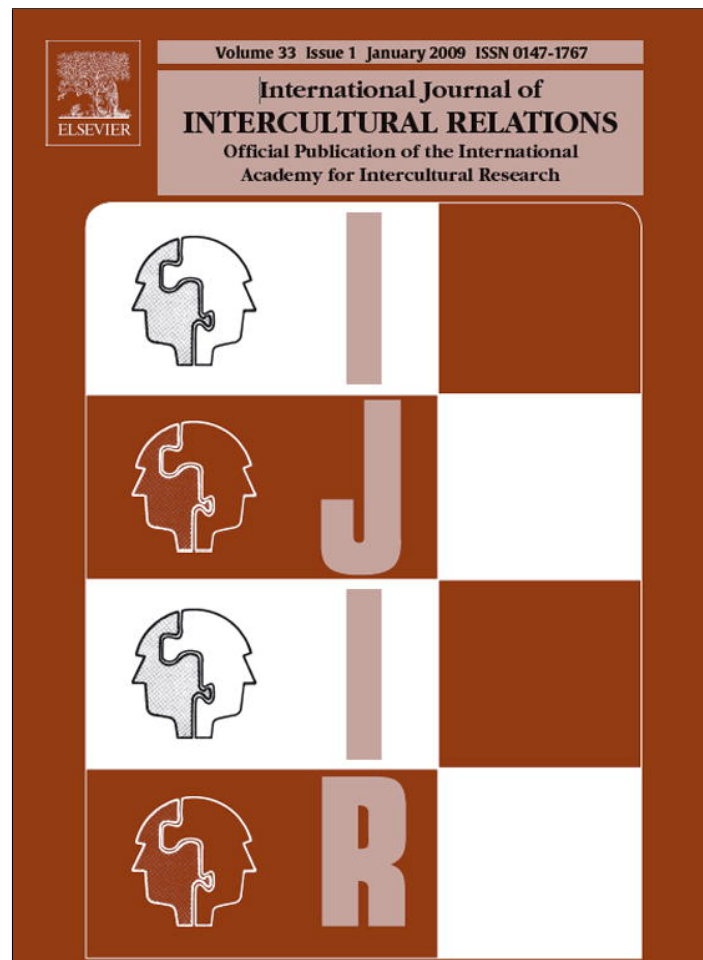


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## Schema adjustment in cross-cultural encounters: A study of expatriate international aid service workers

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## ABSTRACT

Based on a schema perspective, this study discusses the adjustment process of expatriate workers through their cross-cultural experiences. Employing a qualitative, semi-structured interviewing method, this study collected data from 22 interviews with Taiwanese expatriate workers for an international aid service and analyzed critical incidents faced by these workers during their international service. Extending the existing schema theory for cross-cultural encounters, the author found that cultural shocks help enhance expatriate workers' awareness of their existing schemas. In addition, through mental tension, mental dialogue, and information regarding culturally relevant others, cross-cultural workers gradually modify their perspectives and interpretative frameworks to adapt to local situations in a different culture.

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### 1. Introduction

Globalization has shrunk the distance between countries and increased the interaction between people from different cultural areas. For expatriate workers and sojourners (such as immigrants and international students) who physically go abroad to pursue their goals and missions, learning how to function well in a new culture is a major task.

More than five decades ago, [Lysgaard \(1955\)](#) identified a U-shaped curve to describe cultural adjustment. The stages in the curve include euphoria (honeymoon), disillusionment, adjustment, and integration ([Beamer & Varner, 2003](#); [Chaney & Martin, 2007](#)). This curve illustrates the up and down emotions that intercultural workers experience. Later, a W-shaped curve is suggested to incorporate the re-entry phenomenon into the process ([Gullahorn & Gullahorn, 1963](#)). In addition, and in contrast to the U-curve, [Ward and her colleagues \(Ward, Okura, Kennedy, & Kojima, 1998\)](#) pointed out that the low emotional point (high stress and depression) occurred in the entry period and adjustment increased over time. Although different in shape, each curve represents a part of adjustment reality that was derived from different sample populations. While these curves illustrate the downturns and upturns in the adjustment process, however, neither answers the question, "why?" Why does the curve line go down and up? Why do these transitions occur? Some may argue that the line goes down when people faced unfamiliar or confusing situations in different cultures, and the line goes up when they feel more adapted and comfortable. This explanation works but is not comprehensive. If, as [Hannigan \(1990\)](#) noted, cultural adjustment involves a psychological process of reaching a harmonious status between the individual and environment, such an explanation covered the environmental aspect but overlooked the psychological influence within individuals. A deeper examination of the cognitive and psychological processes is necessary to develop a thorough understanding of how people respond to various new stimuli in order to adjust to different cultures.

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In the literature, scholars have used various concepts to describe the process of cross-cultural learning and adjustment: cultural acculturation (e.g. Rivera, Chen, Flores, Blumberg, & Ponterotto, 2007; Schwartz & Montgomery, 2002), cultural assimilation (e.g. Haslberger, 2005; Murphy & Anderson, 2003), cultural adjustment (e.g. Bhasin, 2007; Welch, 2003), and cultural adaptation (e.g. Haslberger, 2005; Pornpitakpan, 2005). Many studies have addressed the symptoms or stages of adjustment, while the present study focuses on the cognitive processes behind the adjustment process. Moving beyond merely describing expatriates' experiences or cross-cultural symptoms, however, this study examines two main points: what happens between the cultural shock stage and the adapted stage; and, from a cognitive perspective, the factors that encourage people to *learn* the new culture. To respond to such an inquiry, schema theory in the field of social psychology is utilized as a framework to examine expatriate workers' cross-cultural learning experiences.

