

Difference and the Self: Individualism and Collectivism in Cultural Neuroscience

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Introduction

Background

The emerging field of Cultural Neuroscience (CN) seeks to examine "cultural phenomena" via functional neuroimaging techniques:

- focus on "culturally" tuned ways of understanding the "self"
- distinction of "individualistic" and "collectivistic cultures" transferring the classic "cross-cultural" psychological findings brought forth by Markus & Kitayama (1991) into functional neuroimaging
- comparisons between East and West, assuming that these are the main groups to structure cultural differences

- What does it mean to speak about a "culturally" imprinted "self"? And what are the implications of comparing two seemingly complementary groups with complementary world- and self-views (Martinez Mateo et al. 2012)?

Hypotheses

- proclaimed "cross-cultural" differences are uncritically adopted into functional neuroimaging investigations
- findings bear the risk to construct and reproduce colonial, neoracist (see **Box 1**) ways of thinking and acting
- continuation of an orientalist tradition of knowledge production (see **Box 1**)

Box 1: Theoretical instruments

Orientalism (as described by Said 1979): refers to the production of knowledge about the "East" or the "Orient" as complementary to the "West" or the "Occident". Said criticizes this for (a) being an imperialist and Eurocentric project and (b) containing stereotypes and racist implications.

Binary: "The age old distinction between 'Europe' and 'Asia' or 'Occident' and 'Orient' herds beneath very wide labels every possible variety of human plurality" (Said 1979). Binary structures always create dominance, privileging one of the two components (Derrida 1967).

Essentialism: refers to the idea that the concept of e.g. the "Chinese" or the "Westerner" has its own real essence. Said criticizes that this implies violence towards the presumed "members" of these categories as they are forced to correspond to this essence: "An Oriental man was first an Oriental and only second a man." (Said 1979)

Cultural racism or neoracism: framed by Balibar (1990) and Taguieff (1991) to describe that the essentialist idea of a cultural totality constructs a racist argumentation, without necessity for the concept of race. As soon as a person is reduced to its cultural belonging and this forms the basis for interpreting its behavior, there is no significant difference between the concept of race and the concept of culture.

Methods

We searched in peer-reviewed journals indexed in large databases (e.g. Google Scholar; PubMed) for English language manuscripts of original functional magnetic resonance imaging studies which addressed the neural correlates of the "self" or concepts of "individualism" and "collectivism" in a "cultural" context. We selected nine manuscripts which fulfilled the criteria of original articles. From these articles we extracted the ways of treating (i) "cultural difference" and (ii) the experience of the "self" as well as "individualism" and "collectivism". For our analysis we made use of several theoretical concepts (see **Box 1** for the central terms) and clustered our results according to the four dimensions below:

- (A) Essentialistic concept of culture
(B) Binary
(C) Eurocentrism
(D) Orientalistic view of the Self

Results

Authors	Year	Journal	Groups of comparison	Examples
Chiao, J. Y. et al.	2010	J Cogn Neurosci	bicultural Asian-Americans after cultural priming	"Here we provide direct evidence that cultural values of individualism and collectivism influence neural mechanisms underlying the self"
Chiao, J. Y. et al.	2009	Hum Brain Mapp	Japanese vs. Americans	"Our results provide converging evidence of the notion that distinct neural representations of self between individualists and collectivists (...) reflect cultural values of individualism and collectivism that are endorsed by the individual"
Goh, J.O. et al.	2007	CABN	Young vs. old Westerners (contrasted to Eastern participants in an older study)	"Perhaps because the present paradigm is comparatively subtle, cultural differences became apparent only in older subjects who had had more exposure to their respective cultural environments than the young subjects had had"
Harada, T. et al.	2010	Soc Neurosci	bicultural Asian-Americans after cultural priming	"One plausible explanation for the current finding is that when participants are primed with individualistic cultural values, additional processing is needed to distinguish self-relevant from self-irrelevant information, relative to when participants are primed with collectivistic cultural values and self-relevant information are treated more similarly"
Ng, S. H. et al.	2010	AJSP	Westernized bicultural Chinese after cultural priming	"This family of concepts converges in proposing that whereas interdependent self-construal and collectivism are more typical of Eastern cultures (e.g. Chinese and Japanese), independent self-construal and individualism are more typical of Western cultures (e.g. Euro-American)"
Sul, S. et al.	2011	Soc Neurosci	Koreans (degree of collectivism - individualism measured by INDOOL-index)	"An independent self, typically found in individualistic cultures (e.g., North America and Western Europe), is primarily defined by personality traits and other internal attributes (i.e., personal self). In contrast, an interdependent self, typically found in collectivistic cultures (e.g., East Asia), mainly takes form in social identities such as roles and memberships (i.e., social self)"
Wang, G. et al.	2012	Soc Cogn Affect Neurosci	Chinese (implicit contrast to examinations with Western subjects in other studies)	"The brain imaging findings indicate that collectivism cultural values may result in shared neural representations of the self and close others in the MPFC, whereas individualism cultural values may lead to differential neural representations of the self and close others in the MPFC. Taken together, the brain imaging findings suggest a neural basis for the interdependent self-construal in the collectivistic cultures."
Zhang, L. et al.	2006	Sci. China, C, Life Sci.	Chinese (implicit contrast to examinations with Western subjects in other studies)	"This results provide strong evidence that the Chinese self includes mother"
Zhu, Y. et al.	2007	Neuroimage	Western vs. Chinese	"The additional brain structures linked to self- and mother-judgments, in Chinese, compared with Western individuals, provide further neuroimaging evidence for the interdependent self formed by East Asian culture."

