

## A CROSS-CULTURAL COMPARISON OF LEARNING STYLE AND SELF-EFFICACY BETWEEN EMPLOYEES IN JAPAN AND INDONESIA

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**Abstract:** *This study compared Japanese and Indonesian employees with regard to learning style and two types of self-efficacy beliefs: training and skill utilization self-efficacy. It also examined how learning style affects each of these self-efficacy beliefs after controlling for the demographic characteristics of age, gender, and country. We relied on Kolb's experiential learning theory and Bandura's self-efficacy paradigm in theorizing a relationship between learning style and efficacy beliefs. Participants included 801 employees who worked for an automobile parts maker: 398 from Japan and 403 from Indonesia. Results of the independent t-test revealed significant differences in learning style and the two specific efficacy beliefs. Japanese employees were more concrete and active than Indonesian employees and were more likely to possess a diverging learning style, which consists of concrete experience and reflective observation. In contrast, Indonesian employees were more likely to have an assimilating learning style, which is composed of abstract conceptualization and reflective observation. Indonesian employees showed a higher level of the two self-efficacy beliefs, suggesting that Indonesian employees tend to have more self-confidence in specific situations of training and skill utilization. Results of regression analysis revealed that the two learning style variables of concrete experience vs. abstract conceptualization and reflective observation vs. active experimentation were significantly related to training and skill utilization self-efficacy beliefs. Specifically, those who learn by thinking tended to possess a higher level of the two self-efficacy beliefs than those who learn by feeling. Similarly, those who learn by acting were likely to have a higher level of the self-efficacy beliefs than those who learn by reflecting. This study confirms that learning style and self-efficacy differ by country. It also supports the perspective that learning style relates to self-efficacy beliefs, especially concerning specific situations. We discuss the implications of these results.*

**Keywords:** *Experiential Learning Theory, Learning Style, Self-Efficacy, Japan, Indonesia.*

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### Introduction

Although a recent political trend of protectionism has been observed in the world economy, globalization creates new and expanding business opportunities for multinational corporations (MNCs) (Black, Morrison, & Gregersen, 1999). The success of MNCs hinges on competent

employees who are effectively managed (Briscoe, Schuler, & Claus, 2009). The cross-cultural management literature indicates that perception, interpretation, and action are dependent on a country's culture (Adler & Gundersen, 2008), where individuals have similar values, norms, and assumptions (Hofstede, 1997). Thus, it is important for human resources (HR) managers who are responsible for management of global talent (Brewster, Sparrow, & Vernon, 2007) to understand the similarities and differences of employees in countries where their MNCs do business.

In particular, HR managers need to be aware of multiple facets of employee learning and training in organizational settings (DeSimone, Werner, & Harris, 2002) and international work situations (Briscoe et al., 2009). Individuals' learning involves a process of knowledge and skill development in cross-cultural situations (Yamazaki & Kayes, 2004), cross-cultural adaptation to work settings (Yamazaki, 2010) and, more generally, fundamental changes in behavior, cognition, and attitudes (DeSimone et al., 2002). From these notions, learning entails various important aspects of human activities in organizations seeking global business success. The literature shows that individuals tend to have a preferred approach to learning, which is called learning style (Kolb & Kolb, 2005; Price, 2004). The current study focused on employees' learning style because it is an important concept of HR development in general (DeSimone et al., 2002) and relates to culture in the area of international HR management (Briscoe et al., 2009; Yamazaki & Kayes, 2010).

Like learning style, self-efficacy is a crucial facet of employees to be understood by HR managers in MNCs. A large number of studies have shown that self-efficacy has a powerful influence on a broad range of fields, including employee selection (Shantz & Latham, 2012), employee performance (Eden & Zuk, 1995), HR development (DeSimone et al., 2002; Gibson, 2004), training success (Davis, Fedor, Parsons, & Herold, 2000; Mathieu, Martineau, & Tannenbaum, 1993), communication performance (Toyama, 2016), career management and development (Abele & Spurk, 2009; Yi, Cheng, & Ribbens, 2014), and cultural behavior (Gibson, Maznevski, & Kirkman, 2009).

