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# Social axioms and achievement across cultures: The influence of reward for application and fate control☆

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ABSTRACT

The present research examined the relationships between two social axiom dimensions, reward for application and fate control, with various achievement-related indexes across a wide range of cultures. Results showed that there was no relationship between reward for application and academic achievement or economic competitiveness, but reward for application was positively related to effort exertion and favorable attitudinal reactions to striving. In contrast, fate control was positively related to academic achievement and economic competitiveness, but not to effort exertion and attitudes toward striving. A number of speculations are provided to account for these intriguing findings.



> "There is a tide in the affairs of men, Which taken at the flood, leads on to fortune; Omitted, all the voyage of their life is bound in shallows and in miseries. On such a full sea are we now afloat; And we must take the current when it serves, or lose our ventures." Shakespeare *Julius Caesar*, Act IV, Scene iii

## 1. Introduction

In the past decades, there have been several major attempts to describe and characterize the cultures of the world. Kluckhohn and Strodtbeck (1961) have provided a systematic account of how value dimensions can be used to classify cultures over four decades ago, but it is Hofstede (1980) who has popularized the value approach for dimensionalizing cultures. Subsequently, Schwartz (1994) has proposed seven culture-level value types, and the GLOBE research team has identified nine dimensions of culture based on values and leadership behaviors (House, Hanges, Javidan, Dorfman, & Gupta, 2004). A common theme that runs through these several projects is that the cultural dimensions identified are based on values.

To broaden our understanding of culture, Leung and Bond (2004) have turned to general, context-free beliefs, or social axioms, which may be conceptualized as "generalized expectancies", a concept earlier introduced by Rotter (1966) to characterize locus of control. General beliefs are distinct from values and norms in that they focus on the relationship between two entities or concepts. For instance, "exercise leads to better health" is a general belief because it spells out the relationship between exercise and health. In contrast, values refer to the desirability or importance of an entity or concept, such as power, whereas norms refer to a preferred pattern of behavior, such as "people should be polite."

In an initial study, Leung et al. (2002) identified five axiom dimensions characterizing individual belief systems across five cultural groups: Hong Kong, Venezuela, the U. S. A., Japan, and Germany. To explore the possible universality of this five-factor structure, a round-the-world study was conducted (Leung & Bond, 2004). Again, the same five factors emerged across the 40 cultural groups studied in an exploratory factor analysis that did not assume any a priori structure in the data. This structure has subsequently been confirmed in a multilevel factor analysis, a stringent statistical analysis that takes into account the nested nature of the data (Cheung, Leung, & Au, 2006).

Briefly put, these five dimensions may be defined thus: *Social cynicism* refers to a negative view of human nature and a malevolent view of the social world. *Social complexity* refers to the belief complex that problems have multiple solutions and that people's behavior may vary across situations. *Reward for application* refers to the belief complex that people's use of effort, knowledge, careful planning and other resources will lead to positive outcomes. *Religiosity* asserts the existence of a supernatural being and the beneficial functions of religions and their institutions. Finally, *fate control* refers to the belief complex that life events are pre-determined by external forces, but

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that people can find ways to alter the decree of fate. It is the belief in the possibility of altering fate that distinguishes fate control from external locus of control.

### 1.1. Social axioms and achievement

This paper attempts to explore the relationships between social axioms and different types of achievement across cultures. Competition is keen in a globalizing world, and many businesses and societies once protected by geographic or national boundaries now have to face competition from afar. In fact, factors that influence achievement across cultures have been studied for many decades, with McClelland (1961) providing the earliest systematic analysis of societal differences in achievement from a psychological perspective. Given the prominence of value frameworks in characterizing culture, societal differences in achievement are often interpreted through a value lens (e.g., Franke, Hofstede, & Bond, 2002). To broaden our understanding of the processes underlying societal differences in achievement-related phenomena, we here focus on the role of social axioms.

Of the five axiom dimensions, reward for application and fate control seem to have obvious roles to play in achievement-related phenomena. Both dimensions have a negative correlation with GDP per capita, and Leung and Bond (2007) argue that a difficult and challenging environment associated with low societal wealth and impoverished social development may accentuate reward for application and fate control. In other words, in a difficult environment, it is possible that the exertion of effort is likely to lead to immediate, visible improvement in life circumstances, giving rise to the socialization for and subsequent endorsement of reward for application.