Further details on the argumentation patterns we found in the quoted manuscripts are described in the discussion section.

Discussion

(A) Essentialistic concept of culture

- quoted studies take the idea of "cultural" totalities as a starting point
- accusation of essentializing "cultural identity" is appropriate, since the individual is just the anonymous representative for a "cultural" totality; e.g. "collectivistic brains" (Wang et al. 2012); "collectivistic people" (Sul et al. 2011); "Chinese self" (Zhang et al. 2006)

(B) Binary

- quoted studies use a binary structure for their comparisons, even though some of them implicitly (see **Box 2**)
- quoted studies work with complementary descriptions that leave no third opportunity (see **Table, right**)

(C) Eurocentrism

- "gold standard" for comparisons is always a "Western perspective" which is contrasted to the "rest"
 - interdependence refers in general to "non-Western cultures" (Markus und Kitayama 1991)
 - independence is linked to modernity and freedom, thus implicitly privileging this part of the dualism (see also **Table right**)

(D) Orientalistic view on the self

- distinction of "independent"/"interdependent" selves fits in a postcolonial, orientalist argumentation-pattern (see **Box 3**)

Independence	Interdependence
Object	Background
Self	Others
Analytic	Holistic
Agency	Relationships
Free choice	Duties

Box 2: Cultural priming of "bicultural" individuals

Although it is a way of avoiding the comparison of biologically predefined groups, we see a problem with cultural priming. It makes simplistic presumptions about bicultural individuals' identity and use stereotypical attributions: "When participants were exposed to Chinese scenes, such as dragons and the Great Wall, bicultural Hong Kong Chinese showed more prototypically interdependent behaviors, but when exposed to American scenes, such as the Statue of Liberty or Liberty Bell, they showed prototypically independent behaviors." (Markus and Kitayama 2010)

Box 3: Independence/ Interdependence and its colonial tradition

Lord Cromer 1908: "The European is a close reasoner; his statements of fact are devoid of any ambiguity; he is a natural logician, albeit he may not have studied logic; (...) The mind of the Oriental, on the other hand, like his picturesque streets, is eminently wanting in symmetry." (quoted from Said 1979)

Henry Kissinger 1974: "Cultures which escaped the early impact of Newtonian thinking have retained the essentially pre Newtonian view that the real world is almost completely internal to the observer." Consequently, "empirical reality has a much different significance for many of the new countries than for the West because in a certain sense they never went through the process of discovering it." (quoted from Said 1979)

Markus & Kitayama 1991: "Such a holistic view is in opposition to the Cartesian, dualistic tradition that characterizes Western thinking and in which the self is separated from the object and from the natural world."

→ The first quotation is from a context of British colonial politics and the second of American foreign policy. Both combine the idea of an independent, analytical, rational European self vs. an Oriental undistinguished, syncretical self with practices of domination. Seen from this background the theoretical assumption in the third quotation (as well as the empirical findings in the CN-studies) cannot be seen as neutral truths, but moreover as a continuation of a colonial tradition and of a legitimization of power.

Conclusion

We extracted that the comparisons within CN studies referring to the "self" are not naturally given facts, but result from a (post-)colonial history of Orientalism. Thus, they reproduce Eurocentric structures of domination, implying neo-racist categories and stereotypes. In contrast to its template, i.e. the manuscript by Markus & Kitayama, the usage of functional neuroimaging techniques extends these "psychological" findings about "cultural differences" on a "biological" level. The danger of a *Looping Effect* (see Hacking) becomes evident, since the produced knowledge has the status of scientific truth.

References

- Balibar, E. and I. Wallerstein, Rasse, Klasse, Nation, Ambivalente Identitäten, 1990, Germany: Argument.
Hacking, I., The looping effects of human kinds, in Causal Cognition: Multidisciplinary debate, D. Sperber, D. Premack, and A.J. Premack, Editors, 1995, Oxford Medical Publications: New York, 351-394.
Markus, H. R.; Kitayama, S.: Cultures and Selves: A Cycle of Mutual Constitution. In: Perspectives on Psychological Science 5 (4), 2010, 420-430.
Markus, H. R.; Kitayama, S.: Culture and Self - Implications for Cognition Emotion and Motivation. In: American Psychological Review 98 (2), 1991, 224-253.
Martinez Mateo, M.; Cabanis, M.; Cruz de Echeverria Loebl, N.; Krach, S.: Concerns about cultural neurosciences: A critical analysis. In: Neuroscience & Biobehavioral Reviews 36 (1), 2012, 152-161.
Said, E.: Orientalism, 1979, New York: Vintage Books.
Taguieff, P.A., Die ideologischen Metamorphosen des Rassismus und die Krise des Antirassismus, in Das Eigene und das Fremde. Neuer Rassismus in der Alten Welt? U. Bielefeld, Editor, 1991, Junius: Hamburg, 221-268.