The Process of Acculturation and Basic Goals: Testing a Multidimensional Individual Difference Acculturation Model with Iranian Immigrants in Canada

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Trois des objectifs de base des immigrants dans les sociétés multiculturelles (la sauvegarde de l’heritage culturel, l’insertion dans la société d’accueil et la préservation de la santé physique et psychologique) ont été retenus comme variables dépendantes dans l’élaboration d’un modèle portant sur les différences individuelles du processus d’acculturation. Les trois prédicteurs composites du modèle furent: 1. L’adaptation psychosociale englobant le bien-être psychologique, le compétence biculturelle et le soutien social perçu de l’outgroup; 2. Le rattachement à la famille et à la culture englobant l’allocentrisme familial, l’identité ethnique et le soutien perçu de l’ingroup; 3. L’expérience des conflits quotidiens relevant ou non de l’acculturation. On a aussi pris en considération la fonction des deux modes d’acculturation que sont la différenciation et l’assimilation. Ce sont 81 iraniennes et 85 iraniens immigrés au Canada qui ont contribué à cette recherche; leur âge médian était de 34 ans et leur temps de séjour médian au Canada de sept ans. La validité du modèle a été mise à l’épreuve grâce au Structural Equation Modelling (SEM). L’adaptation psychosociale est en relation directe avec le comportement de l’outgroup (qui représente le contact avec la culture d’accueil) et la détresse psychosomatique. Le rattachement à la famille et à la culture est en relation directe avec le comportement de l’ingroup, et les conflits quotidiens sont reliés à la détresse psychosomatique. En outre, chacun de ces prédicteurs est associé avec chacun des deux types d’acculturation. En retour, ces modes d’acculturation prédisent les variables dépendantes comportementales. On examine enfin les retombées de ce modèle sur des recherches futures.

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Three of the basic goals of immigrants in multicultural societies—maintenance of heritage culture, participation in the host society, and maintenance of psychological and physical health—were examined as outcome variables in a proposed individual difference model of the acculturation process. The three composite predictor variables in the model were psychosocial adjustment, consisting of psychological well-being, bicultural competence, and perceived outgroup social support; connectedness to family and culture, consisting of family allocentrism, ethnic identity, and perceived ingroup support; and the experience of acculturation-specific and non-specific daily hassles. The roles of separation and assimilation modes of acculturation were also examined. The research participants were 85 male and 81 female Iranian immigrants to Canada. Their median age was 34 years; their median length of residence in Canada was seven years. The viability of the model was supported through Structural Equation Modelling (SEM). Psychosocial adjustment was directly related to outgroup behavior (reflecting contact with the host culture) and to psychophysical distress. Connectedness to family and culture was directly related to ingroup behavior, and daily hassles were directly related to psychophysical distress. Furthermore, each of these predictor variables was associated with either or both modes of acculturation. In turn, these modes of acculturation predicted the outcome behavior variables. Implications of the model for further research are discussed.

INTRODUCTION

The acculturation process involves changes and experiences within the immigrant’s daily life that are brought on as a result of contact with new cultural groups, by the formation of new relationships, and by the loss of old ones (Redfield, Linton, & Herskovits, 1936). Such experiences will involve questions of self-identity and changes in values, attitudes, and behaviors. Individual immigrants are called upon to adapt to new communication patterns, new social structures, and different goals. They are also vulnerable to the loss of their traditional patterns of support and resources (Pliskin, 1987). These changes, which may be stress inducing, take place at both individual and group levels (Berry, Kim, Minde, & Mok, 1987). Sudden changes in economic or religious contexts, changes in diets and diseases, and new climatic conditions may also be involved (Berry & Kim, 1988).

