

Introduction

Every time I hear the word culture I release the safety on my 9 mm.

Banksy

It is evident that between human populations, especially between societies, there are differences in overt behavior repertoires and in (covert) understandings. Striking examples include traffic rules, spoken and written language, dress codes, and religious practices. The most common term to capture such differences is “culture.” Any population tends to be attributed its own culture, and behavior differences between populations are referred to as “cultural” or “cross-cultural” differences. These are the subject of study in cultural anthropology; language and communication sciences; ethology; and various subfields of psychology, such as cross-cultural psychology, psychology and culture, cultural psychology, and indigenous psychology. The term to be used in this Element for these subfields of psychology is “cross-cultural and cultural psychology,” abbreviated (c)cp.

“Culture” has multiple meanings, including, but not limited to, the following: (i) antecedent conditions for human behavior (e.g., climate, GDP, modes of subsistence), (ii) context in which individual behavior takes place (e.g., society), (iii) attribution of meaning to actions and events, and (iv) the outcome of events or processes that took place in the past (e.g., evolution of culture). In (c)cp, “culture” is often attributed causal or agentic qualities. The introduction of the series on culture and psychology in which this Element is published mentions “the pervasive influence of culture on individual human behavior.” Other examples include the following:

“Culture plays a powerful causal role in determining human behavior” (Mesoudi, Whiten, & Laland, 2006, p. 331)

“[T]he myriad ways in which culture shapes emotional life” (Tsai & Clobert, 2019, p. 292)

“Culture shapes electrocortical responses during emotion suppression” (Murata, Moser, & Kitayama, 2013, p. 595)

“[C]ulture influences the prevalence of different types of self-concept” (Kashima & Gelfand, 2012, p. 509)

“The relation of children’s emotion knowledge to internalizing problems was moderated by culture” (Doan & Wang, 2018, p. 689)

An important connotation of “culture” is that observed behavior differences are an expression of broader differences in underlying psychological traits and processes. Supposedly, people *do* different things because in some way they *are* different psychologically. In this Element, “culture” and its connotations are examined with a focus on conceptualization and research methodology.

Throughout the Element, it is accepted as axiomatic that social and ecological context is important for the explanation and understanding of human behavior. (C)cp is of interest scientifically because planned selection of populations and contexts allows the identification of factors that affect behavior variation and the terms in which variation can be explained. A wealth of studies report differences; the extant literature is far less explicit about how much patterns of psychological functioning are similar across all of humanity. This emphasis on differences is seen as a danger; it easily leads to stereotyping “others.” The main point to be made here is that sound theory and methodology are essential prerequisites for dependable knowledge.

Equally axiomatic is the conviction that (c)cp has applied relevance. In a world that rapidly acquires the characteristics of a global village, it is an unmistakable contribution of research in (c)cp that attention is drawn to differences in human behavior. There is a need to make sense of both behavior diversity and communality. Even though applications are not the main theme of this Element, applicability is the ultimate justification for the pursuit of scientific knowledge. At the basis of large differences in behavior repertoires between humans living in various contexts are conditions of poverty and inequality, as opposed to affluence and security. These should be of concern to researchers in (c)cp.

1 Historical Overview

This section briefly reviews a selection of research traditions since the 1960s when (c)cp began to emerge as a distinguishable subfield within psychology, and perception and cognition were major areas of research. Beginning in the 1980s, social psychological research became a dominant theme, with value dimensions as a major focus. Also mentioned in this section is research on emotions, psycholinguistics, and cultural neuroscience. Throughout, a pervasive historical trend is noted: with a new topic or approach, initial claims about big and important population differences in psychological functioning tend to be reported that do not hold up in later more carefully designed and critical empirical studies.

1.1 Perception

Rivers (1901) conducted an early psychological study in the Torres Strait Islands. He was impressed with the sensory acuity and great attention to detail of the local inhabitants, but he believed that the development of such a high level of perceptual skills was an impediment to cognitive development: “The predominant attention of the [local person] to concrete things around him may

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act as an obstacle to higher mental development” (p. 45). The idea of a trade-off in ontogenetic development between various psychological dispositions later became known as a “compensation hypothesis” (Deręowski, 1980). In the mid-twentieth century, there were less-encompassing versions of this hypothesis, suggesting a trade-off in the development of various perceptual modalities, notably vision and hearing. Persons of European descent would be more oriented toward visual stimuli, while Africans would excel in auditory tasks. In support of this viewpoint, various arguments were mentioned, such as the apparent ease with which unschooled Africans could learn Western languages like English and French and their strong sense of rhythm and music. However, quasi-experimental studies failed to show empirical support (Deręowski, 1989), and today compensation hypotheses are only of historical interest.

