will be consequences on the application of critical thought. The interdependent individual will at the very least need to consider the appropriateness of exercising critical thought in the situation they encounter, of voicing any judgments they make, or of even being called upon to make such judgments. Even if they possess the necessary understanding and skills for critical thinking, they would likely be selective when to exercise this