In this study, we examined these two important variables—learning style and self-efficacy beliefs—by comparing Japanese and Indonesian employees who work for MNCs. This study investigated two types of self-efficacy beliefs: training and skill utilization self-efficacy. In addition to the cross-cultural comparison, this study also explored a relationship between learning style and these two specific self-efficacy beliefs. Although a handful of studies have been conducted on the relationship between learning style and specific self-efficacy in an academic context (see Chou & Wang, 2000; Ozgen, 2013), little is known about such a relationship in organizational settings. Accordingly, this study addressed three research questions:

1. How do Japanese employees differ from Indonesian employees in learning style?
2. How do Japanese employees differ from Indonesian employees in two specific self-efficacy beliefs: training and skill utilization self-efficacy?
3. How does learning style relate to two self-efficacy beliefs: training and skill utilization self-efficacy?

## **Literature Review**

### ***Learning Style***

Although many learning style paradigms and definitions have been discussed in the literature (Cassidy, 2004), their aims and approaches seem similar (Demirbas & Demirkan, 2007). For

this study, Kolb's (1984) experiential learning theory was selected for four reasons. First, his learning model with its assessment tool helps employees understand their approach to learning (DeSimone et al., 2002). Second, Kolb's learning theory was founded on individual experiences so is thought to be applicable to work settings. Third, this experiential learning theory and measure have been widely used for cross-cultural studies to examine and understand learning styles across countries and cultures (Yamazaki, 2005; Yamazaki, Toyama, & Attrapreyangkul, 2018). Fourth, the model seemed appropriate for a study of learning style and self-efficacy beliefs since Manolis, Burns, Assudani, and Chinta (2013) illustrated an association between individuals' learning experiences and self-efficacy and Kolb's learning model was conceptualized with an emphasis on individual experience.

Kolb's (1984) experiential learning theory proposes that learning involves four basic learning modes—concrete experience (CE = feeling), reflective observation (RO = perceiving), abstract conceptualization (AC = thinking), and active experimentation (AE = acting). The learning mode of concrete experience (CE) relates to feeling by grasping an individual's experience and generating apprehensive knowledge as a foundation for the next learning mode: reflective observation (RO). RO calls for changing the apprehensive knowledge into the following learning mode: abstract conceptualization (AC), creating comprehensive knowledge. Its knowledge is internalized as an idea or concept using words or numbers. Then, the comprehensive knowledge becomes a basis to be transacted by the final learning mode: active experimentation (AE), which requires action to transform it. For this transformation, AE serves to generate a new experience that CE (feeling) takes up again. Kolb's experiential learning theory postulates that the CE (feeling) learning mode is dialectically contrasted with the AC (thinking) mode, whereas the RO (reflecting) mode is dialectically contrasted with the AE (acting) mode. His learning model provides four fundamental learning styles. The diverging learning style requires using the CE and RO learning modes. In contrast, the converging learning style involves using the AC and AE learning modes. The assimilating learning style relates to the two learning modes of AC and RO, while the accommodating learning style requires applying the learning modes of CE and AE. Figure 1 illustrates Kolb's learning model.

