



# Multiple routes to cross-cultural adaptation for international students: Mapping the paths between self-construals, English language confidence, and adjustment

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## Abstract

The present study examined how both self-construals and communicative competence in the language of the host society contribute to the cross-cultural adaptation of international students to Canada. It was hypothesized that self-construals, and particularly the fit between the sojourner's profile and normative tendency of the host society, would predict better adaptation. Moreover, it was hypothesized that frequent intercultural contact would also contribute to adaptation, but this link would be mediated by English language self-confidence. A multi-national group of international students originating from societies with a collectivist cultural orientation ( $N = 81$ ) registered at a Canadian university was compared with group of Canadian-born students ( $N = 135$ ). Hierarchical regression showed that more independent international students experienced higher self-esteem and fewer sociocultural difficulties, but the discrepancy between the student's self-construals and the mean score of the Canadian sample did not. Thus, the "cultural-fit hypothesis" was not supported. Structural equation modeling revealed two pathways of cross-cultural adaptation. Not only did independent self-construal predict psychological adjustment, but language self-confidence played a pivotal role, mediating the relations between host cultural contact and self-construal, on the one hand, and psychological adjustment and sociocultural difficulty, on the other.

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## 1. Introduction

In the quest for a better life, students from various parts of the world have chosen to relocate themselves and pursue education in the industrialized countries of North America, Australia, and Europe. These burgeoning numbers have prompted a great deal of study concerning international students' adaptation to the host culture. Indeed, the physical journey from the native country to a new country often parallels a psychological journey of cross-cultural adaptation which includes changes to the sojourner's ways of behaving, thinking, and feeling. Several scholars have become interested in understanding the experience of cross-cultural adaptation because it may predict not only the success and satisfaction with the sojourn but also the quality of relations between members from different cultural groups (see Ward, Bochner, & Furnham, 2001, for overview). As well, interest in understanding effective communication in intercultural encounters has gained much momentum in recent cross-cultural research (Clément, Noels, & Deneault, 2001; Coleman, 1995; Gudykunst et al., 1996; Noels & Clément, 1996; Singelis & Brown, 1995). The present study integrates these two traditions by examining the relationships among self-construals, English language self-confidence, and cross-cultural adaptation of international students, with the goal of understanding (1) how the culturally shaped self-concept influences the psychological and sociocultural adjustment of international students using the notion of "cultural-fit" (Searle & Ward, 1990; Ward & Chang, 1997), and (2) the importance of English language confidence in the process of cross-cultural adaptation.

### 1.1. *Dimensions of cross-cultural adjustment*

Drawing on contemporary conceptual frameworks and their own empirical research on sojourners and international students' cross-cultural transitions, Ward and her colleagues argue that cross-cultural adaptation is best examined in terms of two conceptually distinct but empirically related adjustment outcomes: psychological (emotional/affective) and sociocultural (behavioral) adjustments (Searle & Ward, 1990; Ward & Kennedy, 1993a, 1994, 1999, 2001). The first outcome, psychological adjustment, originated from the stress and coping framework and emphasizes emotional well-being and satisfaction with sojourning experiences. Psychological adjustment is postulated to be broadly affected by personality, life changes, coping styles, satisfaction/identification with co-nationals, and social support from co/host nationals. The second outcome, sociocultural adjustment, is derived from the social/learning cognitive models and stresses the ability to "fit in" and the skill to deal with interactive aspects of host cultural context. Sociocultural adjustment is claimed to be best predicted by length of residence in the new culture, language ability, cultural knowledge, cultural distance, and the quantity of contact with host nationals. The extensive research by Ward and her colleagues (Ward & Chang, 1997; Ward & Kennedy, 1993a, 1993b, 1994; Ward & Rana-Deuba, 1999; Ward & Searle, 1991) shows that these two dimensions of adjustment, although interrelated, are differentially linked to a variety of factors and exhibit different patterns over time (Ward, Okura, Kennedy, & Kojima, 1998), underscoring the importance of considering each type of adjustment separately.

## 1.2. *The cultural self-ways*

One important variable that has been hypothesized to affect cross-cultural adaptation is self-construals. Self-construals can be regarded as the conceptualization of the self and behavior shaped through the primary culture. In a review and integration of the literature on the self, Markus and Kitayama (1991) delineate two types of self-construal based on broad cultural variations. The first type, independent self-construal, is characterized by the expression of positive and unique attributes, the orientation toward independent success and achievement, and being in control of and responsible for one's behavior and its outcomes. Markus and Kitayama (1991) argue that this individualistic perspective of the self is the prototypical view of individuals in Euro-American culture. On the other hand, the second type, interdependent self-construal, is defined by the emphasis on interpersonal connectedness and emotional interdependence, and the orientation toward the harmonious functioning of the collective needs and goals. Social acceptance by ingroups and contribution to ingroups are believed to be crucial to the well-being of individuals. Markus and Kitayama (1991) argue that this collectivist view of the self represents the cultural practices and psychological functioning of individuals in East Asian culture.

In an elaboration of the culture-specific nature of self, Markus, Mullally, and Kitayama (1997) further suggest that the socioculturally shaped independent and interdependent self-construals and their patterns of behaviors can be regarded as individuals' characteristic patterns or ways of being a person in the world. Specifically, they call these patterns "self-ways". Markus and Kitayama (1998) also extend the notion of self-ways as the culture-specific ways of having or being a personality (p. 71). This way of having a personality or "self-ways" is distinct from invariable and universal aspects of personality assumed and understood in traditional Western psychological framework. These views of personality or self imply that being a person is a social and cultural product. Individuals' behavior and its variation are better understood within a given sociocultural context (Markus et al., 1997).

### 1.2.1. *The notion of cultural-fit and self-ways in cross-cultural adjustment*

Self-ways may become salient when international students make a cross-cultural transition, particularly when there are differences between the individuals' self-construals and the prevailing self-construals of the host society. These differences in self-construals may have substantial impacts on international students' cross-cultural adjustment.