Schema theory was chosen as a major perspective for three reasons. First, the schema has been defined as a mental structure that stores people's common knowledge learned from their life experiences (Bartlett, 1932), and it fits the purpose of this study. Second, the schema represents existing knowledge units in people's minds, and it can be created and modified, so it can serve as a unit of analysis for this study. Third, schema theory has been applied in the explanation of cross-cultural encounters (e.g. Beamer, 1995; Nishida, 1999; Ridley, Chih, & Olivera, 2000; Ridley, Mendoza, Kanitz, Angermeier, & Zenk, 1994). For example, Ridley et al. (1994) and Ridley et al. (2000) used schema theory to discuss cultural sensitivity in multicultural settings and training in clinical practice. Beamer (1995) and Nishida (1999, 2005) examined sojourners' cross-cultural adaptation from a schema perspective. This study continues to discuss this theory with empirical data from expatriate workers.

This study collected and analyzed interview data from 22 expatriate workers who provide aid service internationally. Today, more non-governmental organizations (NGOs) such as Medecins Sans Frontieres (MSF, Doctors without Borders), the Peace Corps, and Mercy Corps are sending their staff and volunteers abroad to provide services, including medical assistance, literacy education, health care, infrastructure construction, or agricultural development. The work locations for these expatriates often have very different cultures, for example, mountainous areas in South Asia or a landlocked city in Africa. In addition, they sometimes face serious challenges, such as civil war, natural disaster, or the risk of violence during their service. For instance, although there was a significant need for humanitarian assistance in Kismayo (in Somalia), in March 2008, MSF made the difficult decision to close its medical project in the area because some of their staff had been deliberately targeted and brutally murdered (MSF, 2008). Faced with these challenges, cross-cultural issues are extremely critical for these expatriate workers, not only to protect the people they serve, but also to maintain their own well being. The purpose of this study is to explore their cross-cultural experiences and identify the components that influenced their schema adjustment.

## 2. Literature review

This section discusses the definition of schema, schema development (including formation, function, extension and change), and the schema theory for cross-cultural encounters.

### 2.1. Definition of schema

The concept of schema was first introduced by Piaget (1929), who believed that human development is based on a series of stages through which common knowledge is built, and the schema is a representation of all the general knowledge at a particular stage. Later, Bartlett (1932) described schema as *mental structures* that represent an individual's generic knowledge about the world. When encountering new situations or problems, people use their stored knowledge and existing frame (schema) to perceive their environment and select corresponding strategies.

While Piaget originally defined schema as the whole body of individuals' knowledge, Taylor and Crocker (1981) suggested that a schema could have different domains. They stated that a schema is a *cognitive structure* that contains "general knowledge about that *domain*" (p. 91, italics added). As Widmayer (1999) noted, "In contrast to Piaget, most schema theorists postulate that there is not just one body of knowledge available to learners at any given stage of development, but rather a *network* of context-specific bodies of knowledge" (para. 5, italics added). Based on this idea that different domains have different schemas, scholars have identified different types of schemas for social interaction, such as person, self, role, event, procedure, context, or strategy schemas (Nishida, 1999).

In summary, in different definitions, a schema has been described as general knowledge of life (Piaget, 1929), a structure of knowledge (Bartlett, 1932), a mental frame (Minsky, 1974), a cognitive structure (Taylor & Crocker, 1981), a data structure (Rumelhart, 1980), or a script (Schank & Abelson, 1977), and it is stored in people's mind, affecting how they select, perceive, interpret, and respond to information from the outside world.

### 2.2. Schema development

#### 2.2.1. Formation and function

Schemas are gradually formed by lessons that are learned from daily events and experiences. When a person again encounters a familiar situation, the previously built cognitive structures are retrieved, helping the person to categorize external information, interpret outside stimuli, and then select appropriate reactions (Harris, 1994; Markus & Zajonc, 1985;

Taylor & Crocker, 1981). When similar situations occur, schemas are accessed and used as efficient units for information processing during social interaction. As similar experiences accumulate, the schema becomes more organized, stable and elaborate. The elaborated schema can make the interactive process easier and more effective (Nishida, 2005). In other words, in cross-cultural settings, the more similar experiences one has, the more developed the schema in that particular domain. The more experience individuals have in one cultural context, the less energy and effort they need to spend to comprehend and react to the situation.

### 2.2.2. Extension and change

Schema development begins from a cognitive conflict between existing schema and new information (Piaget, 1929). When facing such conflict, individuals need to conduct schema adaptation through assimilation and accommodation to reach a new balance. *Assimilation* indicates the process of making the world fit into the existing schema. On the other hand, *accommodation* occurs when the new experience does not fit into the existing model of knowledge and people begin to modify their schemas. In addition to these strategies, intercultural interactants also have a third choice, in which they withdraw from the situation and abort their learning. In other words, instead of changing the schemas that have proven inadequate in a new context, they choose to change their situation and environment, for example, return to their hometown or move to another area.

With respect to schema extension and change, educational psychologist Anderson (1977, 1984) suggested the “schema theory of learning,” which indicates that as we develop, we learn to broaden the boundaries of our schemas to include more variables, building on the foundation of what we already know. In other words, through new stimuli and the accumulation of experience, schemas will be extended, changed and continually developed.

