

Hanna Brycz*University of Gdansk
Poland**e-mail: psyhbb@ug.edu.pl***Joanna Różycka-Tran***University of Gdansk
Poland**e-mail: psyjro@ug.edu.pl***Joanna Szczepanik***University of Maryland, College
Park, MD, USA**e-mail: szczepaj@mail.nih.gov**Received: January, 2015**1st Revision: March, 2015**Accepted: April, 2015***DOI: 10.14254/2071-
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CROSS-CULTURAL DIFFERENCES IN METACOGNITIVE SELF

Abstract. The main aim of this study is to investigate the differences between levels of metacognitive self among cultural groups. Metacognitive self is a new concept meaning the level of insight into own biases. We focus on individual versus collective societies as well as the core characteristics of the metacognitive self. Our results indicate better self – insight among collectivistic nations such as Vietnam, Japan, China and India in comparison to individualistic countries (USA, England, Spain). We also studied the level of metacognitive self among participants from Poland, the country undergoing socio - economic transition from collectivistic to individualistic society. Future studies should expand the investigation to include more collectivistic and individualistic nations, and countries undergoing transitions.

Keywords: metacognitive self, cross-cultural differences, individualism, collectivism

Introduction

The main research problem addressed in this study was investigate question whether “self- insight into one’s own biases” (metacognitive self) differs among cultures. We hypothesized that collectivistic countries like Vietnam or India promote greater self- insight in contrast to individualistic ones (like USA, GB). 985 students all over the world participated in our study. Countries anchored in individualistic versus collectivistic culture were our independent variables. Metacognitive self as assessed by the questionnaire MCSQ-40 served as the dependent variable (Brycz, Karasiewicz, 2011). Research strongly supported our predictions.

Metacognition is a very important topic for both psychology and economy. Human beings, the only ones among animals, are capable of self – insight as secondary thoughts (Brinol, DeMarree, 2012). Quality of self- knowledge impacts decisions, including economic decisions (Bilan, 2015), self- regulation, and social interactions. Metacognitive self is crucial not only for self- regulatory skills and empathy, but also influences goal striving and promotes economic decisions.

Metacognitive Self

Good understanding of our decisions, including economic decision and behaviors (Bilan, 2015) supports self- regulatory functions. Good self- insight demands epistemic motivation for understanding self from a third party perspective, that of an observer (e.g. Brinol &

DeMarree 2012). However, it's been a while since scientists (e.g. Kahneman & Tverski, 1973) theorized about the vast majority of irrational behavior. People constantly use heuristics while thinking and reasoning. Experimental psychology provided strong evidence for tendencies and illusions nested in human cognition and human behavior. There is no doubt that human cognition is biased.

Nisbett and Ross (1980) described how biases work in our lives: "It seems likely that more vivid information may generate more extreme inferences partially because it incidentally is likely to remain in thought longer", (p. 55). Do you ever ponder you're right and accurate in your economic decisions or behaviors? Are you sure that you bought a good product? Have you chosen the right, wholesome life partner for many years to come? We present a simple example to show how biases influence people, a scenario called "shoe purchase": Imagine a situation: you're watching a person who wants to buy new shoes. The buyer, a young woman promised herself to spend no more than 150 Euro on this purchase. A shop assistant showed her really beautiful shoes. Unfortunately, they cost 400 euro. The woman was just about to leave the boutique, when suddenly the shop assistant shows her another, very similar, beautiful pair of shoes, which costs 200 euro. The woman thinks that this is a great opportunity! Without conscious reasoning she bought shoes for 200 euro and felt happy. You as an observer understood the shop assistant's trick: she used the contrast of the value between 400 euro and 200 euro. Without this trick the buyer might go to another shop and found suitable shoes for even less than 150 euro. In fact, shoe buyer overspent by 50 euro. This situation demonstrates that we are not necessarily experts in recognizing reasons for our behavior, in contrast to an observer, or a witness. The example presented above pertains to biases in our behavior. The woman we call a "shoe's buyer" expressed a bias (a tendency in our beliefs) which may be anchored in a contrast effect (contrast between 400 euro as high price vs. 200 euro as low price) or vivid, salient information (200 euro seems very vivid in comparison to 400 euro).