Beyond the ultimate goals of improving their economic and political status and life satisfaction, immigrants strive to maintain their heritage culture (particularly in multicultural societies such as Canada), to participate in the new society, and to maintain psychological and physical stability in the face of acculturation-specific and non-specific sources of stress. The first factor, maintenance of heritage culture, is seen by the United Nations as a basic issue in the achievement of democratic pluralism in multi-ethnic societies (Liebkind, 1992). The second factor, contact with the host society, is also a key element in multicultural societies (Aycan & Berry, 1996). The final factor, psychological and physical well-being during and after the acculturation period,
is a general goal of individuals and of democratic host nations (Berry et al., 1987). Each of these concerns is also reflected in Canada’s multicultural program (Li, 1990; Secretary of State, 1988) and this policy of the host country is an important contributor to the nature of the immigrant experience (Berry & Sam, 1997; Bourhis, Moise, Perreault, & Senecal, 1997).

Ethnic minority immigrant groups are often in the position of striving to sustain cultural values and traditions that may be different from the dominant values of the majority group. This may be achieved through the maintenance of ingroup behavior, that is, involvement with members of their own cultural group and with cultural traditions. Immigrant minority group members may also seek contact with the wider community. This may be achieved through the development of outgroup behavior, that is, involvement with members of other ethnic groups, particularly with the dominant group or groups in the host society. The proposed model in the present study focuses on the prediction of these two basic factors, ingroup behavior and outgroup behavior, along with the immigrant’s current psychological and physical state. Thus, the end-point in the model is the behavior of immigrants, behavior constituting the basic outcome variable in most psychological inquiry.

The acculturation goals of concern in this study are, of course, subject to individual differences. Not all immigrants will be equally successful in attaining them, nor will all immigrants share these goals equally. For these reasons, any model of acculturation processes interested in predicting these goals as outcome variables must involve individual difference measures as predictor variables. This is the perspective that we have taken in the present study. We recognise that the focus would be somewhat different from the perspective of policy makers and governments of host nations. Their major interest would be in how to structure the nation’s immigration and acculturation policies to maximise the level of achievement of these goals across all immigrant groups.

The processes of acculturation are complex and have often been dealt with in the literature in confusing and inconsistent ways (Berry & Sam, 1997). For example, research in the area is characterised by a variety of output variables that differ from one study to another, and by the assigning of different terms to the same concept (e.g. acculturation and assimilation) and the same term to different concepts (e.g. adaptation).

To clarify the process, we believe that any model of acculturation will be best served by ultimately being concerned with what immigrants do and with the state of their psychological and physical health. Thus, we believe that it is not only important to include state of health as an output variable (e.g. Tran, Fitzpatrick, Berg, & Wright, 1996), but to include measures of ingroup and outgroup behavior as well. In this way, the present model focused on three of the important goals of any immigrant group.
Moreover, in our model, other variables, such as immigrants’ perceptions of their self-efficacy in the new society, the content and evaluation of their self-concept, including ethnic identity, and their views on preferred modes of acculturation, are seen as predictor variables linked to their behavior. This is in contrast to other models that have viewed such factors as outcome variables. For example, in her model of acculturation, Birman (1994) is concerned with identity acculturation, on the one hand, and behavioral acculturation, on the other. In contrast, we view the former (ethnic identity) as a predictor of ingroup and outgroup behavior. Furthermore, we believe that any acculturation process model should be unified and comprehensive, rather than presenting different models for different outcome variables (e.g. Sodowsky & Lai, 1997).

In focusing on behavior, it was also important not to confound our measures with, for example, the assessment of perceived difficulties in managing everyday situations in a new culture (Aycan & Berry, 1996; Searle & Ward, 1990), or the prediction of “intercultural competence concerns” as an outcome variable (Sodowsky & Lai, 1997, model 2), or to combine trait variables and state variables to form some measure of psychosocial distress (Noels, Pon, & Clement, 1996). In the present model, trait or dispositional concepts and perceived competence measures are considered to be predictor variables, and state measures (i.e. psychophysical distress) and self-reported ingroup and outgroup behavior are the outcome, or predicted, variables.