In literature, cross-cultural adjustment has been viewed as a change process through which individuals learn new behaviors (Black & Mendenhall, 1990), a new approach for attribution (Chaney & Martin, 2007), new ways of communication (Beamer & Varner, 2003) and new perspectives for interpretation (Mezirow, 2000; Taylor, 1994). The new cultural stimuli and shocks often serve as the triggers that lead intercultural workers to a re-examination of their assumptions and even a transformation in their worldview. Similarly, Kim (2001) suggested a *stress-adaptation-growth* dynamic. This dynamic indicated that when people entered a new culture, cultural shocks and difficulties often increased their stress, which then severed as the very forces that propelled them to overcome the predicament and partake through the active development of new habits, and then led to a subtle growth.

### 2.3. Schema theory for cross-cultural encounters

For expatriates who work in different cultures, new situations can be very confusing. The difficulties they face often result from losing their familiar “frame of reference” (Hall, 1960, p. 88). Hall used a US expatriate in Arabia as an example, and explained:

One minute everything looks familiar and he is on firm ground; the next, familiar landmarks are gone. His greatest problem is that so much assails his senses all at once that he does not know where to start looking for something that will tell him where he stands. He needs a *frame of reference*—a way of sorting out what is significant and relevant. (p. 88, emphasis added).

The *frame of reference* in Hall's statement is a schema through which one can make judgments with respect to how to appropriately respond to the outside world. In Arabia, the existing schema built in the US context cannot work effectively and need to be modified or restructured.

Focusing on schema change for different cultures, Beamer (1995) suggested the Schemata Model for Intercultural Encounters. This model suggests that people's perception regarding a new culture would become more accurate through schema adjustment, and it served as a theoretical framework for this study (more explanation provided in the next section). Through literature review, Nishida (1999, 2005) also derived axioms about sojourners' intercultural communication. For example, (a) due to their lack of primary schemas for social interaction in a particular culture, sojourners fail to recognize meaningful actions and behaviors in the host culture, and (b) in order to adapt to local culture, sojourners need to acquire the social interaction schemas of the host culture. In addition, new information that was not included in the existing schema system usually requires sojourners' full attention and effort to process. A lack of the schema for social interaction that is rooted in the host culture will cost them more energy and effort in order to handle the situation. This helps explain why new sojourners often face anxieties, uncertainty and feelings of exhaustion before they feel familiar with the new cultural context (Gudykunst, 1998, 2005).

## 3. Theoretical framework

Beamer's (1995) schemata model for international encounters is used as the theoretical framework for this study. Beamer's model suggests that when we meet a new culture, for example A culture, based on the information we receive and our cultural background, we create a projection of the A culture (A'). The projected image is our primary schema of the target culture, but it usually has some distance from reality. However, while we interact with the culture and gain more understanding, our primary schemas about the culture are continually modified. Step-by-step, the primary schema will be

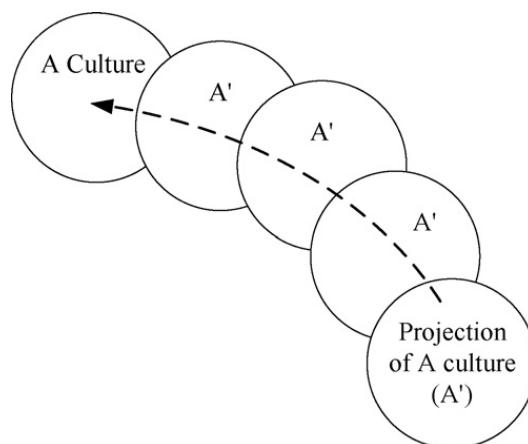


Fig. 1. Cultural learning and schema adjustment. Source: Adapted from Beamer (1995) and Beamer and Varner (2003).

shaped so it can better reflect the true facets of the culture (Fig. 1) (Beamer & Varner, 2003). When this happens, communication becomes more effective, which means “meanings attributed by receivers are closer to meaning intended by senders” (Beamer, 1995, p. 147). In other words, the cultural newcomers would have more ability to perceive or interpret things from insiders’ points of view, moving from an etic to a more emic perspective (Pike, 1990, 1993). Hammer, Bennett, and Wiseman (2003, p. 430) used the phrase, *cognitive frame shifting*, to describe the adaptation stage in the developmental model of intercultural sensitivity (DMIS). In an intercultural encounter, such schema adjustment would happen on both sides of the communication. Beamer stated, “as the communicators understand each other’s priorities better, the schemata each holds of the other’s culture is modified through the cognitive process of induction” (p. 148). When the schemata of both sides are merging with the actual culture, communication is less subject to misunderstanding.

Although this model indicated a schema perspective that can be used to explain the up and down emotions in the adjustment curves (e.g. Lysgaard, 1955; Ward et al., 1998), it did not clarify why schema move. In view of this strength, and despite this limitation, this study used this model as a theoretical framework. On the one hand, this study utilized the schema perspective to examine the cross-cultural adjustment process, but on the other hand, this study also aimed to extend this model by exploring the components that help move the schema. This framework was employed in the early stages of the design of research questions, as well as during data analysis, to help establish a consistent comparison between emerging findings from the field with theories found in the literature (Patton, 2002; Strauss & Corbin, 1998).

## 4. Research methods

### 4.1. Research approach

This study used a qualitative approach and applied the notion of an extended case study (Burawoy, 1991). Burawoy used the term “reconstructing social theories” to describe how data from the field can improve existing theory. He claimed that when a theory cannot explain a phenomenon, “We regard it as the failure of a theory. But failure leads not to rejection but to rebuilding theory” (p. 9). Following this notion, on one hand, I employed the theoretical framework of this study and the relevant literature to explain the events and phenomena in practice. On the other hand, the data from practice that cannot be explained by the existing theory were used to improve the framework.