Proposed by Ward and her colleagues (Searle & Ward, 1990; Ward & Chang, 1997; Ward, Leong, & Low, 2004), the notion of cultural-fit refers to a fit between one's internalized cultural framework (i.e., personality, affect, cognition, and behavior) and cultural norms and practices of the society in which one resides. Largely studied from a stable, universal, and consistent personality traits framework (in contrast to the self-ways approach), Ward found that foreign students who were extroverted had better psychological adjustment provided they were in a society where that characteristic was broadly evident and valued (Armes & Ward, 1989; Searle & Ward, 1990). In addition, foreign students who perceived a great cultural distance (e.g., the distance or similarities between culture of origin and the host culture; see Babiker, Cox, & Miller, 1980) between themselves and the host society experience more sociocultural difficulties (Searle & Ward, 1990; Ward & Kennedy, 1993a). Ward and her colleagues reasoned that possession of a personality profile that meshed with that of the host society increases interactions with host nationals and consequently facilitates the learning of the culturally appropriate skills. They

further elaborated that, in many cases, personality per se is not be a definitive predictor of adjustment, but that rather the cultural-fit between the acculturating individual and host-cultural norms determines adaptation success (Searle & Ward, 1990; Ward & Chang, 1997; Ward & Searle, 1991; see also Ward et al., 2004 for an elaborated model of cultural-fit). Empirical examinations of the discrepancy between the individual's profile scores and the mean tendency of the host society have provided some support for this premise (e.g., Ward & Chang, 1997), but not always (Ward & Searle, 1991; Ward et al., 2004).

In line with the cultural perspective of self-ways described in Section 1.2, Cross (1995) also considered the notion of cultural-fit. She examined the differences in self-construals between American and East Asian graduate students (who shared a collectivistic orientation and Confucian tradition) in the United States and the impact of self-construals on their coping strategies and perceived stress. She found that overall, East Asian students had a higher level of interdependent self-construal (but not independent self-construal) than their American counterparts and indicated more perceived stress after 7 months of graduate school. On the other hand, among the East Asian students who were high on independent self-construal (i.e., that matched with the host country's cultural practices) used more direct coping strategies which in turn strongly related to better psychological adjustment (i.e., low levels of perceived stress). Cross' findings are limited however, because she only examined the direct relation between independent self-construals and perceived stress and the indirect relation mediated by coping strategies. She did not examine self-construal discrepancies as described by Ward (e.g., Ward et al., 2004); neither did she differentiate between psychological and sociocultural adjustment.

Oguri and Gudykunst (2002) found that Asian international students with high independent self-construals had better psychological adjustment. In addition, contrary to Ward's assumption that psychological and sociocultural adjustment are predicted by distinct variables unique to each adjustment dimension, Oguri and Gudykunst (2002) found that self-construals, especially the independent self-construal, also predicted better sociocultural adjustment. In addition, Asian international students' use of direct, open, and prototypical communication styles (i.e., styles that match with the host society) were related to better sociocultural adjustment. In sum, regardless of definitions or standpoints of personality (i.e., stable and consistent vs. culturally shaped self-views), these studies have added to our knowledge regarding cross-cultural adjustment by emphasizing the importance of a match between individuals' internalized attributes and characteristics of the host society.

### 1.3. *Linguistic competence, intercultural contact and adjustment*

The person–society cultural-fit is not the only predictor of cross-cultural adaptation. Indeed, international students require many resources to facilitate their stay abroad. Because communication skills are essential for satisfying everyday needs, many scholars argue that competence in intercultural communication and in the language of the host society is crucial for fulfilling those needs and hence attaining a sense of well-being in cross-cultural adjustment (e.g., Kim, 1988; Noels, Pon, & Clément, 1996).

Clément (1980, 1986) proposed a sociocontextual model of bilingualism which posits a relation between intercultural contact, self-confidence in using a second language, and patterns of acculturation. Self-confidence refers to a high level of perceived competence in the second language, combined with low levels of anxiety using that language.

Self-confidence is argued to be a more important predictor of language use and acculturative outcomes than actual linguistic competence (MacIntyre, Clément, Dörnyei, & Noels, 1998; MacIntyre, Noels, & Clément, 1996). Noels and Clément (1996) demonstrated that English- and French-Canadians who had greater confidence in using the language of the other cultural group also experienced better psychological adjustment. Elsewhere, Noels et al. (1996) found that Chinese students registered at Canadian universities who had higher levels of contact with the Canadian society experienced better psychological adjustment, but this relation was partially mediated by their level of English self-confidence (see also Noels & Clément, 1996). A similar finding was reported in a study of French-Canadian high school and junior high school students vis-à-vis their adaptation to English-Canadian society (Gaudet & Clément, 2004). Hence, it appears that communication variables, particularly confidence in the host cultural language, are important mediating variables in determining the effects of contact with the host culture on adjustment.

To date, however, none of the research by Clément and his colleagues has examined the link between communicative self-confidence and sociocultural adjustment, despite the straight-forward rationale that ease in using the language of the host society would reduce the number of difficulties experienced in that society. Consistent with this premise, Oguri and Gudykunst (2002) found that Asian international students' use of direct and open communication styles (i.e., who were comfortable using styles that matched the host American society) was related to better sociocultural adjustment.

#### *1.4. Present study: hypotheses and a proposed causal model*

This review suggests that there may be distinct pathways to cross-cultural adaptation. Not only should researchers consider the “fit” between international students' internalized self-views or ways of being, and those of the host society, they must also consider how confidence in using English mediates the impact of intercultural contact on cross-cultural adaptation. The objectives of the present study are three-fold. First, to establish whether there is a difference between sojourning and host students, we compare a group of international students (who originate from cultures with a predominantly collectivist orientation) with a group of host students (from Canada, which has a predominantly individualist orientation; Hofstede, 2005) on self-construals and dimensions of adjustment. Second, to examine the “cultural-fit” hypothesis as it applies to self-construals, we consider the relative contribution of self-construals and the discrepancy between the international student's self-construal orientation and the normative orientation of the Canadian society. Third, to articulate a more comprehensive model of cross-cultural adaptation, we outline a possible causal model that incorporates both personality characteristics and communication variables. Thus, the present study tests the following hypotheses:

**H1.** International students will differ from Canadian students in their self-construals and dimensions of adjustment. International students will have a higher level of interdependent self and psychological and sociocultural difficulties than Canadian students. Canadian students will have a higher level of independent self than international students.