The predictor variables in the present model included individual differences in psychological well-being (Ryff & Singer, 1996), perceived bicultural competence (LaFromboise, Coleman, & Gerton, 1993), and perceived outgroup social support. Other predictor variables included family allocentrism (Lay, Fairlie, Jackson, Ricci, Eisenberg, Sato, Tseear, & Melamud, 1998), ethnic identity (Phinney, 1996), and perceived ingroup support. We also examined individual differences in immigrants’ perceptions and encounters with daily hassles as a measure of their relevant day-to-day experiences in the host society. These hassles consisted of general, or acculturation-nonspecific, hassles (Dohrenwend & Shrout, 1985), and acculturation-specific hassles pertaining to family, to ingroup, and to outgroup relations (Lay & Nguyen, 1998; Saldana, 1994). Modes of acculturation (Berry & Sam, 1997) were also examined in the model, involving attitudes toward assimilation and attitudes toward separation. These modes of acculturation were viewed as an important concept in linking the other variables to behavior and to psychological and physical health.

Throughout the acculturation period immigrants possess certain levels of psychosocial adjustment, perceived bicultural competence, perceived group support, and connectedness to their family and culture, in addition to their attitudes towards various modes of acculturation. At any point in time, these variables, along with daily hassles, will reflect their basic characteristics, as well as their experiences in the new society, and should be important in
understanding and predicting their ingroup and outgroup behavior and their psychological and physical state. Attitudes toward various modes of acculturation can be viewed essentially as coping and adapting strategies in a new society. These modes of acculturation will therefore play some role in linking the psychological constructs in the model to the output variables of ingroup and outgroup behavior and psychophysical state. In sections to follow, each measured variable in the model is discussed further, but first we consider briefly the background of Iranian immigrants, the group of interest in the present study.

The participants in the present study were first generation Iranian immigrants. Iranians, as a group, do not have a long history of immigration and only recently came to Canada in large numbers (Moghaddam, Taylor, & Lalonde, 1987). The birth of the Islamic Republic in 1979 in Iran in the aftermath of a year-long revolutionary upheaval can be considered the main impetus to immigration to Europe and North America. The post-revolutionary transformation, especially in the realms of Iranian culture, family planning, and restrictions on women’s freedom, were other factors which convinced many modern middle-class and Western-educated Iranians to immigrate permanently to the West. These immigrants had been economically well-off in Iran; they were factory owners, import-export merchants, antique dealers, or professionals, such as physicians, engineers, pharmacists, and dentists (Pliskin, 1987). Consequently, Iranian immigrants are different from many other immigrant groups to Canada, as they are more educated and have more resources (Moghaddam et al., 1987), and for this reason are of special interest. Furthermore, because education and resources do not necessarily translate into more employment opportunities, this condition may have particular implications for the experience of hassles and psychophysical distress.

Historically, Iranian culture has been heavily characterised by its pro-collectivist content. Its ideals and idols (heroes) were the devoted and committed figures who gave priority to the common cause. Given the collectivistic nature of their culture, and their relatively new history of migration to Canada, Iranians were considered an important sample to be studied with respect to their acculturation experiences within the contrasting, individualistic setting of the Canadian society.

**PSYCHOSOCIAL ADJUSTMENT**

Interpersonal and intergroup behavior and psychological and physical well-being will be, in large part, a product of various psychosocial adjustment factors. In general, better adjusted individuals fare better in society, particularly in times of stress and adaptation. This psychosocial adjustment will be exemplified in individuals by high levels of self-esteem, a sense of environmental mastery, and perceived autonomy. It will also include those
with higher levels of perceived social support. In the case of immigrants, an additional important factor is their perceived bicultural competence. These factors will combine to define the level of vulnerability of immigrants to their experiences in their new society. They can also be viewed as elements of resilience (Ryff, Singer, Love, & Essex, 1998), or hardness (Dion, Dion, & Pak, 1992; Kuo & Tsai, 1986), that would protect the individual immigrant within the acculturation process.