### 4.2. Sampling criteria and strategies

This study used two criteria for participant selection. First, the participants must have had cross-cultural work experience. The term “cross-cultural” means that they had gone to other countries for their missions. Second, the participants must have had at least 3 years cross-cultural work and still be involved in similar tasks. To identify these participants, I contacted organizations that provide international medical or educational assistance services. I participated in the activities of these organizations, and I attended conferences for expatriate workers. Through networking and a snow-ball strategy, I gradually collected names and contact information for potential research participants. Almost all the workers were very willing to participate and share their experience, but we still faced difficulties in securing some interviews because of the interviewee’s work location. For example, one organization suggested an experienced doctor, but he was working in Malawi during our research. In another example, an administrative staff member suggested by a hospital manger was working in Northern Thailand for a long-term mission. Due to such location limitations, we could not include these workers. However, in comparing them with other research participants in the study, no essential or significant differences were found in terms of their work content and years of experience. In addition, their colleagues from the same organizations and service areas were interviewed in this study to reduce the influence of such limitations.

#### 4.3. Research participants

This study enlisted 22 expatriate workers. The participants included 11 females and 11 males who all had gone abroad for their international work assignments. Thirteen (13) of them worked in NGOs for childhood education, agricultural education, drug rehabilitation, refugee assistance, or services for people with disabilities. The other nine people worked in hospitals that provide medical assistance in international arenas. Their international work experience ranged from 3 to 20 years: 15 interviewees (68%) had 3–5 years experience; 4 had 6–10 years; 2 had 11–15 years; and, 1 had 20 years of experience in international service. These participants had different positions: four doctors, two nurses, three pastors, three evangelists, six NGO project managers, and four administrative staff. Most ages of participants ranged from 30 to 60 (only 1 was below 30), and the areas of their international assignments included Burma, the Dominican Republic, India, Kirghiz, Malawi, Pakistan, Panama, Thailand, and Vietnam. These interviewees usually began their participation in international assistance during short-term (3–6 months) service trips to a target country. With accumulated experience, many of them accepted long-term expatriate missions, and also became consultants, trainers, and managers for new participants. One of the interviewees even married and had a family in the foreign land where she served. Most of the interviewees could speak fluent English and simple passages of local languages, such as French, Vietnamese, or Tibetan. Local colleagues and volunteers usually served as translators if more sophisticated communication was required. For example, in Malawi local nurses and volunteers assisted Taiwanese doctors in communicating with patients who could speak only local dialects.

#### 4.4. Data collection

This study utilized semi-structured interviews and field observation. All participants were interviewed with the help of a tape recorder. As all the participants were Taiwanese, the interviews were conducted in Chinese and translated into English by the author of this study. To explore the schema aspect of their cross-cultural experiences, this study utilized critical incident analysis to understand their reactions, decisions, and changes when they handled complex or confusing problems (Collins & Pieterse, 2001; Hogard, 2007). Critical incidents are “individual episodes in which there has been a significant occurrence (either beneficial or deleterious)” (Cembrowicz, 2007, p. 66). Therefore, they include positive or negative experiences (Furr & Carroll, 2003). The interview questions included their preparation for working abroad, challenges in their international lives, strategies and learning processes for adaptation, as well as perspective change after cross-cultural encounters. Research participants in this study were invited to share their job tasks, identify important incidents, and reflect their learning (or change) through these experiences. The questions for them included the following: Would you describe your job task and work experience in this field? Have you met difficulties in different cultures? What strategies did you use to overcome your cultural difficulties? What were your rewards in this job? What was your most frustrating situation? Would you describe an unforgettable incident during your service? Interviewees were encouraged to provide examples and true stories of their life experience in a different cultural context.

In addition to the interview, a 4-day extensive field observation was also conducted in Vietnam, during which I followed a Taiwanese expatriate worker and her colleagues to visit the children, schools, and families in their service projects. The field observation helped me gain a general understanding regarding not only expatriates' work situations, but also the life challenges they faced on a daily basis, such as no family connection or support and inconvenient transportation in a different cultural environment.

#### 4.5. Data analysis

For data analysis, all the interviews were transcribed. The transcripts were then analyzed through three steps: open coding, axial coding, and consistent comparison between emerging categories and the theoretical framework of this study (Strauss & Corbin, 1998). To process the mass of data, open coding was used to assign initial codes or labels in a first attempt to divide it into categories. The procedure was to break down, examine, and categorize the original data (Strauss & Corbin, 1998). It was an open process in that the data were examined with no prior assumptions about what might be discovered. During this process, I slowly read interview transcripts and field notes, looking for critical terms, key events, or themes, which were then noted. Through this process, small categories (first-level categories) were created, which allowed critical concepts from within the data to surface for further analysis and axial coding.

Axial coding was defined as “a set of procedures whereby data are put back together in new ways after open coding, by making connections between categories (Strauss & Corbin, 1990, p. 96).” In other words, the first-level categories derived from open coding were reviewed and grouped based on their similar connotations, and through this process, the higher categories (second-level) emerged. For example, the categories from the open coding, such as surprise, frustration, fear, and unaccepted values in the entry stage, were grouped together under a higher level category, cultural shock. In addition, codes such as value change, work method change, and redefining one's world, were grouped into the category, adjustment. The software Atlas/ti was used to assist with the coding.

To improve research validity, the technique, *triangulation*, was employed during data analysis, in which the researcher involved other investigators' interpretation of the data at different times or locations (Johnson, 1997; Patton, 2002). Triangulation was used in coding through a three-phase process. In the first phase, I reviewed and coded the data. Then, two research assistants, who majored in human resource development and participated in the interview, reviewed the data and

conducted the coding process separately. Finally, the coding results from three parties were compared for agreement. When disagreement occurred, the original interviewee statements would be re-examined and discussed in order to finalize the coding and category development.