**H2a.** The greater the discrepancy between international students' self-construal profile and the normative tendency of the Canadian host society, the poorer will be students'

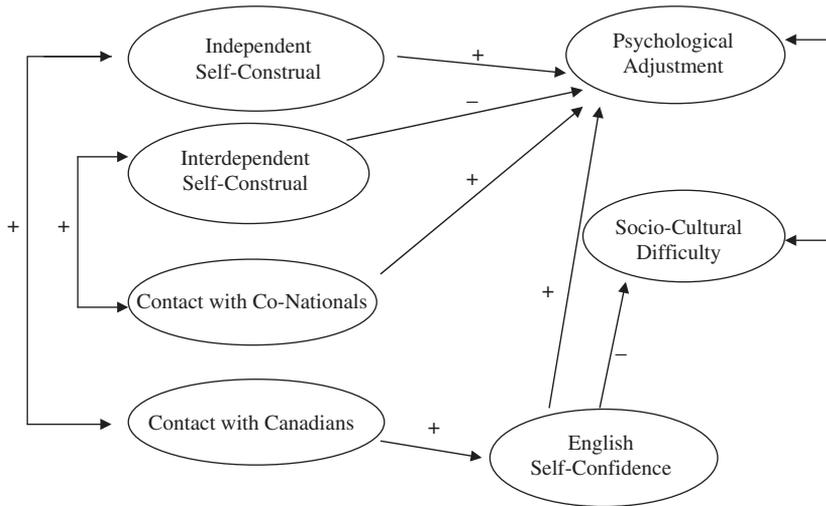


Fig. 1. Hypothesized structural model.

psychological and sociocultural adjustment. Moreover, the discrepancies should better predict adjustment than self-construals per se.

**H2b.** Based on Cross and Ward's notion of cultural-fit, it is hypothesized that greater independent and lesser interdependent self-construals in international students to Canada will be associated with better psychological adjustment and sociocultural adjustment.

A number of hypotheses in addition to those listed above are made regarding the proposed causal model (see Fig. 1).

**H3a.** Because co-nationals' contacts potentially provide a source of social support, frequent contact with co-nationals will be associated with better psychological adjustment (cf. Ward & Kennedy, 1994).

**H3b.** Contact with the host cultural group will be associated with better psychological adjustment and lower sociocultural difficulty, and these relations are mediated through language self-confidence (cf. Clément, 1980; Noels & Clément, 1996; Noels et al., 1996).

**H3c.** Based on the prior research of Ward, psychological and sociocultural adjustment will be associated with each other.

## 2. Method

### 2.1. Participants

#### 2.1.1. International students

Eighty-one international students (44% males) at a western Canadian university participated in this study, of whom 65 had a study permit, 10 had permanent resident status, and six were naturalized Canadian citizens. They included undergraduate students (69.6%) and graduate students (30.4%), ranging in age from 18 to 45 years with a mean

age of 24.35 years ( $SD = 5.44$ ). Participants were from regions<sup>1</sup> that typically have collectivistic values such as East and South Asia, Latin and South America, East and West Africa, Central Europe (e.g., Greece), and areas of Middle East (e.g., Afghanistan and Iran). With regard to the native language, a sizeable number of participants indicated Chinese (40.7%, including Mandarin and Cantonese) as their mother tongue followed by Spanish (13.6%), Japanese and Korean (8.6%, respectively), and 37.1% consisted of various other languages. No participants spoke English as a native language. The mean length of residence in the host city is 2.09 years ( $SD = 2.00$ ), such that 12.3% had lived in the city for less than 1 year, 42% for 1 year, 11.1% for 2 years, and the remainder had resided in the host city longer than 2 years.

### 2.1.2. *Canadian students*

One hundred and thirty-five Canadian citizens (44% males) who were registered in an undergraduate psychology class at the same institution also participated. They had a mean age of 19.53 years ( $SD = 1.73$ ). They were born in Canada and were permanent residents of the province in which the host city was located, and all had moved to the host city to pursue their university studies. The mean length of residence in the host city was 1.34 years ( $SD = .83$ ), such that 52.6% had lived in the host city for 1 year or less, 20.7% for 2 years, and the rest had lived in the host city for more than 2 years. They were all native speakers of English.

Preliminary analysis showed that the two groups differed significantly in age and length of residence in the host city, such that international students were older,  $t(189) = -7.93$ ,  $p < .05$  and had resided longer in the host city,  $t(189) = -3.00$ ,  $p < .05$ .

## 2.2. *Materials*

Means, standard deviations, and Cronbach  $\alpha$ 's for all variables are shown in Table 1. Except where otherwise indicated, a high mean score indicates a strong endorsement of the construct.

### 2.2.1. *Self-construals*

Singelis' (1994) 24-item self-construal scale (SCS) was used to measure independent and interdependent self-construals. Participants rated the 12 items of each subscale on a seven-point scale, with a high mean score indicating a high endorsement of that particular self-construal. Previous research using this scale has demonstrated satisfactory reliability (e.g., Singelis, 1994; Singelis & Sharkey, 1995).

