

# Culture and Causal Cognition

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## Abstract

East Asian and American causal reasoning differs significantly. East Asians understand behavior in terms of complex interactions between dispositions of the person or other object and contextual factors, whereas Americans often view social behavior primarily as the direct unfolding of dispositions. These culturally differing causal theories seem to be rooted in more pervasive, culture-specific mentalities in East Asia and the West. The Western mentality is analytic, focusing attention on the object, categorizing it by reference to its attributes, and ascribing causality based on rules about it. The East Asian mentality is holistic, focusing attention on the field in which the object is located and ascribing causality by reference to the relationship between the object and the field.

## Keywords

causal attribution; culture; attention; reasoning

Psychologists within the cognitive science tradition have long believed that fundamental reasoning processes such as causal attribution are the same in all cultures (Gardner, 1985). Although recognizing that the content of causal beliefs can differ widely across cultures, psychologists have assumed that the ways in which people come to make their causal judgments are

essentially the same, and therefore that they tend to make the same sorts of inferential errors. A case in point is the fundamental attribution error, or FAE (Ross, 1977), a phenomenon that is of central importance to social psychology and until recently was held to be invariable across cultures.

The FAE refers to people's inclination to see behavior as the result of dispositions corresponding to the apparent nature of the behavior. This tendency often results in error when there are obvious situational constraints that leave little or no role for dispositions in producing the behavior. The classic example of the FAE was demonstrated in a study by Jones and Harris (1967) in which participants read a speech or essay that a target person had allegedly been required to produce by a debate coach or psychology experimenter. The speech or essay favored a particular position on an issue, for example, the legalization of marijuana. Participants' estimates of the target's actual views on the issue reflected to a substantial extent the views expressed in the speech or essay, even when they knew that the target had been explicitly instructed to defend a particular position. Thus, participants inferred an attitude that corresponded to the target person's apparent behavior, without taking into account the situational constraints operating on the behavior. Since that classic study, the FAE has been found in myriad studies in innumerable experimental and naturalistic contexts, and it has been a major focus of theorizing and a continuing

source of instructive pedagogy for psychology students.

## CULTURE AND THE FAE

It turns out, however, that the FAE is much harder to demonstrate with Asian populations than with European-American populations (Choi, Nisbett, & Norenzayan, 1999). Miller (1984) showed that Hindu Indians preferred to explain ordinary life events in terms of the situational context in which they occurred, whereas Americans were much more inclined to explain similar events in terms of presumed dispositions. Morris and Peng (1994) found that Chinese newspapers and Chinese students living in the United States tended to explain murders (by both Chinese and American perpetrators) in terms of the situation and even the societal context confronting the murderers, whereas American newspapers and American students were more likely to explain the murders in terms of presumed dispositions of the perpetrators.

Recently Jones and Harris's (1967) experiment was repeated with Korean and American participants (Choi et al., 1999). Like Americans, the Koreans tended to assume that the target person held the position he was advocating. But the two groups responded quite differently if they were placed in the same situation themselves before they made judgments about the target. When observers were required to write an essay, using four arguments specified by the experimenter, the Americans were unaffected, but the Koreans were greatly affected. That is, the Americans' judgments about the target's attitudes were just as much influenced by the target's essay as if they themselves had never experienced the constraints inherent in the situation, whereas the Koreans

almost never inferred that the target person had the attitude expressed in the essay.

This is not to say that Asians do not use dispositions in causal analysis or are not occasionally susceptible to the FAE. Growing evidence indicates that when situational cues are not salient, Asians rely on dispositions or manifest the FAE to the same extent as Westerners (Choi et al., 1999; Norenzayan, Choi, & Nisbett, 1999). The cultural difference seems to originate primarily from a stronger East Asian tendency to recognize the causal power of situations.