In the present study, psychosocial adjustment contained three components—psychological well-being, perceived bicultural competence, and perceived outgroup social support. Each of these components is considered below.

**Psychological Well-being**

The way life experiences are interpreted by people (e.g. attributional processes, social comparisons, and reflected appraisal) is the key influence of psychological well-being and is a useful way of understanding psychological wellness in individuals (Heidrich & Ryff, 1993; Ryff, Lee, Essex, & Schmutte, 1994; Ryff & Singer, 1996). Psychological well-being refers to the presence of wellness and is a description of positive psychological functioning, as opposed to psychological dysfunction (Ryff & Singer, 1996). This functioning tends to be relatively consistent over time and can be viewed as a dispositional characteristic of individuals. Such a predisposition to good mental health and resilience (Ryff et al., 1998), given the stressful nature of post-immigration experiences (Kuo & Tsai, 1986; Pernice & Brook, 1996), will be an important predictor variable in our model.

Components of well-being put forward by Ryff and Singer (1996) are self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Psychological well-being has been positively associated with internal control, self-esteem, and life satisfaction, and negatively related to depression, chance control, and powerful others (Ryff & Singer, 1996).

**Perceived Bicultural Competence**

An assessment of the perceived bicultural competence of immigrants is also important in examining the acculturation process. This variable refers to the individual’s perceived ability to function in both the heritage culture and in the immigrant’s new society (LaFromboise et al., 1993). With first generation immigrants, such as the Iranian sample in our present study, competence in the heritage culture was well established prior to immigration. For this reason, we concentrated on perceived competence in the new host society. In this context, individuals with high perceived competence have a certain level of knowledge of the host society, are more familiar with its cultural
values and beliefs, and have better communication ability. In general, individuals with high perceived bicultural competence are better able to function in the new society and are more likely to engage in outgroup behavior, compared to those with low perceived bicultural competence (LaFromboise et al., 1993).

**Outgroup Social Support**

An additional measure of psychosocial adjustment was perceived outgroup social support. In general, perceived social support can have an important influence on psychophysical distress. The nature of the host society and the amount of support that is available in the new culture have been found to have an impact on reducing acculturative stress (LaFromboise et al., 1993; Kuo & Tsai, 1986). Government policies will have an intended role in this regard, as is the case in Canada with its multicultural program.

**CONNECTEDNESS TO FAMILY AND CULTURE**

In the present study, connectedness to family and culture contained three components—family allocentrism, ethnic identity, and perceived ingroup social support. Each of these components is considered below.

**Family Allocentrism**

Triandis (1995) has described idiocentric and allocentric perspectives of individuals in characterising individuals within cultures, and Markus and Kitayama (1991) have emphasised the importance of the similar dimension of independent and interdependent self-construal. The idiocentric person emphasises the unique aspects of self and the division of self from others. In contrast, the allocentric self has a strong sense of connectedness to others, and becomes more complete when boundaries with others are dissolved.

The benefits of domain-specific variations in allocentrism–idiocentrism have recently been demonstrated (Lay et al., 1998; Realo, Allik, & Vadi, 1997; Rhee, Uleman, & Lee, 1996). In the context of acculturation processes, the family may play an important role (Booth, Crouter, & Landale, 1997). It has been shown that connectedness to family, or family allocentrism, has important implications for the immigrant experience (Balcazar, Peterson, & Krull, 1997; Lay et al., 1998).