### 2.2.2. *Psychological adjustment*

*Self-esteem:* The Rosenberg self-esteem scale (Rosenberg, 1965) was used to measure overall positive and negative feelings about the self. Negatively worded items were reversed, such that a high mean score indicated high self-esteem (scale range: 1–5). A study by Tsai, Ying, and Lee (2001) on Chinese Americans' self-esteem found that their

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<sup>1</sup>We based our selection of collectivist countries on the meta-review article on individualism and collectivism by Oyserman, Coon, and Kemmelmeier (2002) and on Hofstede's web-based resources on cultural dimensions at: <http://www.geert-hofstede.com>.

Table 1  
Means, standard deviations, and Cronbach  $\alpha$ 's of all variables

Variables	International students				Canadian students			
	Mean	SD	Adj. mean	$\alpha$	Mean	SD	Adj. mean	$\alpha$
Independent self-construal	5.08	.63	5.13	.54	4.89	.62	4.91	.59
Interdependent self-construal	4.96	.79	4.90	.74	4.63	.64	4.70	.68
Self-esteem <sup>a</sup>	3.82	.65	3.83	.81	3.89	.72	3.89	.89
Depression <sup>b</sup>	.36	.40	.37	.87	.46	.40	.42	.85
Sociocultural Difficulties <sup>b</sup>	3.07	.55	3.04	.87	1.75	.45	1.75	.87
Self-evaluation of English competence	5.30	1.09	—	.90	—	—	—	—
Self-confidence in English	4.60	1.08	—	.88	—	—	—	—
English use anxiety	2.55	1.07	—	.86	—	—	—	—
Contact with co-nationals	4.42	1.23	—	.52	—	—	—	—
Contact with Canadians	3.87	1.23	—	.60	—	—	—	—

Note: Unless otherwise indicated,  $N = 81$  for international students and  $N = 135$  for Canadian students. Adj. mean = mean adjusted by the covariates of length of residence in host city and age.

<sup>a</sup> $N_{\text{international}} = 80$ .

<sup>b</sup> $N_{\text{Canadian}} = 134$ .

self-esteem was strongly associated with cultural orientation, especially in the domains of proficiency in English and Chinese languages, and pride in Chinese culture.

**Depression:** The short form of Beck depression inventory (BDI) (Beck & Beck, 1972) was used as the measure of psychological adjustment. The 12-item short version of BDI measures cognitive, behavioral, and affective components of depression. (Item 13, regarding thoughts of suicide, was omitted.) Each item consists of four statements of graduated severity (0–3). Participants indicated which of the statements best describe their feelings since their arrival in the host society, with higher mean scores representing greater levels of depression. Research by Byrne and Campbell (1999) indicated that BDI is a valid measure of negative attitude, performance difficulty, and somatic elements of depression in Bulgarian adolescents, as well as French–Canadian, English–Canadian, and Swedish nonclinical adolescents.

### 2.2.3. Sociocultural adjustment

**Sociocultural difficulty:** Ward and Kennedy's (1999) Sociocultural Adaptation Scale was adapted for the present study. The 28 items measure individuals' behavior competence, social skills, and amount of difficulties in coping with social situations. Participants rated each item in terms of the difficulty they experienced since their arrival in the host society with high scores indicating high levels of difficulty in sociocultural adjustment.

### 2.2.4. English language confidence

Only international students completed the following English language confidence measures.

*Self-evaluation of English competence:* Respondents evaluated their English competence through the use of four seven-point scales (Clément, 1988), which tapped writing, reading, speaking, and comprehension in English language. Responses on each item ranged from (1) “not at all” to (7) “very well”, with high mean scores representing high competence in English. Clément, Dörnyei, and Noels (1994) reported adequate reliability in a study of motivation, self-confidence, and group cohesion in the foreign language classroom.

*Self-confidence in English:* Clément and Baker’s (2001) eight-item English language confidence scale assessed participants’ feelings of comfort and confidence in English and is measured on a six-point scale with a high mean score indicating high self-confidence in using English. Previous research has found that self-confidence in English was positively correlated with the degree of identification with the English-speaking group and negatively correlated with identification to heritage language group in the minority group members (Noels & Clément, 1996; Noels et al., 1996).

*English use anxiety:* Participants used Clément and Baker’s (2001) eight-item English use anxiety instrument to rate their degree of arousal and distress using English on a six-point scale, with a high mean score indicating high anxiety when using English. Previous research using this scale reported satisfactory reliability (Clément, 1986; see also Clément et al., 1994).

#### 2.2.5. *Intercultural contact*

*Frequency of contact:* Participants were asked to indicate how much contact they have had with both the host (i.e., Canadian) and co-national (i.e., heritage) groups since their arrival in Canada, across four different settings/situations—at school, with friends, with family, and in public. Responses were measured on a seven-point scale, with a high score indicating a more frequent contact with a particular cultural group. Clément et al. (1994) reported adequate reliability in a study of motivation, self-confidence, and group cohesion in the foreign language classroom.

### 2.3. *Procedure*

All participants completed the questionnaire in English during a pre-arranged group testing session. International students were recruited through posters and advertisements in the campus student newspaper, and via e-mail using the university’s international students’ network. They received a \$5.00 honorarium for their participation in this study. Canadian students were recruited from introductory psychology classes and participated in partial fulfillment of a course requirement.

## 3. **Results**

Three sets of analyses were conducted to address the hypotheses. First, international and Canadian students were compared on the self-construal and adjustment variables. Second, multiple regression analyses assessed the impact of (1) age and length of residence in the host city (2) self-construals, and (3) discrepancy scores of self-construals on adjustment indices for international students. Third, a structural equation model (SEM) was used to test the cross-cultural adaptation model outlined in Fig. 1.

### 3.1. Means comparison between international and Canadian students

A MANOVA assessed the first hypothesis regarding the degree of similarity between international students and Canadian students on self-construals and adjustment variables. An initial MANOVA, with student groups (i.e., Canadian vs. international students) as a between-subject factor, indicated a significant main effect of student groups on self-construals and adjustment variables, Wilks = .30,  $F(5, 208) = 96.51$ ,  $p < .05$ . Follow-up univariate  $F$ -tests indicated that the two groups differed in terms of independent self,  $F(1, 212) = 4.01$ ,  $p < .05$ , interdependent self,  $F(1, 212) = 10.85$ ,  $p < .05$ , and sociocultural difficulty,  $F(1, 212) = 363.95$ ,  $p < .05$ . International students reported higher levels of independent self, interdependent self, and sociocultural difficulty than their Canadian counterparts (see Table 1).