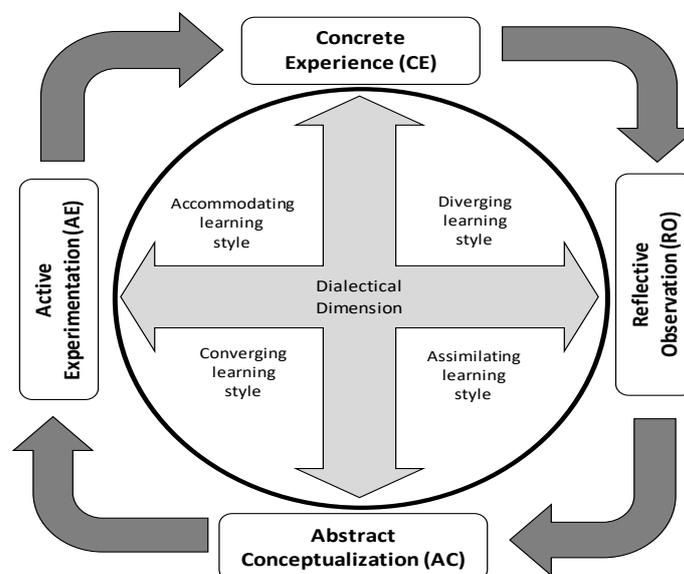


Figure 1: Kolb's learning model

### ***Self-Efficacy***

In social learning theory, Bandura (1977) discussed that self-efficacy is an individual's beliefs that he or she can implement the behaviors necessary to perform a specific task (Bandura, 1986, 1997). Self-efficacy has an effect on people's activities and behaviors, involving cognition, motivation, affection, and selection processes (Bandura, 1995). The self-efficacy in the aforementioned definition often refers to specific self-efficacy that is associated with a specific work situation. One specific efficacy belief construct applied for the present research was training self-efficacy. Previous research illustrated the effect of training self-efficacy in several situations such as training goals (Campbell, 1988), training manners (Gist, Stevens, & Bavetta, 1991), skill learning (Guthrie & Schwoerer, 1994), and training effectiveness (Guthrie & Schwoerer, 1994; Mathieu et al., 1993; Noe, 1986). Training self-efficacy refers to individuals' thoughts that they can successfully complete a training program. Additionally, this study applied skill utilization self-efficacy, which is extension of posttraining self-efficacy, focusing on individuals' beliefs that they can effectively apply skills in work situations.

### ***Cross-Cultural Differences in Learning Style and Self-Efficacy***

Past studies have documented that learning styles differ based on country and culture (Yamazaki, 2005). Numerous cultural paradigms and categorizations have been employed to show different cultural beliefs, assumptions, values, and norms (Hofstede, 1997; House, Hanges, Javidan, Dorfman, & Gupta, 2004; Trompenaars & Hampden-Turner, 1998). Holtbrugge and Mohr (2010) argued that Hofstede's cultural dimensions are the most frequently applied cultural values for learning style distinctions. Two comprehensive empirical studies of learning styles across cultures have been conducted (Holtbrugge & Mohr, 2010; Joy & Kolb, 2009) that empirically support cross-cultural differences in learning style. According to the research conducted by Holtbrugge and Mohr (2010), individualism as one of Hofstede's cultural dimensions is related to converging learning styles, which are composed of the learning modes of abstract conceptualization (AC) and active experimentation (AE). A masculinity cultural dimension is linked with assimilating learning styles. Joy and Kolb (2009) illustrated that collectivism is associated with the mode of concrete experience (CE) rather than abstract conceptualization (AC), while uncertainty avoidance is related to assimilating learning styles. Also, their study indicated cross-national differences in learning styles among seven countries. Accommodating learning styles were dominant in Brazil, Italy, and Poland; assimilating learning styles in Germany and Singapore; converging learning styles in India; and diverging learning styles in the USA (Joy & Kolb, 2009). Additionally, a cross-national study by Yamazaki and Kayes (2010) showed that Japanese typically possess diverging learning styles, Malaysians prefer to use converging learning styles, and Chinese have assimilating learning styles. Finally, a recent cross-national study by Yamazaki et al. (2018) showed that diverging learning styles were dominant in Japan and Thailand, and assimilating learning styles in the USA.

Like cross-cultural learning style studies, the cross-cultural self-efficacy studies also reported that self-efficacy varied across cultures (Klassen, 2004). For instance, people in Hong Kong and Japan exhibited the lowest self-efficacy while those in Costa Rica and Russia exhibited the highest among 13 countries (Schwarzer & Born, 1997). Another cross-national study showed that the countries with the lowest self-efficacy were Japan and Hong Kong and those with the highest self-efficacy were Costa Rica, Denmark, and France (Scholz, Gutierrez-Dona, Sud, & Schwarzer, 2002).

## Methods

### *Samples and Sampling Procedures*

A Japanese MNC that makes automotive parts and has several plants in Japan and Indonesia agreed to serve as the study site. A total of 801 employees participated: 398 Japanese and 403 Indonesians. Of the Japanese participants, 368 were male and 30 were female. The average age of the Japanese employees was 37.54 years ( $SD = 13.20$ ). Of the Indonesian employees, 324 were male and 79 were female. Their average age was 27.36 years ( $SD = 7.24$ ). Based on the request of one of the authors, a senior manager of the Japanese MNC agreed to distribute survey packets to employees by internal mail; this manager also sent the packets to the MNC's Indonesian subsidiary. The manager returned the questionnaires a month later.