Consistent findings of differences do exist, notably for susceptibility to simple visual illusions, such as the Müller-Lyer illusion and the horizontal-vertical illusion. Differences in susceptibility scores can be linked to observable antecedent factors in the natural environment. Segall et al. (1966) conducted a landmark study across several environments. One of the postulated antecedents of susceptibility for these illusions was the degree of “carpenteredness”; in societies where carpenters and other artisans have shaped the physical environment, one finds many more orthogonal angles in buildings and street corners than in traditional societies. Another factor was the degree to which the environment is open (wide vistas) or closed in (forest or buildings). Segall et al. (1966) found systematic relationships of these environmental antecedents with susceptibility for such illusions as mentioned. Later studies have supported these findings (for reviews, see Deręowski, 1989; www.illusionsindex.org).

We should note three points that in various ways will come up again later in this Element. First, illusion effects as mentioned are apparently present in all human populations. Second, context matters; even for such a simple figure as the horizontal-vertical illusion, consisting of only two line segments, differences in the natural environment affect the strength of the illusion effect. Third, sweeping generalizations, as suggested by various compensation hypotheses, did not pass critical analysis.

1.2 Cognition

Items of knowledge and cognitive skills (e.g., doing arithmetic) are inherently situational and highly contextualized, and large variations across populations are evident. However, it is less clear what this implies for cross-cultural invariance or variations in underlying cognitive processes and functions (e.g., deductive reasoning). Three classical topics are mentioned briefly: research on

syllogisms, Piagetian research, and research based on the postulate of an East-West contrast in social-cognitive orientation.

Research on syllogisms became prominent in (c)cp through studies reported by Luria (1971). He found strikingly poor performances of illiterate respondents from Central Asia when they were asked to solve syllogistic problems referring to situations beyond their own experience. In sharp contrast, respondents with only a few years of formal education deduced logically correct answers. Luria interpreted these findings as support for Vygotsky's (1978) idea that higher mental functions, such as abstract thinking, are "culturally mediated"; they originate at the level of a society (i.e., a population with frequent interactions between individual members) before they can become individual functions. Scribner (1979) provided a less sweeping account. In a study in Liberia with think-aloud protocols, she found that unschooled participants did follow principles of logic to solve syllogisms, but the basis of their reasoning was their own prior experience rather than the premises mentioned by an experimenter. In other words, Scribner's respondents did not start from the premises presented to them, but more from what they knew to be factually true, and starting from there they applied common logic. This study is one example of Cole and colleagues' tradition of "contextualized cognition." In an early publication, they concluded that "cultural differences in cognition reside more in the situations to which particular cognitive processes are applied, than in the existence of a process in one cultural group and its absence in another" (Cole et al., 1971, p. 233).

Major differences in abstract thinking as reported by Luria have been attributed widely to differences in ways of thinking between literate and illiterate peoples (see Segall et al., 1990, chap. 5, for an overview). An important challenge to such contrasts came from a study by Scribner and Cole (1981), who demonstrated that literacy is not a kind of watershed for cognitive functioning. They found that for groups with different scripts and traditions of schooling in Liberia, performance on various cognitive tasks was attuned to the particularities of their experiences and the curricula in their education. It may be noted that Cole (e.g., Cole, 1996) does endorse the idea of mediation of cognitive processes, but at the level of specific skills and cognitions, rather than at the level of cognitive functions that become manifest in broad domains of behavior.

Another tradition in cognition research, clearly illustrating changes over time from broader to more specific interpretations of differences, is Piagetian research. Piaget (e.g., Piaget, 1970) postulated a well-known hierarchical sequence of three stages in cognitive development: sensorimotor, concrete-operational, and formal thinking. In a review of early cross-cultural studies, Dasen (1972) reported that compared with Western populations, populations

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with low formal education showed major delays in the age of onset of the concrete-operational stage. Sometimes this stage was not even reached at all by a substantial proportion of participants. This finding essentially was overturned in research showing that twelve-year-old children who would not spontaneously use concrete-operational reasoning often would do so after a brief learning episode. Dasen (1984) argued that a distinction should be made between performance and competence; obviously, the competence for concrete-operational reasoning had to be available to a child if the performance of such reasoning could be solicited with little effort.