Because international students' means for age and length of residence in the host city were greater than Canadian students, we performed a MANCOVA to control for the possible influence of these variables on the dependent variables. When age and length of residence were entered as covariates, the effect of student groups on the dependent variables was still significant, Wilks = .36,  $F(5, 181) = 63.59$ ,  $p < .05$ . Univariate ANCOVA indicated that the groups only differed in independent self,  $F(1, 185) = 3.89$ ,  $p < .05$ , and sociocultural difficulty,  $F(1, 185) = 219.16$ ,  $p < .05$ . Thus, the first hypothesis that international students from societies with a predominantly collectivist cultural orientation will have higher interdependent self-construal can only be considered marginally supported; this effect is nullified when age and length of residence are taken into account. The hypothesis that these students would have greater psychological and sociocultural difficulty than their Canadian counterparts is also only partially supported as international students only had higher levels of sociocultural difficulty. Moreover, contrary to expectation, international students had greater independent self-construals than Canadian students.

### 3.2. Regression analyses: self-construals and the prediction of international students cross-cultural adaptation

The second hypothesis posited that the higher the international students' independent self-construal, and, more specifically, the closer it matched the normative tendency of the host society, the better their psychological adjustment (H2a). To determine the degree of cultural-fit for each individual, a discrepancy score was calculated by subtracting the individual's self-construal score (separately for independent and interdependent self-construals) from the mean score of that self-construal for the Canadian group. The absolute value of this difference, then, indicated the degree to which the person's interdependent and independent self-construals differed from the normative tendency of the host society (cf. Ward et al., 2004).

A series of hierarchical multiple regression analyses was conducted to examine the relative contribution of self-construals and self-construal discrepancies to cross-cultural adjustment indices (i.e., depression, self-esteem, and sociocultural difficulty; H2b). Because the participants differed in age and the length of residence in the host city, these variables were entered in block 1 to account for any influence they might have on the adjustment variables. In block 2, the self-construal discrepancy score was entered and in block 3 the self-construal score was entered. As Table 2 indicates, in the first step, age and

Table 2

Hierarchical regression analyses of relations between age, length of time, self-construals, and absolute discrepancy score of self-construals (independent variable), and adjustment (dependent variable) for international students

Variable	Equation				Coefficients				
	$R^2$	$F$	$\Delta R^2$	$\Delta F$	$\beta$	$t$	$r$	Partial $r$	Part $r$
1. Self-esteem									
<i>Step 1</i>									
Age	.00	.01	—	—	-.01	-.11	-.01	-.01	-.01
Length of residence					-.00	-.02	-.00	-.00	-.00
<i>Step 2</i>									
Age	.01	.18	.01	.35	.00	.03	.01	.00	.00
Length of residence					.01	.07	-.00	.01	.01
Independent self-discrepancy					.10	.83	.10	.01	.10
Interdependent self-discrepancy					-.02	-.14	-.02	-.02	-.02
<i>Step 3</i>									
Age	.15	2.07	.14	5.82*	.05	.46	-.01	.06	.05
Length of residence					.02	.18	-.00	.02	.02
Independent self-discrepancy					-.06	-.51	.10	-.06	-.06
Interdependent self-discrepancy					-.02	-.13	-.02	-.02	-.02
Independent self					.41	3.37*	.37	.37	.37
Interdependent self					-.11	-.91	-.07	-.11	-.10
2. Depression									
<i>Step 1</i>									
Age	.00	.16	—	—	-.04	-.33	-.04	-.04	-.04
Length of residence					.05	.46	.05	.05	.05
<i>Step 2</i>									
Age	.01	.10	.00	.05	-.03	-.27	-.04	-.03	-.03
Length of residence					.05	.43	.05	.05	.05
Independent self-discrepancy					-.02	-.18	-.02	-.02	-.02
Interdependent self-discrepancy					-.03	-.24	-.04	-.03	-.03
<i>Step 3</i>									
Age	.03	.35	.02	.86	-.05	-.40	-.03	-.05	-.05
Length of residence					.04	.33	.05	.04	.04
Independent self-discrepancy					.04	.33	-.02	.04	.04
Interdependent self-discrepancy					-.01	-.08	-.04	-.01	-.01
Independent self					-.17	-1.30	-.15	-.15	-.15
Interdependent self					-.01	-.07	-.04	-.01	-.01
3. Sociocultural difficulty									
<i>Step 1</i>									
Age	.03	1.11	—	—	.15	1.28	.15	.15	.15
Length of residence					-.09	-.78	-.09	-.09	-.09
<i>Step 2</i>									
Age	.03	.61	.00	.13	.13	1.07	.15	.12	.12
Length of residence					-.09	-.77	-.09	-.09	-.09
Independent self-discrepancy					-.01	-.07	-.01	-.01	-.01
Interdependent self-discrepancy					.06	.52	.10	.06	.06
<i>Step 3</i>									
Age	.18	2.54	.14	6.22*	.08	.68	.15	.08	.07
Length of residence					-.10	-.87	-.09	-.10	-.09

Table 2 (continued)

Variable	Equation				Coefficients				
	$R^2$	$F$	$\Delta R^2$	$\Delta F$	$\beta$	$t$	$r$	Partial $r$	Part $r$
Independent self-discrepancy					.15	1.25	-.01	-.15	.13
Interdependent self-discrepancy					.03	.21	.10	.03	.02
Independent self					-.39	-3.28*	-.31	-.36	-.35
Interdependent self					-.20	1.65	.18	.19	.18

\* $p < .05$ .

length of residence did not contribute to the prediction of self-esteem, depression or sociocultural difficulty. As well, in the second step, self-construal discrepancy scores were not predictive of adjustment variables. When self-construals were added in block 3, only the independent self-construal was found to predict some adjustment variables. Specifically, an independent self-construal was positively associated with self-esteem and negatively associated with sociocultural difficulty; the interdependent self-construal was not related to any of the adjustment variables. Thus, the second hypothesis regarding cultural-fit was not supported, although having a stronger independent sense of self was associated with better sociocultural adjustment and aspects of psychological adjustment.