### *Instruments*

*Learning style measure.* Kolb's experiential learning theory provides a measure to examine individuals' learning style (Kolb, 1984, 1999). The third version of the Learning Style Inventory (LSI; Kolb, 1999) was applied for this study, which has good reliability (Kayes, 2005; Veres, Sims, & Locklear, 1991). The LSI contains 12 questions. Each question has four options that individuals are asked to rank in order, from 4 (you learn best) to 1 (you learn least). Each option is aligned with one of four learning modes: CE (feeling), AC (thinking), RO (reflecting), or AE (acting). The sum of the score of each learning mode describes the degree to which individuals prefer to apply that mode. Subtraction of one score from the other in the same dialectical dimension of learning (i.e., AC vs CE and AE vs RO) represents a preference for learning in that learning dimension. The value of AC – CE as well as that of AE – RO ranges from -36 to +36. A value of AC – CE close to -36 is interpreted as a learning preference for concrete experience (CE). Conversely, a value of AC – CE close to +36 indicates a learning preference for abstract conceptualization (AC). Similarly, a value of AE – RO close to -36 represents a learning preference for reflective observation (RO), whereas a value close to +36 describes a learning preference for active experimentation (AE). According to Kolb's (1999) research, a normative value of AC – CE is 4.30, whereas that of AE – RO is 5.90.

*Training self-efficacy measure.* This study analyzed two specific self-efficacy beliefs. To measure training self-efficacy, we used the Training Self-Efficacy Scale developed by Guthrie and Schworer (1994). The measure consists of five statements on a 7-point Likert scale. An example of a statement is "I am confident that I can succeed in training." The scale's Cronbach alpha for this study was 0.94.

*Skill utilization self-efficacy measure.* To analyze skill utilization self-efficacy when employees learn skills, we developed a new scale, the Skill Utilization Self-Efficacy Scale (SUSS). The measure has three items on a 5-point Likert scale: (1) "I have an ability to use newly learned skills on the job"; (2) "I am confident in the ability to use new skills at work"; and (3) "I am overcoming obstacles to use new skills or knowledge." To examine the validity and reliability of the SUSS, we employed exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). For discrimination analysis, four items from the General Self-Efficacy Scale (GSS) originated by Jones (1986) were utilized as its shorter version, including (1) "I have all the skills and knowledge I need to deal with my current job," (2) "I feel confident that my skills and abilities equal or exceed those of my colleagues," (3) "My past experiences and accomplishments increase my confidence that I will be able to perform successfully in this organization," and (4) "I could have handled a more challenging job than the one I am doing." The dataset from the Japanese and Indonesian employees ( $N = 801$ ) was applied for both factor analyses.

Results of the EFA revealed that two factors of SUSS and GSS were dominant; their eigenvalues were greater than 1, and they accounted for 75.3% of the total variance. The factor loadings for SUSS ranged from 0.59 to 0.96, while those of GSS ranged from 0.78 to 0.85. Among the seven items, cross-loading was very low, ranging from 0.08 to -0.07. Those results initially supported convergent and discriminant validity. Subsequently, we conducted the CFA on the same sample (N = 801) to verify the validity of the two-factor structure identified from the EFA. Results of the CFA showed that the fit indices were acceptable, excepting the chi-square index ( $\chi^2 = 28.46$ ,  $p < 0.01$ ,  $df = 13$ ; GFI = 0.99; CFI = 0.99; NFI = 0.99; RMSEA = 0.04). These fit indices were much better than the fit indices of the one-factor structure of all of the seven items ( $\chi^2 = 659.66$ ,  $p < 0.01$ ,  $df = 13$ ; GFI = 0.80; CFI = 0.79; NFI = 0.79; RMSEA = 0.24). These results suggested confirmation of the discriminant validity of the two different scales (Venkatraman & Grant, 1986). The Cronbach alpha of the SUSS was 0.84 for this study.