During the analysis, special attention was given to participants' critical incidents. These were not necessarily dramatic events; usually they were simply incidents that held significance for the participant. They were often events outside of the participants' familiar domain that made them ponder, or that made individuals question an aspect of their beliefs, values, attitude or behaviors (Collins & Pieterse, 2001). In this study, critical incidents included an emergency, an unusual condition, a difficult situation, a communication problem, an uncomfortable and awkward meeting, an incident of perceived inadequacy, a confrontation, or an incident that made them think differently, or caused them to question their beliefs. This study collected critical incidents and analyzed participants' learning processes, particularly from the perspective of schema modification and change. In the research finding below, pseudonyms were used to represent these participants.

## 5. Research findings

In this study, all participants mentioned that, through cross-cultural service experience, they *learned* and *changed* to some degree. This change phenomenon was addressed in Beamer's schema model for cross-cultural interaction. However, the model did not clarify how the schema adjustment happens. In other words, what moves a person's schema?

To respond to this inquiry through data analysis, this study identified four important components that help to move the schema during intercultural encounters. The four components extended the existing model and enhanced the clarity of the adjustment process. The components include the following:

- Schema awareness
- Mental tension
- Mental dialogue
- Culturally relevant others

### 5.1. Schema awareness: awakened by cultural shocks

This study found that cultural differences often play the role of a catalyst that raises expatriate workers' awareness of their existing schemas (mental structures). The contrast between the host culture and their mother culture provides them with an opportunity to examine their own framework.

For example, Dr. Beti was a bit annoyed when people in Thailand asked her age the first time they met:

In my idea, it was rude to ask people's age when you barely knew them. However, later I realized that this is just a common way to begin a social conversation in their culture.

She also used anemia as an example to explain the very different frameworks about medical procedures in different societies. She described the situation in an African village:

Without any modern equipment, to test anemia, you need to place some blood on slides, and then through the sunlight, doctors have to judge the concentration of hemoglobin using only their eyes. In Taiwan, you have that testing equipment, and you think this is an easy thing; however, here you need to return to the elemental medical principles and manage the procedure very differently.

In another interview, Shing, a social worker, also mentioned his confusion about the culture in a Tibetan community. For example, he made an appointment at 2:00 o'clock, but his other party showed up at 4:00 o'clock and seemed to feel just fine about the 2-h delay. In addition, when he delivered sanitation information to help people protect their health, they reacted indifferently. In the interviews, participants mentioned various situations that surprised them, which reflected their way of life in their own culture. The surprising scenes included: some women in Honduras preferred not to eat eggs after delivering a baby; 20 people squeezed into a small car; extremely slow pace of life in some areas in Vietnam; a half cup of clear water for 1 day's use; or a huge interpretation gap with local workers.

These differences shocked them, but also gave them special points to compare and ponder. These shocking experiences were often replayed on their mental screen. Each shock played the role of a small mirror, reflecting the differences between their expectations and outside situations. Although these differences sometimes brought frustration, they also gradually raised participants' awareness with regard to their original assumptions (existing schemas). As Dr. Beti described it, "This is a journey of self discovery". Zhu, another worker in North India, also said such experiences led her to *deeply re-examine* her past way of interpretation and even begin to *redefine* her world. For expatriate workers, these shocks help to open a window through which they can more clearly apprehend their own existing schemas.

### 5.2. Mental tension

Piaget (1929) suggested that schema development begins from the cognitive conflict between existing schema and new information. This study found that among the experiences mentioned by the expatriate workers, some incidents brought

dramatic shocks or uneasy emotions. These uncomfortable encounters aroused mental tension. For example, Dr. Ping described his struggle when he saw a baby with pneumonia in a mountainous area of Northern Thailand:

I could only give the baby antibiotics for ten days. However, I asked myself whether the baby could remain alive after ten days. . In Taiwan, baby pneumonia can be cured if they stay in a hospital for a few days with antibiotics and good care. However, if babies here suffered this disease, their chance of survival was very slim.

When Ping saw many sick children were just waiting there to die due to a lack of medicine and equipment, he was shocked and saddened. On the other hand, he also observed that some adults spent all they had to buy drugs, even if their family suffered from severe poverty and hunger. These incidents pushed Ping to re-examine and adjust his perspective and actions:

When you first arrived, you thought you could do a lot, but actually you could not. . . After you arrived there, you would have deeper introspection and reflection. For example, you taught local people to wash their hands and cut their fingernails. Then you realized that it was useless because they did not even have the money to buy soap and clippers.

Also faced with many unexpected situations, an administrative staff member, Shing, recounted his frustration:

In international work, you would find many things that you always took for granted were not what you thought. You would challenge your own limitations.

Similar shocks and adjustments also occurred in several incidents mentioned by other expatriate workers in this study. For example, Kui, a nurse, thought hospitals were a safe place for patients but surprisingly found that children froze to death in a local hospital. A pastor, Yen, mentioned that, as a Christian, he needed to learn not to make judgments on local villagers' belief in elves. A project manager, Shuni, thought communication between Asian workers should not be too difficult, but when she began to work with her local team members in Vietnam, she faced great obstacles and resistance in communication. Another worker, May, described an incident that shocked her. In a village, May saw a mother crying after her baby was buried, and she thought that the mother cried for the baby. However, she was stunned when she realized the mother cried because the people who came to help used her family's only blanket to wrap the baby. The mother actually cried for the blanket, but not her own baby. May's assumption that life should be valued was severely challenged:

You thought that you went there (the other country) to help others. However, many situations were not what you had imagined. When you arrived there, you found yourself very small and limited.