**Ethnic Identity**

Ethnic identity is the subjective sense of ethnic group membership, or ethnicity, and this subjective sense will depend on the individual, on cultural
Ethnic identity refers to one’s awareness of being part of an ethnic group and includes a sense of membership, and the attitudes and feelings associated with that membership (Cameron, Sato, Lay, & Lalonde, 1997; Keefe, 1992; Tajfel & Turner, 1986). Ethnic identity appears to have important implications for aspects of the acculturation process (Ghuman, 1998), including certain modes of acculturation (Berry & Sam, 1997; van Oudenhoven & Eisses, 1998). For example, a high level of ethnic identity has been associated with a stronger endorsement of separation as a mode of acculturation (Berry, Kim, Power, Young, & Bujaki, 1989). Furthermore, it has been linked to family connectedness (Harrison, Wilson, Pine, Chan, & Buriel, 1990). Phinney and Rosenthal (1992) provided evidence that ethnic identity is formed and defined within the family environment and that the development of ethnic identity begins within the family structure. Lay et al. (1998) have reported a positive association between family allocentrism and ethnic identity.

Ingroup Social Support

As indicated earlier, a distinction was made in the present study between perceived ingroup and perceived outgroup social support. This distinction allowed us to make separate predictions regarding different acculturation outcome measures. Studies have found that a high degree of perceived social support decreases the impact of acculturative stress and helps individuals to cope with the pressures of living in a bicultural environment (Kuo & Tsai, 1986; Schwarzer, Jerusalem, & Hahn, 1994). In further support of this contention, an inverse relation has been reported between the density of an ethnic group in a particular area and the prevalence of psychological illness in that group (Furnham & Bochner, 1990).

HASSLES

Hassles refer to chronic irritants that individuals meet on a frequent basis, such as arguing with friends, time pressure, and being overburdened with responsibilities. The relation of hassles to psychological distress is well established (Dohrenwend & Shrout, 1985; Kanner, Coyne, Schaefer, & Lazarus, 1981). Refined measures of daily hassles have recently been successfully developed for specific populations. For example, there are scales designed for university students (Kohn, LaFreniere, & Gurevich, 1990), referring to both academic-related mundane daily hassles and hassles which, although unrelated to academic work, are typically part of the lives of university students. There are also special hassles scales concerning certain aspects of the everyday lives of certain individuals. For example, Crnic and Greenberg (1990) developed a measure of hassles for parents concerning their relationships.
with their children and Utsey and Ponterotto (1996) created a scale to assess the stress experienced by African Americans “as a result of their daily encounters with racism and discrimination”. These measures of hassles relevant to particular groups and to particular aspects of their lives have proved to be important in understanding and predicting psychological distress.

Individuals immigrating to a new country encounter a variety of stressful experiences, many of which would be specific to their immigrant status. Acculturative-specific daily hassles refer to a specific set of chronic irritants immigrants face when moving and adjusting to a new place. Acculturative-nonspecific daily hassles refer to difficulties that face all individuals (Lay & Nguyen, 1998). Saldana (1994) has identified two sources of hassles related to the acculturation process in her study with Hispanic students—ingroup and outgroup hassles. Ingroup hassles are stressful events that originate within ethnic ingroup conflicts, such as conflicts with peers from one’s own culture, or with parents and other family members. Outgroup hassles involve conflicts between ethnic minority individuals and other ethnic groups in the society and relate to experiences of discrimination and prejudice. Outgroup hassles may result from interactions or lack of interactions (perceived or real) with majority group members and include the feeling of being taken advantage of by individuals from other ethnic groups.

**MODES OF ACCULTURATION**

Modes of acculturation, or attitudes, refer to ways of adjusting to the new culture and represent one of the most studied concepts in the acculturation literature. Although Berry (1987) has identified four modes of acculturation, i.e. separation, assimilation, integration, and marginalisation, along with other researchers (Moghaddam et al., 1987; Ward & Kennedy, 1994), we decided to concentrate on *separation* and *assimilation* for a number of reasons. If individual immigrants prefer to keep their traditional way of life and avoid any relationships with the host society, a mode of separation is indicated. Assimilation occurs when individuals prefer to take on the cultural values of the host society and move away from their own cultural heritage and identity. These two modes are the most distinguishing ones and were selected to strengthen the individual difference aspects of our proposed model. In contrast, in a study by Dona and Berry (1994), no Central American refugee preferred the mode of marginalisation over the other three modes. Furthermore, marginalisation can be considered to be a psychopathological process, which leads to alienation of the individual immigrants, rather than an acculturation mode. Leong and Chou (1994) have identified other acculturation models that do not include marginality as an option. We also omitted the acculturation mode of integration, a mode that includes both