An influential tradition was started when Nisbett and colleagues postulated a broad distinction between East Asia and the West in holistic or dialectical versus analytic thinking (Nisbett et al., 2001; Peng & Nisbett, 1999). This difference is seen as rooted in social orientation, with East Asians reflecting a more interdependent construal of the self and Europeans (including European Americans) a more independent construal of the self (Markus & Kitayama, 1991). The East-West dichotomy has been the basis for numerous empirical studies on a wide range of cognitive and social psychological variables seen as correlates of this broad distinction. Typically, they have reported supportive findings (for overviews, see Cohen & Kitayama, 2019; Kitayama & Cohen, 2007).

There are reasons to question the validity of a broad dimension of East-West differences as proposed. Probably the most critical point is that the typical two-sample studies of this tradition, with relatively small samples seeking convergent evidence, are vulnerable to false positive outcomes; in fact, they have started to show poor replicability (see Section 3.4). Another reason is a tendency of authors to ignore or reinterpret results that an outsider would see as negative outcomes for the underlying theory. For example, Wong et al. (2018) found that Canadians of European descent showed better memory for backgrounds than Chinese participants did, a result not in line with expectations (Masuda & Nisbett, 2001). The authors construed an additional argument to tune their finding to the theory but appear not to have considered that the finding actually might be in conflict with the theory. A third reason is that negative findings tend to be ignored. Studies by Rayner and colleagues (Evans et al., 2009; Rayner et al., 2007) failed to show expected differences in eye movement patterns and recognition memory, suggesting that both Americans and Chinese use the same rather than different strategies in scene perception and memory. In the authoritative *Handbook of Cultural Psychology* (Cohen & Kitayama, 2019), this work is mentioned in passing as relevant, but implications are not considered.

A fourth reason to question this major East-West dimension derives from studies with multiple measures of both cognitive and social variables (Na et al.,

2010; Na et al., 2020). Correlations between the measures within samples were negligible, not only across the two domains but also between measures within the cognitive domain and within the social domain. The authors argue that the measures pertain to constructs consisting of loosely related attributes that need not lead to consistent individual differences. At the very least, this argument implies a major deviation from earlier theorizing that clearly presumed psychological coherence across the two domains and definitely within each domain. By common psychometric standards, the findings of Na and colleagues should have been deemed incompatible with the broad theory that they examined.

1.3 Psycholinguistics

An obvious starting point is Whorf's (1956) hypothesis, also known as the Sapir-Whorf hypothesis or the linguistic relativity hypothesis. This hypothesis postulates that through its words and grammar, a language shapes the thinking and ideas of the speakers of that language. The principle that language is a vehicle for thinking is widely endorsed, but there is debate about the extent to which differences between languages can be associated with differences in perception and thinking. Two topics have become real battlegrounds: color categories and frames of reference used in spatial orientation.

Whorf's conjecture implies that color names in a language will divide a map of all visible colors (the color space) in a language-specific fashion. Support for this idea came from ethnographic research reporting color terms in various languages for which there is no corresponding term in English (and vice versa) (e.g., Ray, 1952). Berlin and Kay (1969) followed a more systematic approach. They asked speakers of several languages to name basic color terms (like red, green, blue, etc., for English) in their mother tongue and to indicate for each of these terms the best matching color in the Munsell color system (www.munsell.com). Across languages, the selected colors turned out to cluster and these clusters occupied only a small part of the total space of visible colors. Berlin and Kay (1969, p. 10) concluded that "color categorization is not random and the foci of basic color terms are similar in all languages." However, this was not the end of the controversy. Roberson et al. (2004, 2000) conducted field studies among populations with a limited number of basic color terms (Berinmo in Papua New Guinea and Himba in Namibia). They showed that on some tasks, respondents perform better with distinctions from their own language than with the color categories derived by Berlin and Kay. More extensive evidence comes from the World Color Survey (Kay et al., 2009), covering the color lexicons of 110 non-written languages in terms of the Munsell system. Analysis of these data has indicated more variation between individual speakers of a language

than between languages as well as a clustering according to linguistic families. However, overall variation is limited (Bimler, 2007; Lindsey & Brown, 2009). Thus, there appear to be strong regularities in color categorization that to an important extent invalidate Whorf's far-reaching claims.