The environmental constraints associated with an impoverished environment can also give rise to fatalistic beliefs, because outcomes in life are often imposed on an individual, who can do little to change them. However, we note that in fate control, there is also the proactive component that fate can be improved by the individual's active and judicious intervention, which is adaptive in meeting the challenges of difficult living construed as imposed by fate. The covariation of the belief in fate and the perceived possibility of altering the decree of fate may seem puzzling. We propose that the two facets are intertwined because except for those who are in a state of learned helplessness, people are motivated to overcome difficulties and improve their well-being. For people who believe in fatalistic forces, there is the concomitant need to also believe in the possibility of reducing the negative impact and increasing the positive impact of these forces.

There is some evidence in support of the relationship between reward for application and effortful behaviors. Singelis, Hubbard, Her, and An (2003) found in the U.S. that reward for application was related to the intention to try harder the next time when unsuccessful, and to work hard to maintain good interpersonal relationships. Safdar, Lewis, and Daneshpour (2006) have examined the relationships between social axioms and active coping among Iranian respondents. Active coping, which refers to the use of active strategies to deal with difficulties encountered, was found to be positively related to reward for application. Finally, reward for application was shown to be positively related to the values of power and achievement across several cultural groups (Leung et al., 2007).

With regard to fate control, there is evidence that it is related to passive responding. Bond, Leung, Au, Tong, and Chemonges-Nielsen (2004) found that fate control was significantly related in Hong Kong to distancing, which refers to the tendency to avoid thinking about difficulties. Leung et al. (2007) found that fate control was negatively related to the value of self-direction across several cultural groups. However, as mentioned before, fate control also involves proactive intervention. It was found that fate control was related to claiming that one has a lucky number and reading one's horoscope (Singelis et al., 2003), which suggests an active attitude toward improving one's outcomes by exercising control over one's fate.

Because of the lack of research on the relationships of reward for application and fate control with achievement-related phenomena, we regard our research as exploratory. Reward for application centers on the general belief that goals are achievable via the exertion of effort, and it is therefore likely to be related to achievement behaviors in which effort plays a salient role. The influence of fate control seems less straightforward. Fate control does suggest a passive style, but it also involves active intervention to improve one's fate. Thus, it is possible that fate control may be positively related to some achievement phenomena in which fate is seen as playing a salient role.

### 1.2. Citizen means of axiom dimensions

Leung and Bond (2004) have provided "citizen means" of axiom dimensions for forty cultural groups based on aggregating individual responses from each cultural group. It is possible to relate citizen means of reward for application and fate control to a variety of achievement-related indexes across cultures. These indexes fall into two categories: Academic and non-academic. If meaningful patterns of relationships are found, we will be able to formulate some theoretical statements about how these two axiom dimensions are related to various types of achievement across cultures.

In traditional cross-cultural research, cultural dimensions obtained at the culture level are related to country-level indexes (e.g., Hofstede, 1980). Our research deviates from this practice because the axiom dimensions are derived from an individual level of analysis, in which the individual is the unit of analysis. Although we report culture-level results in this paper, we actually employ an individual-level logic in our analysis. We assume that if a group of people scores high in a given axiom dimension, this group of people should also show high scores in variables tapping the consequences of this axiom dimension.

## 2. Methods

### 2.1. Participants and measures

Social axiom data were collected from university students from around the world (Leung & Bond, 2004). The final sample comprised of 40 gender-balanced cultural groups, with a total of 7,590 participants. Their participation was either for the fulfillment of a course requirement, on a voluntary basis, or paid for. Gender balance for each cultural group was achieved by randomly discarding cases from the gender with the larger number of participants. Most participants fell into the groups of below 20 years old (56%) and between 21 and 30 years old (42%). The sample size varied, with a minimum of 80 in U. K. and a maximum of 710 in India.

The present research focused on two axiom dimensions. The axiom dimension of reward for application was measured by nine items (e.g., "knowledge is necessary for success", and "one will succeed if he or she really tries"). The axiom dimension of fate control was measured by six items (e.g., "individual characteristics, such as one's appearance and birthday, affect one's fate", and "there are many ways for people to predict what will happen in the future"). Ratings were made on five-point scales with end points labeled as "strongly believe" to "strongly disbelieve".

Societal-level data on academic, economic and other achievement-relevant measures were included in the analysis. Academic achievement data in the areas of reading, mathematics, science, and problem-solving literacy were drawn from the data collected by the Program for International Student Assessment (PISA, 2003), which is organized by the Organization for Economic Cooperation and Development. PISA emphasizes functional skills that students have acquired toward the end of mandatory schooling in many countries, namely, at the age of fifteen. The measures of reading, mathematical and science literacy