## Results

### *Learning Style differences between Japanese and Indonesians*

The first research question was how Japanese employees differ in learning style from Indonesian employees. For this analysis, we conducted an independent *t*-test. Results of the *t*-test revealed a significant difference in AC – CE (more thinking vs feeling) between Japanese and Indonesian employees ( $t = -15.76$ ,  $p < 0.01$ ). This means that Japanese employees had a stronger preference for concrete experience (CE = feeling) over abstract conceptualization (AC = thinking) compared with Indonesian employees. When examining the other learning dimension of acting vs. reflecting, results of the *t*-test illustrated that there was also a significant difference in AE – RO (more acting vs. reflecting) between them ( $t = 2.11$ ,  $p < 0.05$ ). This indicates that Japanese employees had a stronger preference for active experimentation (AE = acting) over reflective observation (RO) compared with Indonesian employees. Overall, the group of Japanese employees had a diverging learning style (AC – CE = -5.41; AE – RO = 1.14), while the group of Indonesian employees had an assimilating learning style (AC – CE = 6.69; AE – RO = -0.53). Taken together, the results showed that Japanese employees differed in learning style from Indonesian employees. Table 1 summarizes the results of the independent *t*-test. Figure 2 visually shows learning style differences between Japanese and Indonesian employees.

**Table 1: Results of the independent *t*-test concerning learning style**

Group	N	AC – CE (more thinking vs. feeling)			
		Mean	SD	<i>t</i> values	<i>df</i>
Japanese	398	-5.41	12.51	-15.76**	716
Indonesian	403	6.69	8.90		
Group	N	AE – RO (more acting vs. reflecting)			
		Mean	SD	<i>t</i> values	<i>df</i>
Japanese	398	1.14	13.07	2.11*	700
Indonesian	403	-0.53	8.91		

\*  $p < 0.05$ , \*\*  $p < 0.01$

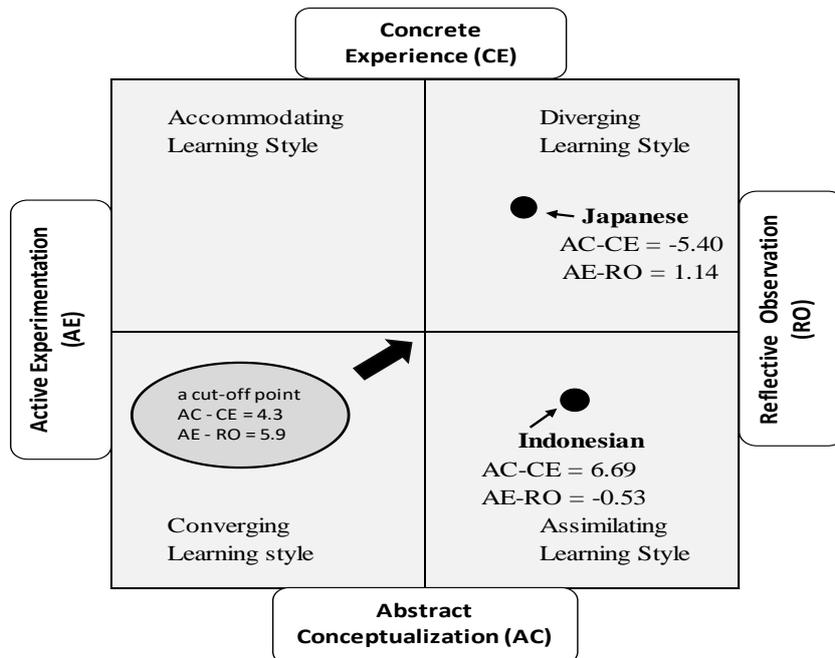


Figure 2: Learning style differences between Japanese and Indonesian employees

***Self-efficacy differences between Japanese and Indonesians***

The second research question was how Japanese and Indonesian employees differ in two specific self-efficacy beliefs: training and skill utilization self-efficacy. For this examination, we also used an independent *t*-test. Results of the *t*-test revealed a significant difference between Japanese and Indonesian employees in terms of training self-efficacy ( $t = -15.36, p < 0.01$ ) and skill utilization self-efficacy ( $t = -14.87, p < 0.01$ ). Indonesian employees had a higher degree of each of the self-efficacy beliefs. Table 2 summarizes the results of the independent *t*-test, and Figure 3 illustrates the differences in training self-efficacy (maximum = 7) and skill utilization self-efficacy (maximum = 5) between Japanese and Indonesian employees.