Research on spatial orientation hinges on a distinction between an ego-referenced, or relative, orientation and an absolute orientation. An example may help make this distinction clear. Suppose an observer is facing a table and a chair. Using the ego-referenced orientation, this observer may say that the chair is on the left side of the table. After moving to the other side of the table, the same observer will then say that the chair is on the right side of the table. A speaker with an absolute orientation will use the same phrase in both instances, as the position of the chair in relation to the table has not changed. This speaker could say, for example, that the chair is to the east of the table. The rising or setting sun, or some other conspicuous feature in the natural environment of a community, such as a mountain, can serve as a standard for absolute orientation (e.g., the chair could be said to be on the side of the table away from the East or away from the mountain). Levinson and colleagues (e.g., Levinson, 2003; Majid et al., 2004) found common use of an absolute orientation in speakers of more than fifteen languages. Using a formulation in line with the original Whorfian hypothesis, Majid et al. (2004, p. 113) referred to "profound linguistic effects on cognition."

A turning point has been a series of studies by Dasen and Mishra (2010) based on a variety of data in various populations. These studies provided a differentiated view with more nuance. They did show evidence of extensive use of an absolute orientation on Bali, in India, and in Nepal but also found that the use of an absolute or relative frame of reference could be task-dependent. Moreover, when asked for an explanation, participants could make use of ego-referenced language to explain answers based on an absolute frame of reference, and vice versa. An example is an ego-referenced alignment of objects by a study participant that is explained subsequently in terms referring to the absolute orientation. Dasen and Mishra (2010) concluded that individuals possess the basic processes needed for both an absolute and an ego-oriented frame of reference, deflating the original claims.

1.4 Emotions

During much of the twentieth century, it was widely accepted that the repertoire of emotions was acquired in the process of socialization, at least to a considerable extent (e.g., Birdwhistell, 1970). New evidence came from studies based on a theory postulating that a small set of six or seven basic

emotions is found universally, each of which is expressed through a typical muscular contraction pattern in the face. Ekman and Friesen (1971) reported that respondents in Papua New Guinea, unfamiliar with European faces, recognized these basic emotions in posed photographs of European Americans. In addition, raters in the United States of America often correctly identified photographs of such expressions produced by participants in Papua New Guinea.

Further arguments for population specificity of emotions came from the observation that there are words present in other languages for which there is no matching word in English (Lutz, 1988; Russell, 1991, 1994). This culture-specific or relativist position (see Section 3.1) was taken up in the school of cultural psychology. Setting a clear agenda for identifying essential differences in emotional functioning, Kitayama and Markus (1994, p. 1) wrote: “Specifically, we wish to establish that emotion can be fruitfully conceptualized as being social in nature, or in Lutz’s (1988) words, as being ‘anything but natural.’” In other words, emotions are learned and the emotional repertoire that a person develops is dependent on the social context.

Strong versions of both the universalist and the relativist perspectives turned out to be vulnerable. On the one hand, face recognition from posed photographs was far from perfect; there was a considerable proportion of unexplained variance in facial recognition studies (Russell, 1994). On the other hand, reliance on verbal labeling of emotional experiences was also questionable, because the absence or presence of an emotion word need not have much influence on patterns of reactions to emotion-soliciting situations. For example, the Rarámuri, an indigenous group of subsistence farmers in Northern Mexico, do not have a word for “shame” as distinct from “guilt.” Breugelmans and Poortinga (2006) asked Rarámuri participants to rate a set of situations on a broad set of emotion characteristics that previously had been found to differentiate shame from guilt in an international student sample. For most of these characteristics, a pattern of differentiation was found for the Rarámuri participants similar to that of the students and also to that of Javanese farmers, known to have separate terms for “guilt” and “shame” in their language.

Further research on facial expressions has continued to show evidence of wide recognition of basic emotions, also beyond staged photographs. For example, Matsumoto and Willingham (2006) analyzed facial expressions of individual winners and losers from thirty-five countries in Olympic matches and concluded that spontaneous facial expressions of athletes from all over the world point to common emotions. A more recent review (Barrett et al., 2019) challenges a wide range of sources of evidence in facial recognition studies traditionally interpreted as pointing to common emotions. Barrett et al. (2019)

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demand high reliability and configuration specificity across a broad range of populations, including populations in remote areas, to justify the conclusion that a distinctive configuration for an emotion category exists. They argue that the meaning of facial movements is too variable and context-dependent to justify such a conclusion.

