

8. Critical Thinking as a Formal Discipline

The principles of cognitive psychology have provided researchers and educators with a useful model for the enhancement of critical thinking. There is a considerable body of evidence showing that better thinking can be an outcome of education when critical thinking is explicitly taught for transfer across contexts, when the disposition to think critically is enhanced, and when metacognitive monitoring is used as a guide to the thinking process. Critical thinking is cognitive psychology's finest offspring. It offers the best hope for the future because the ability to think well is the best preparation for a future that is rapidly changing and becoming increasingly complex. Perhaps the disasters that doomsday experts are predicting for the third millennium can be prevented with large-scale efforts to help more people become better thinkers. Critical thinking is emerging as a formal discipline with its own content area and adherents. Its current status as a subtopic under cognitive psychology is likely to change over the coming decades, when it will emerge as a major theoretical perspective on how people acquire and use information more effectively, so that they can become better thinkers and learners.

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Cross-cultural Psychology

Cross-cultural psychology is the systematic study of behavior and experience as it occurs in different cultures, is influenced by culture, or results in changes in existing cultures. This subdiscipline of psychology is used by those interested in studying the relationship of culture with psychological processes.

1. Relationship with Cultural and Indigenous Psychology

Cross-cultural psychology (CCP) is different from cultural psychology (CP) (see *Cultural Psychology*) and indigenous psychology (IP) in a number of ways. CCP is closer to psychology and uses a universalistic theoretical framework that assumes the psychic unity of humankind. CP and IP are closer to anthropology and use relativist frameworks and examine how culture and psychology 'make each other up.' Some versions of CP and IP do not assume the psychic unity of humankind. CCP is widely used by social and organizational psychologists, CP is favored by developmental psychologists.

CCP searches for universal (etic) as well as culture specific (emic) findings. It tries to study them using both emic and etic measurements. It emphasizes equivalence of measurement of the constructs in each culture. In addition it aims at culture-sensitive measurement in each culture by making use of both emic and etic items (questions, stimuli) in each culture that correspond to etic constructs. Only etic items can be used to compare cultures. However, both emic and etic items can be used to describe cultures.

CCP uses methods that include little context (e.g., questionnaires, projective tests, experiments), while CP and IP use methods that emphasize context (e.g., participant observations in real life situations, content analyses).

CCP conceives of culture as outside the person, i.e., as a context for perception and action that influences universal psychological processes. For example, the probability of an act is a function of the frequency of the reinforcement of the act. But in some collectivist cultures (see *Collectivism: Cultural Concerns*) the reinforcement may be given to a valued member of the ingroup rather than to the individual whose action is being studied. In individualistic cultures (Triandis 1995), the reinforcement must be given to the person under study, otherwise it has little impact. Thus, in the universal process the frequency of reinforcement is linked to the probability of an act; in the culture-specific process that operates in some collectivist cultures, one need not reinforce the person who is acting, but can obtain the same results by reinforcing a significant other of that person.

Cultures have many elements. Some elements change slowly, perhaps after a few generations, and others change very quickly, such as particular ways of using words. CCP focuses on the more stable elements; CP and IP focus mainly on the changeable elements, especially on the meanings of key concepts. CCP is favored by social and industrial psychologists who study people who have been members of their cultures for a long time. CCP considers differences in meaning, in different cultural communities, as barriers to research. These barriers must be overcome by using specially developed methods of data collection, e.g.,

local (culture specific) standardization of items. Some people have argued that CCP is a method and does not have specific content.