**Table 2: Results of the independent *t*-test concerning two self-efficacy beliefs**

Group	N	Training self-efficacy			
		Mean	SD	<i>t</i> values	<i>df</i>
Japanese	398	4.88	0.89	-15.36**	785
Indonesian	403	5.79	0.78		
Skill utilization self-efficacy					
Japanese	398	3.09	0.69	-14.87**	762
Indonesian	403	3.74	0.56		

\*\*  $p < 0.01$

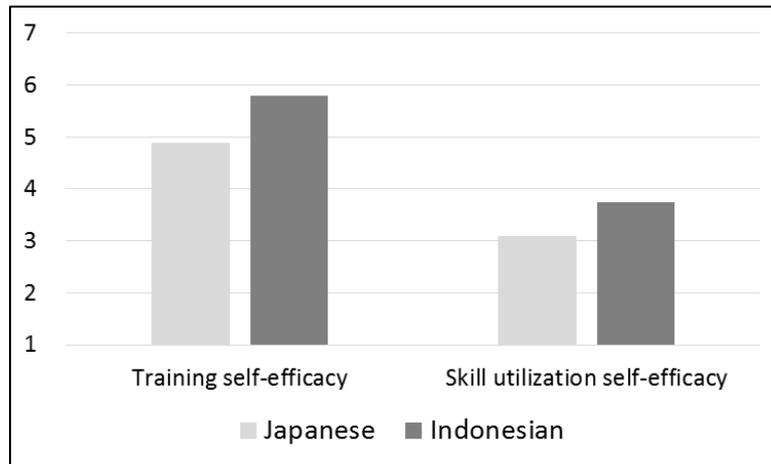


Figure 3: Self-efficacy differences between Japanese and Indonesian employees

### *Relation of Learning Style to Self-efficacy*

The third research question was how learning style relates to training self-efficacy and skill utilization self-efficacy. To address this question, we applied regression analysis by controlling age, gender, and country. Results revealed that the two learning dimensions of AC – CE and AE – RO significantly affected both self-efficacy beliefs: training self-efficacy (AC – CE:  $\beta = 0.18$ ; AE – RO:  $\beta = 0.17$ ) and skill utilization self-efficacy (AC – CE:  $\beta = 0.12$ ; AE – RO:  $\beta = 0.08$ ) (Table 3).

Table 3: Results of the regression analysis

Variable entered	Training self-efficacy	Skill utilization self-efficacy
Age	0.09 **	0.10 **
Gender	0.00	0.08 *
Country	0.45 **	0.47 **
AC – CE (thinking vs. feeling)	0.18 **	0.12 **
AE – RO (acting vs. reflecting)	0.17 **	0.08 *
<i>F</i>	61.74 **	52.18 **
<i>df</i>	5, 795	5, 795
<i>R</i> <sup>2</sup>	0.28	0.25

Note. \*\*  $p < 0.01$ , \*  $p < 0.05$ ; Gender, 0 = female and 1 = male; Country, Japan = 0 and Indonesia = 1.

## **Discussion**

### *Learning Style differences between Japan and Indonesia*

We have three discussion points based on the results. The first discussion point is that learning style differs between Japanese employees and Indonesian employees. The study results support the view that learning style varies by country and culture. The results seem congruent with the past cross-cultural learning style studies (see Joy & Kolb, 2009; Yamazaki, 2005; Yamazaki & Kayes, 2010). Furthermore, since it was unknown whether Japan and Indonesia had different learning styles, the study results provide important information about the two countries' learning style differences.

An interesting question is raised concerning why Japanese employees are more concrete and active or less abstract and reflective than Indonesian employees. The comparative study conducted by Yamazaki and Attrapreyangkul (2014) presented similar results of a diverging learning style in Japan. Furthermore, the study by Yamazaki and Umemura (2017) indicated that managers, nonmanagers, and undergraduates in Japan also had a preference for a diverging learning style. Thus, there is consistency in this Japanese learning style tendency. With regard to the learning dimension of abstract conceptualization (AC) vs. concrete experience (CE), a communication style embedded into high- and low-context cultures (Hall, 1976) may be involved (Yamazaki, 2005). Japanese are strongly inclined towards CE (feeling) because the Japanese sociocultural environment is thought to be a strong high-context culture (Hall, 1976). Although Asian countries like Indonesia are also thought to be a high-context culture, that aspect may be stronger in Japanese society than elsewhere, including Indonesia. In fact, the comparative study conducted by Yamazaki and Kayes (2010) indicated that Japanese employees were much more concrete than their Chinese and Malaysian counterparts.