It may well be that the standards required by Barrett et al. (2019) are too strict, but with unclear criteria for universality, it is difficult to resolve current debates. Perhaps the best representation for now is the notion of a common emotion language with local dialects that explain both communality and an in-group advantage in emotion recognition (Elfenbein, 2013; Elfenbein & Ambady, 2002). This is in line with results from other research, using ratings of emotion situations, that shows invariance of the factorial structure of emotion components (e.g., Fontaine, Veirman, & Groenvynck, 2013). It is also in line with everyday observations to the effect that, on the one hand, errors of communication between individuals appear to be more frequent across than within populations and that, on the other hand, poetry and TV serials, which heavily depend on communication of emotions, can travel across languages, countries, and regions (Berry et al., 2011).

1.5 Values

Much research in (c)cp has a social psychological perspective. Of the broad range of research traditions, only values, the most dominant topic during the past four decades, is discussed here. Attention for values exploded after Hofstede (1980) postulated four dimensions distinguishing populations at country level, that is, individualism, power distance, masculinity, and uncertainty avoidance. Triandis (1989, 1996) further elaborated the dimension of individualism as individualism-collectivism, building on an earlier distinction in sociology between *Gesellschaft* (society) and *Gemeinschaft* (community). The individualism-collectivism dimension has been linked to the dichotomy of independent construal of the self and interdependent construal of the self, formulated by Markus and Kitayama (1991), and to the broad East-West dichotomy presented earlier. Although Hofstede added some dimensions later, the original four continue to be used widely, for example, in marketing research (e.g., Song et al., 2018). In the *Journal of Cross-Cultural Psychology*, studies conducted as recently as 2019 use individualism-collectivism as an unquestioned antecedent for some differences between samples from an East Asian country and the United States or Canada, even when results do not appear to fit expectations (e.g., Bebko et al., 2019). In the meantime, a variety of conceptual, methodological, psychometric, and empirical concerns have been raised.

Various authors have mentioned that individualism-collectivism is too broad a dimension for critical examination (Jahoda, 2011; Segall, 1996). Consequently, the dimension is beyond analysis of validity (or falsifiability). An unanswered conceptual question is what high ratings on a value item actually represent. A high score for a value item usually is taken to mean that the respondent sees that value as important or desirable in an absolute sense. However, the notion of “diminishing marginal utility” (Maseland & Van Hoorn, 2009) suggests that we rate as important what we perceive as lacking in our lives.

Spector et al. (2001) examined the psychometric properties of Hofstede’s Values Survey Module (1994 edition) in a large replication study. They found inadequate internal consistencies, at both the individual level and the country level and failed to replicate the expected factorial structure at the country level. Apparently, the classification of individual respondents as individualists or collectivists was subject to a large margin of error. Also, there have been frequent failures to obtain country differences that were expected; telling is the lack of support in numerous studies for the idea that Japanese people should be more collectivist than US Americans (e.g., Matsumoto, 1999; Takano & Sogon, 2008). In a large meta-analysis, Oyserman et al. (2002, p. 3) notoriously found “European Americans were not more individualistic than African Americans, or Latinos, and not less collectivistic than Japanese or Koreans.” Schimmack et al. (2005) reported very low correlations between the country scores obtained by Oyserman et al. (2002) and individualism-collectivism measurements in the Hofstede tradition. Schimmack et al. (2005) saw this as due to response styles and called for correction. However, even if such a correction would harmonize findings, serious questions remain about findings from previous studies with uncorrected data and the validity of the underlying theorizing of either Hofstede or Oyserman and colleagues, or perhaps both.

To conclude this brief overview, two comments may be added. First, although the validity of individualism-collectivism as a major value dimension is in serious doubt, this discussion is not meant to play down findings of differences between countries on scales, like those of Hofstede (1980) or Schwartz (1992, 2012). Factor analysis of international survey data in these traditions shows, before factor rotation, a large first factor that reflects a manifold of variables centering on affluence (see Section 5.1). Second, although the concept of values remains strong in (c)cp (Fischer, 2018), there has been a shift to less-encompassing distinctions. One example is the concept of “social axioms” (Leung & Bond, 2004) that taps into beliefs people have about the world. Another example is a general shift from values to norms that are more easily linked to external conditions and domains of situations (Gelfand et al., 2011).