### 3.3. Structural equation model

EQS 6.1 for Windows was used to assess the following hypothesized causal sequences: greater independent self and lesser interdependent self are associated with better psychological adjustment (H2b), contact with co-nationals is associated with better psychological adjustment (H3a), contact with host cultural groups is associated with better psychological adjustment and lower social difficulty, and these relations are mediated through language self-confidence (H3b), and psychological and sociocultural adjustment are associated with each other (H3c). In order to improve the measurement of those latent variables that did not have multiple indicators (e.g., self-construals, sociocultural adjustment), the items of the instrument that assessed that construct were randomly divided into three sets of items, or, in the case of the contact latent factors, each individual item was used as an indicator (cf. Byrne, 1994). Because self-construal discrepancies did not predict adjustment variables in the regression analyses, they were not included in the SEM. The maximum-likelihood technique was selected as the estimation method, while  $\chi^2$ , Bentler's (1990) normed comparative fit index, and Steiger's (1990) root mean squared error of approximation (RMSEA) were the global fit indexes selected to determine the discrepancy between the hypothesized SEM and the data. Bentler (1990, 1998) suggests that the CFI should be at least .90, while Browne and Cudeck (1993) maintain that an RMSEA value of .05 or less illustrates a very good model fit with .08 or less indicating an acceptable fit. Values greater than .10 indicate an untenable model.

The results of the initial analysis provided poor support for the proposed model,  $\chi^2$  (200,  $N = 81$ ) = 278.59,  $p < .00$ , CFI = .87, RMSEA = .07. The fit was improved significantly,

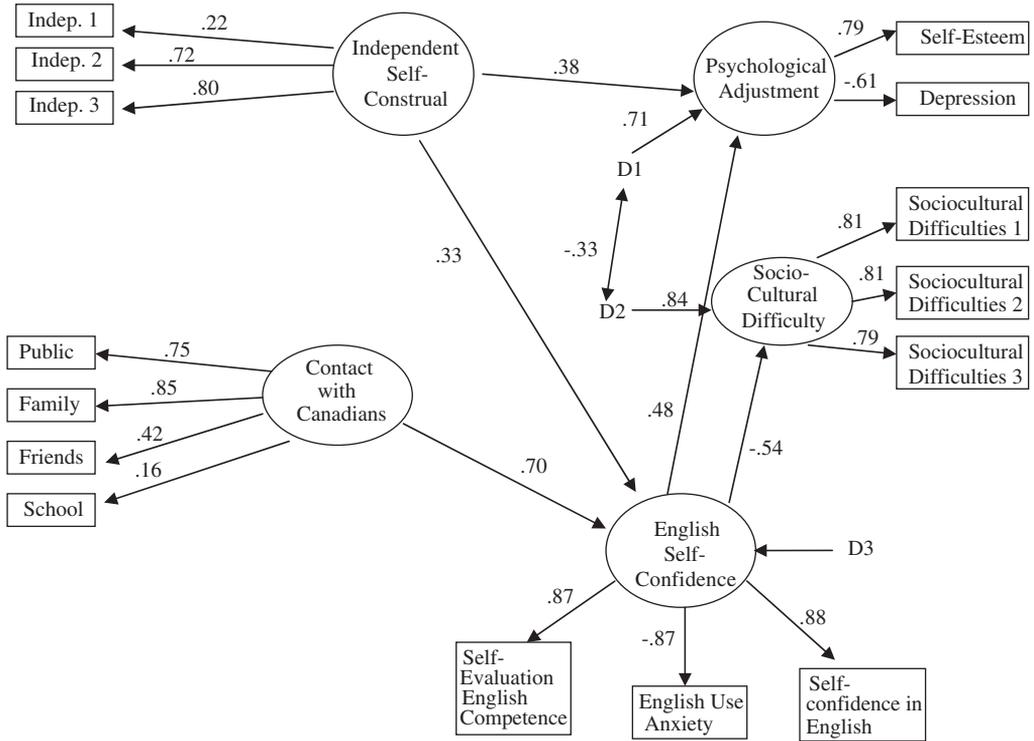


Fig. 2. Final structural model. Standardized path coefficients are shown. Note: All standardized path coefficients in this model are statistically significant at  $p < .05$ . Error terms range from 0.00 to 1.00.

however, after a number of paths were modified based on recommendations from the Wald test (to drop paths) and Lagrange multiplier test (to add paths), and by dropping those latent variables that showed no covariation with other latent variables (i.e., interdependent self-construals, co-national contact). The results of the final model showed a good fit to the data ( $\chi^2(84, N = 81) = 102.21, p < .01, CFI = .96, RMSEA = .05$ ; see Fig. 2).

There was partial support for H2b, whereby independent self-construal predicted the level of psychological adjustment. Interdependent self-construals, however, did not predict any other variables, and hence it was dropped from the model. The hypothesized link between co-national contact and psychological adjustment was not supported (H3a), and contact with co-nationals was dropped from the final model as it did not predict any other variables, including psychological adjustment. The hypothesis (H3b) that language self-confidence mediated the relation between contact with Canadians and both psychological adjustment and sociocultural difficulty was supported, as was the hypothesis that psychological adjustment and sociocultural difficulty were negatively interrelated (H3c).<sup>2</sup>

<sup>2</sup>A portion of the relation between psychological adjustment and sociocultural difficulty arises from the correlation between the error variables (“disturbances”, D1 and D2). The present model postulates that some part of the covariance between the endogenous latent variables psychological adjustment and sociocultural difficulty arises from the causal action of variables other than the model’s specified endogenous and exogenous variables. The interested reader is encouraged to review Hayduk (1987, p.106–116) for more information regarding how model components, including error covariances, implies correlations between variables.