Faced with these challenges, she felt "extremely frustrated." However, such frustration reflected the difference between an existing internal framework and an external reality, which demonstrated a new emerging need for further learning. As Doctor Ping said, "working there provided me with deep examination and immeasurable learning." Although these cross-cultural experiences might not always be pleasant, these struggles or conflicts often became important starting points for a new mental dialogue and cognitive adjustment.

### 5.3. *Mental dialogue*

This study found that mental tension often altered the perspective of individuals concerning their environment. These individuals were forced to initiate a new dialogue with themselves in order to reach a new balance and perspective. For example, Dr. Beti also mentioned that, faced with outside challenges, one has to think "how you would face yourself and solve the problems." Through these challenges and conflicts, "I felt I grew a lot," she said.

Similarly, although some experiences made her extremely frustrated, May pointed out that these experiences also led a change to her perspective:

This job significantly changed my perspective. Through such a rich and real experience, we would have a very different sense regarding our lives. . . I felt that changes occurred at a very fundamental level in myself.

The frustration during the process represents mental tension concerning the need for further dialogue between the incidents and their existing schemas. While these incidents often broke a mental balance and brought negative emotions, they also provided opportunities to initiate a dialogue for deeper level of cognitive adaptation.

After schemas have been adjusted, people feel more certain and confident when facing similar stimuli in a particular cultural environment; a sense of adaptation occurs. This helps explain why the U-curve line moves up after a low period. Such an up-down circle can continue until the schema can accommodate most new stimuli. The frequency of cultural shocks naturally decreases, and this adjustment cycle continues when individuals face new cross-cultural incidents.

However, interviewees also pointed out that this transformation process may not always be successful, due to either high stress or frustration. Some of their colleagues chose to drop out, tried to avoid cross-cultural interaction, or even left the host country.

### 5.4. *Searching for information about culturally relevant others*

Previous intercultural studies have shown that sojourners learned to adapt to local cultures through networking, observing and participation (e.g. Taylor, 1994). This study found that expatriate workers actually used these strategies for an



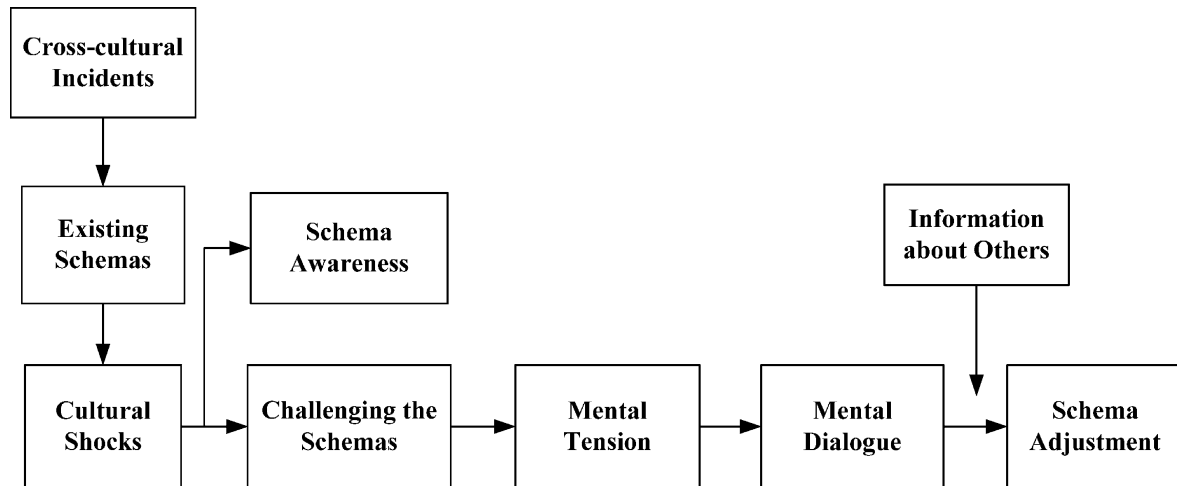


Fig. 2. Cross-cultural incidents and schema adjustment.

important reason, that is, to search for information regarding *culturally relevant others*. This term was created to extend Ajzen and Fishbein's (1980) concept about *contextually relevant others*, but particularly focused on cross-cultural situations.

To clarify the direction for schema adjustment, a strategy used by many interviewees was to keep in contact with local people. Through such interactions, they gained a general understanding with regard to the values and norms of the larger society. For example, Ming, who was a priest, emphasized the importance of going to the community for consistent communication. Nurse Kui also said, "you have to keep in contact with them [local people]." Shing also suggested hanging out with local people and being friends with them is one of the best ways to learn their values.

In this study, a searching process for culturally relevant others was found in cross-cultural encounters before expatriate workers made their decisions. Making connections with local friends, experts, or opinion leaders often helped the cross-cultural workers find the path for adjustment of their strategies more smoothly. For example, Shing's experience in a Tibetan community in North India illustrates this adjustment. He worked in the community and promoted health education. He constantly reminded Tibetans that proper hygienic habits could protect them from sickness and extend their life span. However, few people took his education and advocacy seriously, and strategies useful in Taiwan failed to work in the Tibetan community. To overcome this difficulty, he consulted a Tibetan priest, who helped him to realize that his strategy did not appeal to local people for two reasons. First, Tibetans cared little about their own life span; what they really cared about was the endurance of Buddhism. Secondly, many of them believed in reincarnation, and therefore even though they died at a young age, they could still come back. These beliefs were out of Yan's schema frame. Yan said the Tibetan priest suggested that he adjust his strategy by connecting Tibetans' personal life with Buddhism:

The priest taught me to tell local people that in this life, you are blessed to receive so much Buddhist education. If you die at a young age just because you're careless about hygiene and health, how can you help to promote Buddhism?