The other learning dimension of active experimentation (AE) vs reflective observation (RO) may be associated with Hofstede's (1997) masculinity-femininity cultural dimension. A masculinity culture is characterized as assertive, competitive, and ambitious, while a femininity culture is characterized as focusing on relationships, tenderness, caring, and modesty (Hofstede, 1997). It could be inferred that people with masculinity cultural values are more active, whereas those with femininity cultural values are more reflective. According to Hofstede (1997), the Japanese culture is extremely inclined towards masculinity, but the Indonesian culture is relatively categorized in the area of femininity. These cultural differences might be one explanation for why Japanese employees had a more active learning style than Indonesian employees. However, those views are speculative, so a future study would be needed to examine the relationship between the learning dimension of AC vs. CE and the high- vs. low-context cultural dimension, as well as the relationship between the learning dimension of AE vs. RO and the masculinity-femininity cultural dimension.

Based on the results of learning style differences between Japanese and Indonesian employees, we offer the first practical implication in terms of a workplace interaction across two countries. Japanese employees with an expatriate assignment to Indonesia should consider how to explain work or tasks when interacting with their Indonesian counterparts. More specifically, Japanese expatriates would need to use clear concepts and sound logic when talking to Indonesian nationals, rather than being ambiguous. Similarly, Indonesian employees who work with Japanese employees in a Japanese MNC would need to consider building a better relationship with their Japanese counterparts through informal communications. Such efforts would help Indonesian employees understand any messages based on covert cues during their interactions with Japanese employees.

### ***Self-efficacy differences between Japan and Indonesia***

The second discussion point concerns cross-cultural self-efficacy differences. This study also confirmed that self-efficacy differs by country and culture. Furthermore, the two self-efficacy beliefs of Japanese employees were much lower than those of Indonesian employees. Thus, this study's results seem to be consistent with the studies of Schwarzer and Born (1997) and Scholz et al. (2002), illustrating that Japan had the lowest self-efficacy level among various countries.

These results raise the question of why Japanese employees have a low level of self-efficacy. Do Japanese employees strongly rely on others when making value judgments or when internalizing values? If they depended too much on others for evaluation or judgment of values,

their self-efficacy levels would not be enhanced. One explanation might be related to Hofstede's (1997) cultural dimension of uncertainty avoidance. Those with strong uncertainty avoidance tend to be risk averse, while those with weak uncertainty avoidance tend to be risk takers. Because of this aversion to risk, people with strong uncertainty avoidance are thought to avoid challenging situations and opportunities, so that their self-efficacy might not be developed compared with those with weak uncertainty avoidance cultural values. Japanese are categorized as having a strong uncertainty avoidance, while Indonesians are relatively moderate in uncertainty avoidance. This cultural difference might be associated with the study results of the two self-efficacy beliefs. To verify this view, a future study should be conducted with regard to a relationship between self-efficacy and an uncertainty avoidance culture.

### ***A relationship between learning style and self-efficacy***

The third discussion point relates to the relationship between learning style and self-efficacy beliefs. This study showed that learning style has a great effect on both training self-efficacy and skill utilization self-efficacy after controlling for age, gender, and country. The study results seem to support the perspective of Manolis et al. (2013), indicating an association between learning style and self-efficacy. Also, the view that cognitive capability to process information is necessary to form and develop self-efficacy (Bandura, 1997; Stajkovic & Luthans, 1998) is thought to link self-efficacy and learning style, particularly in relation to the mode of abstract conceptualization (AC = thinking). Moreover, the model of self-efficacy developed by Gist and Mitchell (1992) suggests the importance of analytical attributions as self-efficacy development. Considering our results together with findings of past studies leads us to conclude that learning style has an influence on self-efficacy beliefs.

Based on the study results, we offer a practical implication for HR professionals or practitioners. Since it is crucial to increase self-efficacy beliefs in the workplace, HR managers should encourage employees to use more thinking and more acting when facing a learning situation. The continuous application of thinking and acting modes of learning could enhance the degree of self-efficacy.

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