It is plausible to expect that a good insight into own irrationality, the self-consciousness of biases, may play an important and adaptive role. This ability to recognize own biases was investigated as the strength of Metacognitive self (MS). Metacognitive self expands self-knowledge with the knowledge of one's own biases. Individual differences in metacognitive self can be measured by Metacognitive Self Questionnaire (MCSQ, Brycz & Karasiewicz, 2011). This scale presents 40 examples of common biased behaviors. Each behavior represents one of 40 biases specially extracted from 129 previously identified (Brycz, 2004). The extraction process depended on competent judges' evaluations of 129 biases (or social regularities, like memory biases – e.g. false alarms, that are common among us). Biases were chosen on the bases of how much the knowledge of their existence in self (own behavior, beliefs) may help self-regulatory focus. We posit that the high level of explicit knowledge of 40 biased behaviors in own spectrum of behaviors helps people regulate themselves in both cognitive approach (self-knowledge and distance) and motivational approach (self-regulation, delay of gratification). In other words, metacognitive skills are a particular type of insight into biases into one's own behavior. These errors (biases) are, in fact, a statistical generalization of behavior (Wojciszke, at el., 1993). Nevertheless, they are very common. For example, a *confirmation bias* (Bar-Tal, at el., 1999, Brycz at el., 2014) means that people tend to confirm their hypothesis about the world or others a lot more often than they try to falsify own beliefs or have *an a priori* hypothesis.

The 40 item Metacognitive Self Questionnaire was normalized on a sample of 2000 subjects (alfa C = 0,85, MCSQ appeared to have high construct validity and reliability). The questionnaire consists of descriptions of behaviors, which express a common error, from the "actor" perspective (the one who is presenting given bias in own behavior). After each sentence, subjects judged the behavior on a scale from 0% – "it does not pertain to me at all" to

100% – “it is entirely pertinent to me”. The subjects indicated on a scale of the length of 10 cm the percentage of their agreement with each statement. Higher percentage of agreement indicated higher self- accuracy of bias. The following are examples of the scale items in the currently used version: “I have a tendency to judge people rather in positive than negative way” (positivity bias); “Commercials shown on TV do affect my choices and I buy what it is very frequently presented” (exposition effect); “If something or somebody from the outside makes me change my behavior, my opinions related to that behavior change as well” (forced compliance).

The Carver and Sheier self-awareness concept (1981) inspired research into metacognitive self. The authors proved that shaping accurate self-knowledge took place in the process of motivated hypotheses testing when attention was focused on the aspects of private self (Carver & Sheier, 1981, 1982, 1998). Consequently, this kind of motivation will not occur when the self is endangered, when the discrepancy between self-evaluations and personal standards is too significant or when the abilities to reduce this discrepancy are insufficient (compare Hull et al., 1988). Weakened hypothesis testing motivation occurs especially when one remains in the state of chronic or situation induced dispositional public self-awareness. (Hull et al., 1988). It is probably the result of engaging one of the two strong motives of a biased information processing – self-enhancement motive (Jones & Pittman, 1982) or self-coherence (Jones & Pittman, 1982; Moore & Small, 2007; Sedikides & Gragg, 2008).

In summary, the concept of metacognitive self is a continuation of previous theories explicating the process of self-perception. Nevertheless, this concept, as juxtaposed with its predecessors, has a far broader scope. MCS is not limited solely to getting to know oneself but also examines the authenticity of the self-cognition processes in shaping subject’s personal maturity by developing personal standards, cognitive processes as well as behaviors. Thus, metacognitive self may serve self- regulatory functions for all human behaviors involving economic decision.

Cross-cultural Differences in the Metacognitive Self

High metacognitive self as the accurate insight into one’s own biases seems to be an individual trait. Research showed that priming has no impact on metacognitive self. There is also no correlation between metacognitive self and self- esteem measured with Rosenberg scale (Brycz, unpublished results). Moreover, Karasiewicz (2009) in 5 experiments documented that people high in metacognitive self are better in attaining goals even when participants experienced ego depletion (Baumeister & Vohs, 2002). Subjects high in metacognitive self as opposed to low metacognitive self are strongly motivated to achieve goals. High metacognitive self seems an important construct for both cognitive and emotional function that allows for better self-regulation. Moreover, metacognitive self is a factor of self-control. Metcalfe et al. (2007) suggested that activation in the anterior insula is typical for feeling of control whereas less self-control is related to activation in the right inferior parietal cortex (p. 185). These regions may be some of the neural correlates of the metacognitive self processes. On the other hand, we were interested if metacognitive self could be also shaped by culture. We wondered if metacognitive self as individual trait is influenced by culturally biased construct of self. Markus and Kitayama (1991) distinguish between two types of self-construal, namely the independent and interdependent self. They argue that these differences have implications for cognition, emotion and motivation. The individualistic cultures stress attending to the self, the appreciation of one’s differences from others, and the importance of asserting the self. The collectivistic cultures emphasize attending to and fitting in with others and the importance of harmonious interdependence with them (Markus & Kitayama, 1991, p.224).