CCP is interested in individual differences. CP and IP do not focus on individual differences, and assume that members of a culture are more or less alike. The cultural distance between the researcher and the culture under investigation is very different in the case of these three perspectives. Cultural distance refers to differences in language (e.g., are the two languages members of the same language family or belong to very different families), differences in social structure (e.g., monogamy vs. polygyny), differences in religion, politics, economic conditions, level of literacy, and the like. Psychologists who study IP are usually members of the culture they study. By contrast, psychologists who use the CP perspective study cultures that are very distant from their own culture. Psychologists who take the CCP perspective hold an intermediate position, studying cultures that are somewhat distant but not too different (e.g., managers in Japan and France). Since cross-cultural psychologists use psychological methods, they are limited to studying people with whom such methods can be used. Such methods can be used only with the people who are more or less familiar with them. Standardized tests, experiments, and the like are meaningful only in the cultures in which they were developed or in similar cultures. On the other hand, participant observations or interviews are less problematic in distant cultures. Thus, psychologists who use the IP or CP perspective use these procedures more frequently, while CCP researchers use them less frequently.

2. History

Since antiquity people have been interested in the manners and morals of people different from their own, as well as in their own psychology. Herodotus in the fifth century BC had the insight that all humans are ethnocentric (use their own culture as the standard for the evaluation of other cultures, and evaluate those cultures that are like their own more positively than the cultures that are very different from their own). In the nineteenth century Darwin's theory of evolution stimulated great interest in mental measurements in different parts of the world. Expeditions by Rivers (1901, 1905) supplied the first data. Jahoda (1993) provided an excellent history of the field.

Wilhelm Wundt published a *Voelkerpsychologie* in 10 volumes (1900–14), which summarized findings of anthropologists, linguists, and historians that had relevance for psychology. After the First World War a movement developed that rejected ethnocentrism and stressed the understanding of cultures in their own terms. Notable events in the history of CCP are the publication of Klineberg's (1954) social psychology text, which did include a great deal of cultural

information; the publication of the *Cross-Cultural Psychology Newsletter* (Triandis 1967), which became the *Cross-Cultural Psychology Bulletin*; the publication of the first *Directory* of individuals interested in cross-cultural research (Berry 1968); the publication of the *Journal of Cross-Cultural Psychology* (Lonner 1970); the establishment of the International Association for Cross Cultural Psychology (Dawson 1972); and the publication of a code of ethics for cross-cultural research (Tapp et al. 1974). The *Annual Review of Psychology* started chapters reviewing cross-cultural work in 1973, the establishment of the *Association pour la Recherche Interculturelle* (ARIC) occurred in 1984, the publication of the first *Handbook of Cross-Cultural Psychology* (Triandis 1980–1981) in six volumes, and the second edition (Berry et al. 1997) in three volumes, consolidated the field. The avoidance of ethnocentrism by searching for different perspectives on a phenomenon and developing appreciation of emic points of view; the local standardization of psychological instruments; the development of methods that use both emic and etic items; the use of converging multimethod measurements; the testing of rival hypotheses; and the acceptance of testing of hypotheses using data from the Human Relations Area Files as well as data obtained from research participants became important distinguishing features of cross-cultural psychology.

3. Examples of Significant Work in CCP

3.1 Theory and Method

The desirability of the CCP, IP, and CP perspectives discussed above is one of the topics being debated. In addition, issues such the extent to which anthropological, genetic, evolutionary, and other approaches must be integrated with CCP are subjects of debate. The methodology of the field was presented in Triandis and Berry (1980). Van de Vijver and Leung (1997) summarized newer methodological developments. Berry et al. (1997) reviewed the most recent issues about theory and method in CCP. Amir and Sharon replicated several social psychological studies published in the *Journal of Personality and Social Psychology* in Israel, and found that only about half the findings replicated. Adamopoulos and Lonner identified numerous cultural universals.

Irvine did much work on psychological testing across cultures, showing that elaborate pretests, parametric studies, and careful analyses are needed if data from different cultures are to be compared meaningfully. On the subject of methodology readers may wish to study the work of the following individuals in particular: John Berry, Michael Bond, Don Campbell, Kwok Leung, Roy Malpass, Raoul Naroll, Fred Strodbeck, Ype Poortinga, Harry Triandis, and Fons

Van de Vijver. Each method has its own meaning in each culture, so that multimethod measurements and convergence of findings across methods are essential. Local standardization of the measurements (Triandis 1992) is most important. Checking if the cultural differences that have been identified are due to culture rather than to some other factors that happen to be associated with culture, requires the testing of many rival hypotheses.