The final model included an additional path which had not been hypothesized. In particular, independent self-construals were found to positively predict greater English self-confidence. Although not anticipated, this path suggests that those people who are more independently minded are less likely to feel anxious using English.

#### 4. Discussion and implications

The purpose of the present study was to integrate Ward's notion of cultural-fit as it pertains to self-construals (cf. Cross, 1995) with aspects of Clément's (1980) work on language self-confidence, in the interest of developing a more comprehensive theoretical account of cross-cultural adaptation. In this section, we discuss the findings as they relate to the three sets of hypotheses, along with limitations and directions for future research.

##### 4.1. *The differences in cultural self-ways and adjustment: individualism vs. collectivism*

The first purpose of this study was to consider the degree of similarity of dimensions of self-construal and adjustment between international students, who originate from purportedly collectivistic cultures, and Canadian students, who live in a relatively individualistic society. The results of means analyses indicated that these international students showed only a slight difference from Canadian students on self-construals. Only tenuous support was provided for the hypothesis that the international students were more interdependent than Canadian students. After controlling for age and length of residence in the host city, this difference disappeared, suggesting that any difference may be, at least in part, due to age and length of residence in the host city, not the cultural characteristics per se. Contrary to expectation, international students were found to be more independent than Canadian students, even after controlling for age and length of residence. This pattern of findings is somewhat at odds with that of Cross (1995), who found that international students tended to be more interdependent but not necessarily less independent.

There are at least four explanations for these unexpected findings. Firstly, as Cross (1995) points out, it is possible that international students are not necessarily representative of people in their home culture. In line with Markus and Kitayama's (1991) caveat that there is great variability in individual self-definition within any cultural group, people from around the world likely have varying degrees of both an independent and an interdependent sense of self, and these dimensions may be orthogonal (cf. Ting-Toomey, Oetzel, & Yee-Jung's, 2001, notion of "biconstruals"). It is possible that those people who decide to travel abroad are more individualistic than those people who decide to remain with friends and family. A second possibility is that these students may have been less independent when they arrived in Canada, but have become increasingly so as a result of their exposure to Canadian culture. Thirdly, the failure to find a difference between groups might be due to the attrition of highly interdependent international students before the data were collected. Lastly, it is also possible that high independent self-construal scores of this group of international students is less a result of interactions with Canadians per se, but are reflections of increased globalization of communication and cultural interactions in this group (see Hermans & Kempen, 1998). By employing a comparison group of students who remained in the home country, some of these possibilities could be sorted out.

Examination of the differences between the two student groups on adaptation variables indicated that despite having greater sociocultural difficulties, international students did not necessarily experience greater psychological distress. It is reasonable to think that the transition to a new culture may involve many daily hassles, and certainly the correlation between the experience of difficulties and psychological adjustment suggests that the more one experiences difficulties with daily tasks, the more one will experience distress. But being an international student per se does not predict psychological problems. It may be the case that these international students may have unique personality characteristics (perhaps their independent self-construal) that moderate the effects of transition stressors on their psychological adjustment.

#### *4.2. The pattern of cultural-fit for international students*

The second objective of the present study was to test the notion of “cultural-fit” for this group of collectivist-oriented international students living in an individualistic society. There was no evidence to support the idea that a discrepancy between the individual’s self-construal and the average tendency of the host society was linked with psychological or sociocultural adjustment. Moreover, having an interdependent self-construal was not indicative of poorer adjustment. In fact, having an independent self-construal was predictive of greater self-esteem (but did not predict depression) and fewer sociocultural difficulties. This finding is largely consistent with [Oguri and Gudykunst’s \(2002\)](#) finding that self-construals, especially the independent self-construal, predict both types of adjustment. Such results suggest that having an independent self-construal itself, regardless of the match with the host society, is conducive to better cross-cultural adaptation. It may be that those people who incorporate a relatively independent sense of self are less afflicted by feelings of loneliness and alienation brought on by distance from their family and friends in the home country. This is not to suggest that they are necessarily low in interdependence or connectedness with others, but rather that independent aspect of themselves buffers them from the stressors of dealing with a different culture.

This failure to find evidence for the cultural-fit hypothesis does not mean that we feel that the notion should be abandoned altogether. Certainly, it would be necessary to examine it in international students who travel from relatively individualistic societies to collectivistic societies (e.g., from Canada to Taiwan), although [Ward’s](#) recent attempts to do just that also failed to find support for the hypothesis ([Ward et al., 2004](#)). There may be several reasons why the “fit” was not found. First, although an attempt was made in the present study to equate the two groups as much as possible in terms of age and length of residence in the host society, it is tenable that other unknown factors differentiate the two groups in important ways and hence the hypothesis was not adequately tested. Second, it is conceivable that the Canadian sample used in the present study does not represent the type of Canadians that the international students interact with on a regular basis (and likewise for the normative sample used in [Ward & Chang, 1997](#); [Ward et al., 2004](#)). Future examinations of this hypothesis, then, might wisely consult international students about who they interact with, and then determine the degree of discrepancy between the students and those specific host members. Third, it would be wise to include assessments of perceived cultural distance (cf. [Babiker et al., 1980](#)) between the original and host society. Even though there may be a statistically significant difference between the self-construal profiles of two groups, if it is not perceived by participants, it may have little bearing on

their feelings, cognition, and behavior. Indeed, Ward's work has quite consistently shown that perceived cultural distance is associated with greater sociocultural difficulty (e.g., Ward & Kennedy, 1992, 1993a).