According to the independent model, the self is understood and experienced as bounded, autonomous entity made up of unique, stable and internal attributes. Because self-image is derived from stable traits, it is important that the individuals feel positive about them. According to this, self-enhancement is observed because western culture encourages people to think positively about themselves as a mean to approach the culturally defined ideals of independence and autonomy (Heine & Lehman, 1997). The interdependent self is understood as relational, contextual and is socially situated. This model is not made up of stable traits, but of tangible relationships with other people in given situations. These relationships are affirmed and maintained by harmonizing with and meeting expectations of relevant others (Heine & Lehman, 1997). The goal is to fit oneself into meaningful relationships. In this way an evaluation of one's self that is separate from the social context, may not be the primary concern (Kitayama, Marcus, Matsumoto & Norasakkunkit, 1997). Thus, in collectivistic cultures, self-criticism rather than self-enhancement may be more culturally valued. It seems that some cultural differences exist within the level of metacognitive self because of difference in self – construal and information processing, particularly self-perception and attribution.

Study

In order to examine whether higher metacognitive self, as a good insight into own biases, is not only an individual trait, but also results from cultural differences, we have conducted a cross-cultural comparison study.

Assumptions and Hypotheses

Our predictions were based on a self - construal theory by Markus and Kitayama (Markus & Kitayama, 1991). We hypothesised that collectivistic cultures are higher in metacognitive self-level, than individualistic cultures because of at least five reasons: (i) the independent self is based on stable traits and need biased self-enhancement, whereas interdependent self is more situational constructed and needs self-criticism for social functioning; (ii) the individualistic cultures stress attending to the self and need think positively about the self in biased way more than collectivistic cultures; (iii) the goal of people with interdependent self is to fit themselves into meaningful relationships – so they need using metacognitive self in case to make proper self-judgement; (iv) in individualistic cultures, with independent self who is separable from others, *fundamental attribution error* (see: Ross, 1977) happens: others behavior is explained by theirs traits whereas one's actions are more likely to be seen as situational - that bias doesn't appear for interdependent self, where attributions are constructed always with relations with others (see: Lee, Hallahan & Herzog, 1996; Morris & Peng, 1994; Norenzayan et al., 2002), (v) for independent self - construal, thinking about self as individual is the primary unit of consciousness, whereas for interdependent, thinking about self in terms of relationship is more functional unit of conscious reflection – and that is why more adequate in self and other-judging.

Method

Participants

All together 985 students, aged 19 – 26, participated in the study. The participants originated from individualistic nations (USA, Spain, England), collectivistic nations (Vietnam, China, Japan, India) and nations which used to be collective but are now undergoing the process of social and economic system transformation (Poland). Participants were recruited randomly

among undergraduate students enrolled in studies at different departments of the following Universities: University of Delhi (India), National Vietnam University in Hanoi (Vietnam), Global University in Barcelona (Spain), City University London, University of East Anglia, University of Kent (Great Britain), Washington University in St. Louis, University of Maryland (USA), and University of Gdansk, University of Kazimierz Wielki (Poland). We also had an opportunity to include Japanese and Chinese students as separate groups in our sample. These participants were born and grew up in their country of origin and at the time of the study were enrolled in the programs of their choice in Great Britain. The sample sizes are different across countries represented. (see Table 1).

Table 1. Reliability and Mean Ratings of Metacognitive Self (MCS) in different Countries

Country	N	Cronbach α	MCS Mean
Poland	204	.72	62.81
Vietnam	237	.81	61.60
Spain	127	.76	58.00
England	49*	.68	54.22
India	128	.77	63.13
China	20*	.73	61.99
Japan	20*	.77	56.18
USA	200	.78	61.61
Total	985	.77	

Note. *low number of subjects in the sample

Measures and Procedure

Metacognitive Self Scale (Questionnaire) (MCSQ - originally Polish, Brycz & Karasiewicz, 2011) was translated (full back translation procedure was used) into English, Vietnamese, and Spanish. The administration procedure was standardized across all countries. The investigator asked participants to fill out the MCS questionnaire, either individually or in groups. Metacognitive self as a dependent variable was measured in percentage (where 0% means no insight in one's own biases and 100% indicates full insight into own biases).

Results

Reliability of MCSQ was high and allowed us further investigation (see Table 1).

In the first analysis using SPSS.22 statistical package, we explored the role of nation as a factor (ANOVA) for metacognitive self level. Nation as an independent variable had significant impact on metacognitive self level $F(7, 977) = 10.91, p < .001, \mu^2 = .072$ (Lambda Wilks for the model = 1952, $p < .001, \mu^2 = .062$). Differences in metacognitive self level are presented in Figure 1. We found no impact of gender on metacognitive self ($F < 1$).