Berry (1976) developed an ecological framework that linked aspects of the ecology, such as whether people make a living by hunting or by agriculture, to attributes of cultures and attributes of culture to psychological adaptation. People in stable, agricultural cultures conform more than people in hunting cultures.

3.2 Basic Processes

Berry et al. (1997) reviewed the basic and developmental processes using both the CP and the CCP perspective. Specifically, Segall, Campbell and Herskovits (1966) showed that the perception of visual illusions is influenced by culture. For instance, people in carpentered environments (with many right angles), such as those found in industrial cultures, are quite susceptible to the Mueller-Lyer illusion while people in environments where most buildings are round, as in Africa, are not so susceptible. Exposure to many right angles during socialization has the effect of incorrectly seeing the ends of the lines in that illusion as representing right angles.

The relationship of language and thought was investigated by Hunt and Agnoli, M. Cole, Gay, Glick, Scribner, Sharp, and others investigated the effects of literacy on cognition. Literacy was shown to be a major factor in shaping cognition because the un-schooled have difficulty making abstract judgments. Extensive studies of different educational systems, such as those of East Asia, the Qur'anic schools, and comparisons with Western education have shed light on the advantages and disadvantages of each educational system. Studies by Stevenson and his associates have shown that the mathematical performance of East Asian students is far superior to the performance of American students, yet American parents are quite satisfied with their schools, while parents in East Asia are dissatisfied with their schools.

Ekman, Frijda, Kitayama and Markus, and Matsumoto, among others, linked culture and emotion. It appears that some aspects of emotions are universal and other aspects are culture specific. In most cultures individuals are emotionally sensitive to certain contingencies (e.g., danger of rejection by the group) and respond in similar ways (e.g., crying, or hostile behavior). But there are culture-specific norms specifying what emotions may be displayed. In other

words, there is evidence that the antecedents of emotion have similarities across diverse cultures, but there is also evidence that no emotion term has an exact correspondence to any other emotion term, even when the languages are very similar, such as German and Swiss-German. Although basic emotional processes appear to have universal components, emotional expression is definitely controlled by culture-specific norms.

Osgood, May, and Miron investigated universals of affective meaning. The meaning of any concept can be conceived as the projection of the concept on the dimensions of evaluation, potency, and activity, empirically operationalized in each culture. The study was carried out in 27 diverse cultures. An *Atlas* of affective meaning was developed that consists of 600 concepts judged on evaluation, potency, and activity in the 27 cultures. The information is archival, and has been used by many researchers for different purposes. It can be obtained from the Osgood Center of the Department of Psychology, University of Indiana/Purdue, in Indianapolis, Indiana, USA.

3.3 Developmental Psychology

Most developmental psychologists prefer the CP perspective (see *Cultural Psychology*), so here only a few examples that use the CCP perspective will be mentioned. John Whiting, Beatrice Whiting, Irving Child, William W. Lambert, and Leigh Minturn examined the settings within which child development takes place. For example, the presence or absence of grandparents constitutes a difference in setting. Observations and interviews converged in showing that nuclear vs. extended household type was associated with the contrast between authoritarian aggressive and social-intimate child behavior. Ron Rohner used three kinds of data: questionnaire responses within culture, ethnographies of different cultures, and the Human Relations Area Files (summaries of available ethnographies classified by topic). All three data sets indicated that parents who are warm, supportive, and cuddling have children who are optimistic and well adjusted; in contrast, parents who are cold and unavailable or rejecting have children who are pessimistic, emotionally unresponsive, hostile, aggressive, and poorly adjusted. Jerome Bruner, Patricia Greenfield, Joan Miller, Barbara Rogoff, and Charles Super showed that cultural differences increase throughout the life span of development.