#### 4.3. *The role of language self-confidence in cross-cultural adaptation*

The final objective of the present study was to consider how cross-cultural adaptation is influenced not only by self-construals but also by self-confidence in communicating in the language of the host society. The results of the final SEM analysis generally supported the two important pathways outlined in the original causal model. First, consistent with the above discussion of the regression analyses, cross-cultural adaptation was promoted through a self-construal route: specifically, the independent self-construal predicted better psychological adjustment (and via the intercorrelation between the two adjustment indices, psychological adjustment, and sociocultural difficulty).

The second pathway is more intriguing for communication scholars as it demonstrates the pivotal role that language self-confidence plays in mediating the influence of intercultural contact on cross-cultural adaptation. The findings extend the theoretical and empirical work of Clément (1980; Gaudet & Clément, 2004; Noels & Clément, 1996; Noels et al., 1996) by showing that language self-confidence is associated not only with psychological adjustment, but also with sociocultural difficulty. Given that comfort using the language of the host society facilitates the fulfillment of everyday needs, self-confidence was associated with better ability to carry out everyday tasks. Consistent with the idea that fewer daily difficulties are associated with better psychological adjustment, these two dimensions of adjustment were correlated, indicating an indirect relation between self-confidence and psychological adjustment. This indirect relation is the basis of Clément, Noels and their colleagues' explanation for the finding that self-confidence predicts psychological adjustment. The present findings extend understanding of this link because there was also a direct path between these two variables. This path suggests that communicative competence in the host language directly promotes better well-being, perhaps because the language provides a vehicle of self-expression and identity negotiation, which is psychologically rewarding (cf. Clément & Noels, 1992; Noels, Clément, & Gaudet, 2004).

An unexpected finding was that independent self-construals directly predicted English self-confidence. This finding is consistent with those of Yamaguchi and Wiseman (2001; cited in Oguri & Gudykunst, 2002), who reported that Japanese international students in the United States who had an independent sense of self also experienced greater perceived effectiveness in communicating with the host society. Elsewhere, Oguri and Gudykunst (2002) found that international students use of communication styles that matched the host society were likely to experience better sociocultural adjustment. Thus, independent self-construals may predict greater self-confidence not only using linguistic aspects (e.g., phonological, syntactic) of the communication system but also broader, pragmatic concerns (e.g., the use of particular communication styles).

#### 4.4. *Limitations of the study*

There are limitations to this study which should be addressed in future research. Firstly, the present study relies on international students' self-reports, and although the subjective

experience of self-construals, confidence, and adjustment is an important aspect of each of these constructs, the research would benefit from the inclusion of alternative indices of the constructs examined (e.g., peer and/or family assessments). Secondly, we cannot conclusively claim that independent self-construal definitively related to better psychological adjustment, because adjustment was assessed through instruments developed in Western societies, particularly through the BDI and the Rosenberg self-esteem scale. Heine and colleagues (Heine, 2003; Heine, Lehman, Markus, & Kitayama, 1999) argued that need for self-regard must be culturally variant because the constructions of self and regard themselves differ across cultures. They claimed that the need for positive self-regard is not universal and is rooted in significant aspects of North American culture.

As well, the present data are correlational in nature and the direction of findings needs to be interpreted with caution. Longitudinal research could be conducted focusing on international students of a particular nationality by their self-construals, English self-confidence, coping strategies, communication, and adjustment shortly after their arrival in the host society, and then measuring these variables across certain intervals throughout their overseas education and return to the country of origin. In this way, we could better examine the possible fluctuation of adjustment and the interplay of self-construals, English confidence, and the acculturation processes.

Another limitation of the study pertains to the low reliability of SCSs, which suggests measurement difficulties with these constructs. Markus and Kitayama (1991) caution against the interpretation that collectivism entails a subordination of the self and acknowledge that a high degree of agency and self-fulfillment is apparent in collectivist cultures as well. Unfortunately, many items in the widely used Singelis (1994) SCS seem to assume that collectivism entails a tradeoff whereby the self is sacrificed in the interest of the group (Miller, 2002). The scale also tends to neglect the inherently social and role-related expectations of the self in collectivist society, and adopts an absolute opposition between the desires of the individual and social requirement in individualist society (Miller, 2002). We used the scale because it is widely used in intercultural communication and cross-cultural psychological research, and hence more readily permits comparison with the results with other studies, but clearly other operationalizations of self-construals might well be considered.

## 5. Conclusion

Despite these limitations, the present study contributes to a more insightful and comprehensive theoretical model of international students' cross-cultural adaptation. The findings reveal that some people with particular self-ways are more likely to experience better cross-cultural adaptation during international student sojourns. That said, personality characteristics are not the only determinants of adaptation, as communicative competence and comfort in the host language plays a pivotal role in this process: Not only do language and communication processes (indexed by self-confidence) mediate the relations between host cultural contact and psychological and sociocultural difficulty, but they also mediate the influence of self-construals on adaptation. These findings suggest that although some people might be better suited to international sojourns because of their personality characteristics, by developing linguistic and communication skill and comfort in the host language, many people can have a positive experience with international education.

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## Appendix

For intercorrelations among the variables see Table 3.

Table 3  
International students: intercorrelations among the variables

	1	2	3	4	5	6	7	8	9
1. Independent SC									
2. Interdependent SC	.08								
3. Self-esteem	.37**	-.11							
4. Depression	-.17	-.01	-.49**						
5. Sociocultural difficulty	-.32**	.18	-.37**	.38**					
6. Self-evaluation of English competence	.26*	-.04	.43**	-.24**	-.39**				
7. Self-confidence in English	.34**	.04	.50**	-.32**	-.44**	.79**			
8. English use anxiety	-.29**	.03	-.41**	.37**	.53**	-.76**	-.77**		
9. Contact with Canadians	.16	.01	.30**	-.26*	-.23*	.57**	.49**	-.53**	
10. Contact with Heritage Group	-.03	.18	.07	-.02	-.14	.08	.05	.00	-.00

Note: \*\* $p < .01$  and \* $p < .05$ . SC is the abbreviated form for self-construal.

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