Following this suggestion, Yan found that Tibetans were more willing to change themselves for their religion, so his work had more positive results. Different beliefs in the new culture extended Yan's schemas, assisting him in adjusting his strategies accordingly.

A frame of reference built in the United States usually would not work in Saudi Arabia (Hall, 1960). New situations in a different cultural context encourage schema adjustment and behavior change. For people facing cross-cultural challenges, making friends is not only a way to avoid isolation or connect resources, it is also a strategy to find *relevant others* in the larger society who would provide a base for them moving in an appropriate direction for effective adjustment.

This study identified several components during the process of schema adjustment (Fig. 2). In this model, cross-cultural incidents are filtered by the existing schema. Some stimuli may cause cultural shocks and enhance the individuals' awareness regarding their own mental framework. In addition, some cultural shocks may seriously challenge sojourners' existing schemas and create mental tension, which leads to the reopening of a mental dialogue. During the process, collecting information with respect to the perspectives of culturally relevant others in the community is critical, so that their directions of adjustment can be more clearly guided.

## 6. Discussion

### 6.1. Cultural shocks and mental tension

When people move to another cultural area, their established schemas cannot function as well as those in the old environment. They face new stimuli, and some of them may conflict with their taken-for-granted assumptions. At such a point, the existing stable mental agreement is broken, which can provoke cultural shocks and mental tension. In cross-

cultural encounters, dramatic shocks and difficulties often arouse mental tension, which then encourages a new dialogue for schema adjustment. Mental tension usually occurs when the established schema are challenged, especially when they are unconscious and taken for granted as assumptions. As Kim noted (2005), “The situation generates ‘crises’ in which their mental and behavioral habit are brought into awareness and called into question.” (p. 382) This helps explain why the cultural adjustment line (e.g. Lysgaard, 1955) goes down, during which time people feel stressed, frustrated or confused.

Beamer (1995) pointed out that people create a projected cultural image and interact with people from the particular culture. Mental tension raises a signal for people to alter their projection of another culture. This mental tension is similar to the concept of *trigger* presented in Mezirow's (1994) transformative learning theory, which serves as a starting point for a journey of change. Faced with new and unfamiliar stimuli, the need for a new mental dialogue between themselves and the particular culture is aroused. At this stage, people feel the need to adjust their behaviors or ways of thinking. A new mental dialogue needs to be cued again for stimulus domains that were previously resolved and operating unconsciously.

During this process, individuals continually conduct mental dialogues between themselves and their environment in order to make sense of the stimuli from the outside world. Mental dialogue is a reflection process in which individuals re-examine their existing projection of another culture and negotiate with many unexpected new situations that they experienced in the particular cultural context. It converges with Kim's (2005) statement that “Such inner conflicts, in turn, make strangers susceptible to external influence and compel them to learn the new cultural system.” (p. 382).

Through this negotiation process between the individual and the new stimuli from outside context, the existing schema can be extended, modified, or even reconstructed in order to respond to the new cultural stimuli. After the schema is extended and adjusted, the process for making sense becomes relatively tacit and effortless, and then familiar or routine stimuli can be handled by the elaborated schema, and the individuals feel more confident and certain in their context (Harris, 1994). This process echoes Gudykunst's (1998, 2005) view of anxiety/uncertainty management theory (AUM theory), which indicated that when individuals can manage their anxiety and uncertainty toward a new culture, effective intercultural communication could be more attainable. The adjusted schema will then help the newcomers to catch local interpretations and further guide their behaviors and work strategies.

## 6.2. Self and others in another culture

Ajzen and Fishbein (1980) suggested that individuals' intentions for behavior are based on a reconciliation of their personal attitudes with the perceived normative expectations of *contextually relevant others*. Similar ideas had been pointed out by Mead (1934) who argued that individuals define themselves and make behavioral decisions relative to the social world by engaging in internalized conversations between themselves and others. Such conversations require one to take the perspectives of others. Mead (1934) wrote, “It is in the form of the generalized other that the social process influences the behavior of the individuals involved in it and carrying it on (p. 155).” The generalized other means the community or social groups within which the individual is embedded.

For expatriate workers or other sojourners, the schema they have carried from their parent cultural background often cannot work effectively in the new environment. They need a new frame of reference, through which they know what is appropriate in local people's eyes. This frame of reference informs them of the general agreement in the cultural group, helping them make judgments regarding what would be accepted or condemned. As appropriateness is defined by various parties in the cultural group, people have to search for more information about the perspectives of *relevant others* when schema adjustment is needed.

Actually, other people can influence a person's actions without even being present (Fiske & Taylor, 1984; Ellis, 2006). Weick (1979) called them *phantom others* (p. 67), who have influence on people's decisions in a group. However, newcomers to a culture often lack information regarding *who are relevant others*, and, *what are their perspectives?* Such an information gap can prevent them from making a decision perceived as appropriate in the new group. Therefore, to enrich their knowledge about the generalized other, sojourners often use strategies such as joining activities, asking questions, or making more friends in order to quickly gather information about relevant others and build their database for decision making. Through such a searching and understanding process, the schemata of both cultural sides may merge with the actual cultures, which allows them to communicate with less misunderstanding.

## 7. Implications for training design and future study

Cross-cultural adaptation is a learning process of becoming familiar with a different culture. This study identifies several components that help explain the schema adjustment process of expatriate workers after encountering unfamiliar cultural stimuli (Fig. 2). The findings provide three implications for cross-cultural training design.