Eckensberger, Miller, and Shweder have reported studies of moral development in different cultures. For example, Miller showed that in India helping another person is obligatory in more situations than it is in the USA. Kohlberg's stage theory of moral development was tested in many cultures, but the materials were translations with minor adjustments of the dilemmas

used to test it in the West. Critics have emphasized that it is both a Western and an androcentric theory. Eckensberger has developed a method of testing that is more culture sensitive. It uses the core of a dilemma and an interview which allows the participant to reveal his or her thinking about the dilemma. The answers are then scored according to a stage model. The data suggest that there are stages of moral development, but they do take culture-specific forms, especially at the higher levels of moral development.

3.4 Social Processes

Berry et al. (1997) reviewed this topic (see also *Collectivism: Cultural Concerns*). Emiko and Yoshi Kashima found relationships between culture and the use of language (e.g., in collectivist cultures, 'I' is not required in sentence construction), as did Semin and Zwiier (e.g., collectivists frequently use action verbs and individualists use state verbs). Giles and Gudykunst investigated cultural differences in communication behaviors. Poyatos (1988) has edited a volume on nonverbal behaviors such as gestures in different cultures.

Bilingualism was investigated by W. E. Lambert (e.g., middle-class English speakers that went to a French-speaking school became fluent in both languages; the same person speaking in French or English is perceived quite differently). Triandis (1972) found differences in the meaning of roles and social behaviors in Greece and the USA; he also investigated the meaning of value terms in Japan, India, Greece, and the USA and found that words that could refer to either a collective or an individual attribute (e.g., 'progress') were perceived as attributes of a collective in collectivist cultures and as individual attributes in individualist cultures.

Doob as well as Levine examined the meaning of time in different cultures. For example, empirical work has shown that there are fast- (Switzerland, Ireland, Germany, Japan), moderate- (Hong Kong, Costa Rica, Taiwan, Singapore, USA), and slow-moving cultures (China, Syria, Indonesia, Brazil, Mexico). Within the USA, Boston, Buffalo, and New York are fast, Nashville, San Diego, and East Lansing moderate, and San Jose, Sacramento, and Los Angeles slow. In large cities, rich, individualist cultures, and cold climates, people tend to be faster than in rural settings, poor, collectivist cultures, and warm climates.

Berry provided a typology for the study of acculturation that has implications for social policy. Social policies might favor the melting pot concept of assimilation, i.e., those who come from culture (A) and come in contact with a dominant culture (B) are expected to drop culture A and only use culture B. A sounder policy for mental health, according to Berry's findings, is integration or biculturalism, i.e., A+B. Other undesirable policies are segregation, i.e., keep-

ing A and rejecting B, and anomie or marginalization, i.e., rejecting both A and B.

Williams and Best showed that gender stereotypes are quite similar in different cultures. Men are stereotyped as strong, aggressive, cruel, coarse, and adventurous; women are stereotyped as weak, appreciative, softhearted, gentle, and meek. They argue that the pancultural similarities greatly outweigh cultural differences. The biological differences between men and women can be amplified or diminished by cultural influences.

Inkeles studied modernity and found that in all cultures there are segments of the population that are modern. The more educated segments of the society, factory workers, and those who read the newspapers respond to attitude questions in a more modern way than those who have not had these experiences.

Brewer and Campbell explored ethnocentrism, social perception, and the similarity-attraction link in a large number of African cultures. All humans are ethnocentric to some degree. In the case of extreme ethnocentrism, people consider the norms of their culture as the only ones that are 'natural' and 'correct'; they see their customs as universally valid, and believe that it is natural to cooperate with ingroup members and feel proud of their ingroup, whereas they are distrustful and even hostile of outgroups. Ethnocentrism can be reduced by exposure to different cultures, especially 'successful' cultures from the point of view of the people under study.