The cultural differences in the FAE seem to be supported by different folk theories about the causes of human behavior. In one study (Norenzayan et al., 1999), we asked participants how much they agreed with paragraph descriptions of three different philosophies about why people behave as they do: (a) a strongly dispositionist philosophy holding that "how people behave is mostly determined by their personality," (b) a strongly situationist view holding that behavior "is mostly determined by the situation" in which people find themselves, and (c) an interactionist view holding that behavior "is always jointly determined by personality and the situation." Korean and American participants endorsed the first position to the same degree, but Koreans endorsed the situationist and interactionist views more strongly than did Americans.

These causal theories are consistent with cultural conceptions of personality as well. In the same study (Norenzayan et al., 1999), we administered a scale designed to measure agreement with two different theories of personality: entity theory, or the belief that behavior is due to relatively fixed dispositions such as traits, intelligence, and moral character, and incremental theory, or the belief

that behavior is conditioned on the situation and that any relevant dispositions are subject to change (Dweck, Hong, & Chiu, 1993). Koreans for the most part rejected entity theory, whereas Americans were equally likely to endorse entity theory and incremental theory.

### ANALYTIC VERSUS HOLISTIC COGNITION

The cultural differences in causal cognition go beyond interpretations of human behavior. Morris and Peng (1994) showed cartoons of an individual fish moving in a variety of configurations in relation to a group of fish and asked participants why they thought the actions had occurred. Chinese participants were inclined to attribute the behavior of the individual fish to factors external to the fish (i.e., the group), whereas American participants were more inclined to attribute the behavior of the fish to internal factors. In studies by Peng and Nisbett (reported in Nisbett, Peng, Choi, & Norenzayan, in press), Chinese participants were shown to interpret even the behavior of schematically drawn, ambiguous physical events—such as a round object dropping through a surface and returning to the surface—as being due to the relation between the object and the presumed medium (e.g., water), whereas Americans tended to interpret the behavior as being due to the properties of the object alone.

### The Intellectual Histories of East Asia and Europe

Why should Asians and Americans perceive causality so differently? Scholars in many fields, including ethnography, history, and philosophy of science, hold that, at least since the 6th century B.C.,

there has been a very different intellectual tradition in the West than in the East (especially China and those cultures, like the Korean and Japanese, that were heavily influenced by China; Nisbett et al., in press). The ancient Greeks had an *analytic* stance: The focus was on categorizing the object with reference to its attributes and explaining its behavior using rules about its category memberships. The ancient Chinese had a *holistic* stance, meaning that there was an orientation toward the field in which the object was found and a tendency to explain the behavior of the object in terms of its relations with the field.

In support of these propositions, there is substantial evidence that early Greek and Chinese science and mathematics were quite different in their strengths and weaknesses. Greek science looked for universal rules to explain events and was concerned with categorizing objects with respect to their essences. Chinese science (some people would say it was a technology vastly superior to that of the Greeks) was more pragmatic and concrete and was not concerned with foundations or universal laws. The difference between the Greek and Chinese orientations is well captured by Aristotle's physics, which explained the behavior of an object without reference to the field in which it occurs. Thus, a stone sinks into water because it has the property of gravity, and a piece of wood floats because it has the property of levity. In contrast, the principle that events always occur in some context or field of forces was understood early on in China.

Some writers have suggested that the mentality of East Asians remains more holistic than that of Westerners (e.g., Nakamura, 1960/1988). Thus, modern East Asian laypeople, like the ancient Chinese intelligentsia, are attuned to the

field and the overall context in determining events. Western civilization was profoundly shaped by ancient Greece, so one would expect the Greek intellectual stance of object focus to be widespread in the West.

### Attention to the Field Versus the Object

If East Asians tend to believe that causality lies in the field, they would be expected to attend to the field. If Westerners are more inclined to believe that causality inheres in the object, they might be expected to pay relatively more attention to the object than to the field. There is substantial evidence that this is the case.