The second analysis was conducted for three levels of factor 'country': individualistic countries vs. collectivistic countries vs. country during transformation, on dependent variable: metacognitive self level. We found a significant main effect of the country classification on metacognitive self: $F(2, 982) = 12.87, p < .001, \mu^2 = .033$ (Lambda Wilks = 1960, $p < .001, \mu^2 = .03$). The results showed significant differences in metacognitive self level between individualistic societies (USA, England, Spain) in comparison to collectivistic nations (India, Vietnam, China, Japan; see Figure 2), based on the individualism-collectivism index described by Suh, Diener, Oishi, and Triandis (1998).

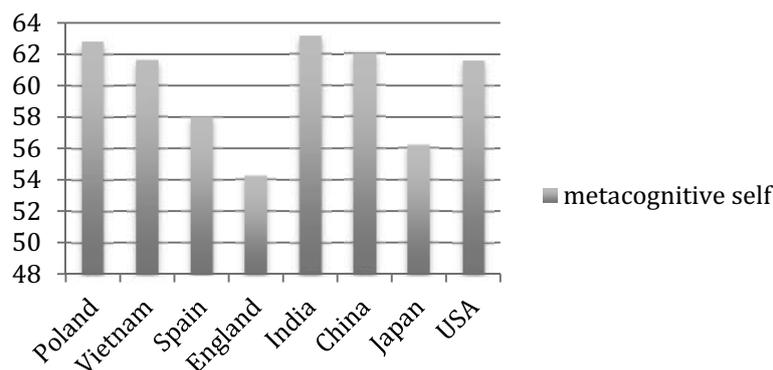


Figure 1. Differences in metacognitive self level according to the nation

General Discussion and Future Research

The results from this cross-cultural study have confirmed our hypothesis. The individuals living in collective cultures are more accurate in judging their own biases (higher level of metacognitive self) than those living in individualistic cultures. These results can be explained by the cultural differences in self-construal and information processing, previously demonstrated in many studies. For example, people with individual self describe situations from an actor's perspective (standing in the center of action), whereas people with interdependent self-perceive situations from the third person's view point (Cohen & Gunz, 2002); people with independent self are used to perceive main object (figure), whereas people with interdependent self are used to perceive objects always connected with the context (Nisbett, Caputo, Legant & Maracek, 1973); people from western cultures mostly classify objects using cognitive categories without respect to their interdependence whereas people from eastern cultures classify objects because of relations between them (Norenzayan, Smith, Kim & Nisbett, 2002). Those differences may influence metacognitive self.

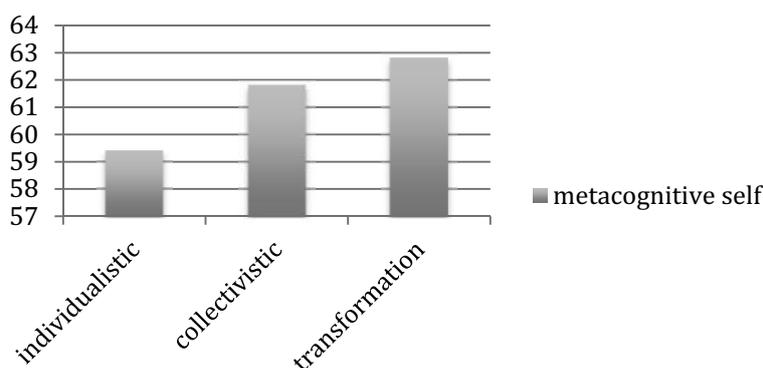


Figure 2. The difference between individualistic and collectivistic nations within the level of metacognitive self

The cultural differences in the level of metacognitive self can explain lack of priming effects in earlier studies. Even though metacognitive self is an individual trait, it appears to be culturally determined as well. Hence, we can think about metacognitive self as a stable, culturally determined trait rather than activated state of mind. But there is still an open question about the possibility to develop one's concept of metacognitive self. One hypothesis would be that

the collectivistic cultures are higher in metacognitive self level because of commonly practiced meditation and concentration techniques in Asian societies.

Considering that people with strong metacognitive self are better in attaining goals even under ego depletion manipulation, we should look for ways to guide individuals to develop this construct to increase self-regulation ability. The future research should give us the answer to what extent individuals can modify their metacognitive self and what kind of techniques can expand this cognitive and emotional construct, especially in individualistic cultures. The techniques for strengthening metacognitive self may include procedures focused on smooth interpersonal relations. We will also look to future studies to replicate our results of differences in the strength of metacognitive self between individualistic and collectivistic way of thinking.

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Correspondence concerning this article should be addressed to Hanna Brycz, Institute of Psychology, University of Gdansk, Bażyńskiego 4, 80-952 Gdansk, Poland, e-mail: psyhb@ug.edu.pl.

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