The more similar two African cultures are to each other, the higher is their evaluation of each other. The autostereotypes (how members of a target culture see their own culture) of the groups were correlated with the heterostereotypes (how members of other cultures see the target culture) received by these groups from the other groups. This correlation was higher for cultures that were in frequent contact than for groups that were not in much contact. This suggests that stereotypes become more accurate as contact increases.

Buss linked the desirable attributes of marital partners to culture and showed that the theory of evolution can explain the observed differences. Specifically, women in all cultures are looking for a mate who is reliable and well established; men in all cultures look for a mate who is physically attractive. Since women invest much time in rearing children they look for mates who will provide for them; men use physical attraction as a cue to good health and probable fertility.

Earley, A. Fiske, Hofstede, Kagitcibasi, Markus and Kitayama, U. Kim, and Triandis carried out extensive work on collectivism (see *Collectivism: Cultural Concerns*). It will not be reviewed here. Leung has shown that dispute resolution is different in different cultures. People in collectivist cultures tend to avoid confrontations and seek to resolve disputes by using mediation by respected third persons. Foa, Leung,

and Hui have studied cultural differences in the use of equity (to each according to contribution), equality, or need in the distribution of resources. For example, equity is used when individualists distribute resources or when collectivists distribute resources to outgroup members; equality is used when collectivists distribute resources to ingroup members.

Miller, Morris, and Peng showed that culture influences the way people make attributions. For example, people in individualist cultures are more likely to use internal factors (e.g., ability, attitudes, or personality), whereas people in collectivist cultures are more likely to use external factors (e.g., what other people did, the task, the norms of the group) in explaining social behavior.

Segall, Ember, and Ember examined aggression and reported that aggression is ubiquitous, all societies attempt to control it, but punishment is not effective in controlling it. Attending to fictional violence contributes to aggression. High frequency of warfare is predicted from resource unpredictability and from territorial and ethnic conflict. In societies where there is severe punishment for wrongdoing and family violence, there is more warfare.

4. Applications

Draguns and Marsella investigated culture and psychopathology relationships. Culturally invariant and variable components of psychopathology, especially depression and schizophrenia, have been identified. Some symptoms appear only in one or a few cultures. Psychopathology is manifested in different cultures somewhat differently and the dimension of collectivism-individualism seems promising in organizing and integrating the findings. Pedersen and Leong explored the relationship between culture and counseling.

Bhawuk, Brislin, Landis, as well as Triandis, published extensively about cross-cultural training. For example, culture assimilators have been developed to aid in such training. They consist of scenarios that describe the interaction of members of two cultures, the culture of the trainee, and the target culture. The trainee reads the scenarios and picks one of four or five attributions that may explain why members of the target culture acted the way they did in the scenario. After selecting an attribution, the trainee receives feedback that explains why the attribution is correct or incorrect from the perspective of the target culture. This way the trainee learns to make attributions that resemble the attributions that members of the target culture make when they think of the scenarios. Thus, trainees learn to give the same meaning to behaviors that occur in the target culture as members of the target culture do, and that increases the effectiveness of the trainee's work abroad, as well as reducing the

culture shock experienced by the trainee. Culture-general assimilators describe events in many cultures. Culture-specific assimilators are limited to a particular culture, and sometimes to specific demographic categories, e.g., a European-American supervisor working with African-American first-time employees.

Adler, Earley, Erez, and Wilpert investigated the effects of culture on organizational behavior. The main topics included differences in motivation, the meaning of work in different cultures, organizational commitment, communication, the effectiveness of ethnically heterogeneous groups, leadership in different cultures, participative management and industrial democracy in different cultures, reward schemes and their effectiveness in different cultures, organizational development, and intercultural negotiations.

5. Conclusions and Future Direction of Theory and Research

A conclusion is that almost every aspect of psychological functioning has both universal and culture-specific components. This perspective suggests that CCP provides an important way to study the relationship of culture and psychological processes.