### 7.1. Creating opportunities for schema awareness

New knowledge is built on the foundation of the existing structure. From a schema perspective, educational psychologist Anderson (1977, 1984) pointed out that schemata provide a form of representation for complex knowledge. This construct provided a principled account of how old knowledge might influence the acquisition of new knowledge. In other words, learning is not only the process by which individuals acquire outside new symbols/information, it also involves an

interaction between new outside stimuli and the meaning constructed by the current schema. In cross-cultural training programs, therefore, while sojourners learn to gather new knowledge from outside, providing them the opportunity to increase awareness of their existing schemas would be helpful for their learning. A self-awareness training session can assist people to more clearly portray their current schemas and understand the beginning point of their learning journey for cross-cultural adaptation.

As schemas are often deeply embedded in one's mind, one may not be consciously aware of them. A possible alternative is to provide learners with cross-cultural incidents and let them observe their own reactions toward the given situations, so the operational frameworks in their minds can gradually emerge and become more visible.

### 7.2. Practicing schema adjustment through scenarios and cognitive task analysis

Schemas are constructed based on experiences, so facilitators can help learners develop their schemas (Anderson, 1984). Cross-cultural training programs can provide learners with true cross-cultural cases, stories, and situations that have happened to experienced sojourners. Although identical experiences may lead to different learning outcomes, due to different backgrounds, through exposure to these different experiences learners would have the chance to practice schema adjustment. At this stage, instructors could mix the teaching strategies of scenario-based training and role-play (Chang, 2009; Salas, Priest, Wilson, & Burke, 2006). In addition, the technique of cognitive task analysis (CTA) can also be utilized (Redding, 1992). CTA examines the cognitive process and structures (schema) that people used to handle complex cognitive skills requiring decision-making, problem-solving, or effective organization and retrieval of vast amounts of knowledge. There are four basic steps: (a) identify job tasks in cross-cultural settings; (b) visualize the knowledge structure of the task; (c) describe the cognitive process underlying performance; and, (d) identify the differences between experts and those having less expertise. Through these techniques and simulations, the function of schemas and the direction of adjustment can become more explicit.

### 7.3. Including positive and negative experiences in learning resources

In cross-cultural training, positive experiences such as successful examples and cases are often used as teaching materials. However, negative or uncomfortable experiences are also valuable to teaching and learning. This study shows that cross-cultural conflict often causes mental tension and disrupts balance. Such a mental imbalance often becomes the source of the downturn stage in the adjustment curves, in which people feel frustration and depression and believe that nothing seems to work in the new context. Some may even doubt their decision to become involved in different cultural encounters. However, while the conflicts bring individuals unpleasant emotions, they often serve as a critical starting point for a deeper level change in cross-cultural adjustment. Chang (2007) noted that for cross-cultural competence development, negative incidents (e.g. conflicts, sadness, struggles and difficulties) sometimes help to open a learning window and bring positive meanings for participants' learning. Similar to Mezirow's (1994) idea, the triggers of transformation in perspective are often significant challenges in one's life. This viewpoint also echoes the Chinese philosophy in an important ancient publication, the *Book of Changes (I Ching)*, translated by Huang, 2004), which suggests that adverse conditions can be a birthplace for further development and flourishing. As the Dalai Lama and his colleagues (2006) wrote, "In the practice of tolerance, one's enemy is the best teacher" (p. 19, translated by Hopkins). Therefore, sojourners' experience of difficulties, challenges, or failure should be collected as important resources and materials for cross-cultural learning.

### 7.4. Suggestions for future study

The results of this study suggest two areas for further study. First, as the literature suggests, cultural distance between parent and host cultures should be considered in cross-cultural training design (Black & Mendenhall, 1990). Future studies can explore whether the adjustment process is affected by the distance between cultures (e.g. Taiwan and Thailand vs. Taiwan and Malawi). Second, researchers should heed the different cognitive needs of intercultural workers in domestic areas and foreign countries. In the current literature, people who work in intercultural settings (e.g., health care providers, counselors, and expatriate business people) are often viewed as a group who share similar experiences in terms of cross-cultural communication (Chaney & Martin, 2007). However, from the schema perspective, we can see that domestic intercultural workers and expatriates who work abroad face different challenges. Expatriate workers are a minority in the foreign community, and they often have urgent needs to adjust their schemas in order to appropriately respond to local situations. In contrast, domestic intercultural workers have to face diverse cultural populations, in order to provide quality service; they need to handle different schemas at the same time. In other words, for expatriate workers, their motivation for change can be strong for survival in a new environment; however, the target culture for them to learn is clear and usually their challenges come from one host culture. On the other hand, for domestic intercultural workers, as they stay in the dominant culture, the need for them to change may not be as urgent as those who live in unfamiliar contexts. However, the challenges they face in the workplace come from various cultures, which makes their adjustment even more complex. Future studies should pay attention to this difference, rather than assuming that intercultural workers will have similar experiences regardless of their work locations.

## 8. Conclusion

Cross-cultural adjustment involves learning how to make sense of a new environment. From the schema perspective, this study focused on cognitive aspects and identified important components for schema adjustment. These components help explain the changes behind the downturn and upturn portions of the adjustment curves (e.g. Lysgaard, 1955; Ward et al., 1998) and extend Beamer's (1995) schema theory for cross-cultural situations. Although cross-cultural adjustment involves more than a cognitive perspective, which includes physical well being (e.g., allergies, dietary habits), this study portrays the mental path that some expatriate workers have gone through to become better adapted, and the findings can serve as an outline for further discussion and development of a more elaborated map to understand schema change for cross-cultural adjustment.

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