Attention to the field as a whole on the part of East Asians suggests that they might find it relatively difficult to separate the object from the field. This notion rests on the concept of *field dependence* (Witkin, Dyk, Faterson, Goodenough, & Karp, 1974). Field dependence refers to a relative difficulty in separating objects from the context in which they are located. One way of measuring field dependence is by means of the rod-and-frame test. In this test, participants look into a long rectangular box at the end of which is a rod. The rod and the box frame can be rotated independently of one another, and participants are asked to state when the rod is vertical. Field dependence is indicated by the extent to which the orientation of the frame influences judgments of the verticality of the rod. The judgments of East Asian (mostly Chinese) participants have been shown to be more field dependent than those of American participants (Ji, Peng, & Nisbett, in press).

In a direct test of whether East Asians pay more attention to the field than Westerners do (Masuda & Nisbett, 1999), Japanese and

American participants saw underwater scenes that included one or more *focal* fish (i.e., fish that were larger and faster moving than other objects in the scene) among many other objects, including smaller fish, small animals, plants, rocks, and coral. When asked to recall what they had just viewed, the Japanese and American participants reported equivalent amounts of detail about the focal fish, but the Japanese reported far more detail about almost everything else in the background and made many more references to interactions between focal fish and background objects. After watching the scenes, the participants were shown a focal fish either on the original background or on a new one. The ability of the Japanese to recognize a particular focal fish was impaired if the fish was shown on the "wrong" background. Americans' recognition was uninfluenced by this manipulation.

### ORIGINS OF THE CULTURAL DIFFERENCE IN CAUSAL COGNITION

Most of the cross-cultural comparisons we have reviewed compared participants who were highly similar with respect to key demographic variables, namely, age, gender, socioeconomic status, and educational level. Differences in cognitive abilities were controlled for or ruled out as potential explanations for the data in studies involving a task (e.g., the rod-and-frame test) that might be affected by such abilities. Moreover, the predicted differences emerged regardless of whether the East Asians were tested in their native languages in East Asian countries or tested in English in the United States. Thus, the lack of obvious alternative explanations, combined with positive evidence from intel-

lectual history and the convergence of the data across a diverse set of studies (conducted in laboratory as well as naturalistic contexts), points to culturally shared causal theories as the most likely explanation for the group differences.

But why might ancient societies have differed in the causal theories they produced and passed down to their contemporary successor cultures? Attempts to answer such questions must, of course, be highly speculative because they involve complex historical and sociological issues. Elsewhere, we have summarized the views of scholars who have suggested that fundamental differences between societies may result from ecological and economic factors (Nisbett et al., in press). In China, people engaged in intensive farming many centuries before Europeans did. Farmers need to be cooperative with one another, and their societies tend to be collectivist in nature. A focus on the social field may generalize to a holistic understanding of the world. Greece is a land where the mountains descend to the sea and large-scale agriculture is not possible. People earned a living by keeping animals, fishing, and trading. These occupations do not require so much intensive cooperation, and the Greeks were in fact highly individualistic. Individualism in turn encourages attending only to the object and one's goals with regard to it. The social field can be ignored with relative impunity, and causal perception can focus, often mistakenly, solely on the object. We speculate that contemporary societies continue to display these mentalities because the social psychological factors that gave rise to them persist to this day.

Several findings by Witkin and his colleagues (e.g., Witkin et al., 1974), at different levels of analysis, support this historical argument that holistic and analytic cognition originated in collectivist and indi-

vidualist orientations, respectively. Contemporary farmers are more field dependent than hunters and industrialized peoples; American ethnic groups that operate under tighter social constraints are more field dependent than other groups; and individuals who are attuned to social relationships are more field dependent than those who are less focused on social relationships.

### FUTURE DIRECTIONS

A number of questions seem particularly interesting for further inquiry. Should educational practices take into account the differing attentional foci and causal theories of members of different cultural groups? Can the cognitive skills characteristic of one cultural group be transferred to another group? To what extent can economic changes transform the sort of cultural-cognitive system we have described? These and other questions about causal cognition will provide fertile ground for research in the years to come.

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