An important issue is the extent CCP, IP, and CP will develop as separate subdisciplines or become integrated into a coherent approach that uses all three types of investigation. Perhaps the future will bring the integration of these approaches.

The theory of convergence holds that cultures are becoming more similar over time. However, most cross-cultural psychologists believe that convergence is occurring in only a few elements of culture, and that divergence remains in the other elements.

See also: Cross-cultural Research Methods; Cross-cultural Study of Education; Cultural Diversity, Human Development, and Education; Cultural Evolution: Overview; Cultural Evolution: Theory and Models; Cultural Expression and Action; Cultural Psychology; Cultural Relativism, Anthropology of; Cultural Studies: Cultural Concerns; Culture and Emotion; Industrial and Organizational Psychology: Cross-cultural; Personality Psychology; Personality Structure; Personality Theories

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Cross-cultural Research Methods

Cross-cultural studies involve persons from different countries and/or ethnic groups; a defining characteristic is their comparative nature. Most studies employ quantitative methods of data collection and analysis. Studies of cultural topics that are noncomparative and apply a qualitative methodology can be found in sociology ('cultural studies,' e.g., Alasuutari 1995), cultural psychology (Greenfield 1997), and cultural anthropology (Naroll and Cohen 1970) see *Phenomenology in Human Science; Ethnomethodology: General*).

The range of instruments used in comparative studies is very broad, ranging from highly standardized psychological tests, to observation schedules, and free interviews. In many studies existing Western instruments (mental tests, survey questionnaires, personality inventories) are administered in a new cultural context, either or not adapted to enhance their cultural appropriateness.

If two persons from different cultural groups show different scores on a reliable and valid measure of

subjective well-being, these score differences may refer to individual differences in subjective well-being. However, the score differences may also arise from differential social desirability or some other response style, inappropriate translation, or inadequacy of the item to measure well-being in both groups. The example illustrates a central problem in cross-cultural research: observed score differences are often susceptible to multiple explanations (Campbell and Stanley 1966, Cook and Campbell 1979, Poortinga and Malpass 1986). When the same instrument has been administered to persons from different ethnic groups, it cannot be taken for granted that the same scores obtained in different cultural groups have the same psychological meaning.

The ambiguity of interpretation is a consequence of the methodological nature of culture as an independent variable. In laboratory studies researchers randomly assign subjects to experimental treatments (see *Laboratory Experiment: Methodology*). The random assignment leads to a firm control of ambient variables; ideally an experimental and control group are matched on all outcome-relevant characteristics (e.g., personality characteristics and socioeconomic status), except for the treatment variable studied (see *Internal Validity*). However, like gender and other intrinsic subject characteristics, culture is not an experimental treatment that can be manipulated. Groups with a different cultural background tend to differ on a variety of outcome-relevant characteristics. These differences may constitute rival explanations of observed cross-cultural differences. Without precautions to rule out these rival explanations, observed cross-cultural differences are open to multiple interpretations. Findings in cross-cultural research are more convincing when rival explanations have been more adequately dealt with.

Bias is the generic name of an important family of rival explanations (see *Test Bias*). It refers to the common problem in the assessment of nonequivalent groups that scores obtained in different cultural groups are not an adequate reflection of the groups' standing on the construct underlying the instrument. If scores are biased, their psychological meaning is group dependent and group differences in assessment outcome are to be accounted for, at least to some extent, by auxiliary psychological constructs or measurement artifacts. A closely related concept is equivalence which refers to the absence of bias and hence, to similarity of meaning across groups. The two concepts have somewhat different historical roots and areas of application. Whereas bias usually refers to nuisance factors, equivalence has become the generic term for metrical implications of bias.

Bias and equivalence are not inherent properties of an instrument but arise in a group comparison with a particular instrument. Score comparisons of groups that differ in more test-relevant aspects will show a higher susceptibility to bias.