the components of one’s own culture and of the host culture. Integration implies the ideal multiculturalism in the process of acculturation and is thus viewed to be highly susceptible to socially desirable responding. For this reason, this subscale may be less useful or predictive of relevant acculturation variables. Finally, it has been suggested that excluding integration and marginalisation provides a number of advantages, both conceptually and for purposes of analysis, and reduces some of the difficulties in measuring and interpreting the components of Berry’s model (Boski, 1994; Leong & Chou, 1994; Ward & Kennedy, 1994).

PSYCHOLOGICAL AND PHYSICAL STATE

The process of acculturation is stressful and has psychological and physical consequences for immigrants (Berry & Kim, 1988). Psychological or physical problems may be expressed in a certain way in one culture and in a different way in another culture. It has been suggested that members of some Eastern (and mid-eastern) cultures tend to show their emotional problems in a somatic way (Cheng & Hamid, 1996). For this reason, with the present, non-Western, Iranian sample, we included a specially developed measure of physical symptoms, along with psychological symptoms of distress.

In summary, the model suggested in the study indicates that three major concerns of immigrants, cultural maintenance, contact with the new society, and psychological and physical health, are predicted by psychosocial adjustment, connectedness to own culture, and hassles. It was hypothesised that those who experienced higher levels of hassles would be more likely to suffer from psychophysical distress. It was proposed that those who were psychologically better adjusted would be less likely to exhibit psychophysical distress and more likely to engage in outgroup behavior. It was also hypothesised that those who had a high sense of connectedness to their family and culture would be more likely to exhibit ingroup relationships.

In addition to the direct influence of psychosocial adjustment, connectedness, and hassles on psychophysical distress and acculturation behavior, the effects of two modes of acculturation, separation and assimilation, as intervening variables, were also examined in the model. It was expected that these variables would play some role in linking the psychological constructs to the outcome variables.

METHOD

Participants

Eighty-five male and 81 female Iranian immigrants living in Southwestern Ontario participated in the study. To qualify, participants’ length of residence
in Canada had to be 6 months or longer and only one participant per family was involved. Although we solicited only those with immigrant status, we nevertheless retained the 5 per cent of the above respondents who subsequently identified themselves as refugees.

Forty-nine per cent were married, 38 per cent were single. Of 156 participants who indicated their age, 70 per cent were under 40 years of age, with a mean age of 34 years. Ninety-six per cent of the participants had post secondary education (college training or university degree), including 21 per cent who had an MA, PhD, or MD. A generally high level of education for Iranian immigrants was also reported by Moghaddam et al. (1987). Although there was a high level of education, 39 per cent of the participants were unemployed, and this excluded 21 per cent who were either students or home-makers.

Research Materials

All the scales in the study were translated into Persian using the method of back-translation. Cronbach’s alpha coefficients for each of the measures described below were comparable between the English version and the Persian version of the scales. For example, Cronbach alpha for hassles for the English version was .76 and for the Persian version, .83. Similarly, Cronbach alphas for psychological well-being for the English and Persian versions were .77 and .72, respectively. With the ethnic identity scale, they were .86 (English version) and .88 (Persian version). Fifty-two per cent of the participants chose to answer the English-language version. The questionnaires are described in the order of their actual presentation.

Demographic Information. The first section of the questionnaire consisted of general background information, such as gender, age, marital status, occupation in Iran and in Canada, education, and date of arrival in Canada.

Hassles Inventory. The 24-item hassles inventory was derived from a scale developed by Lay and Nguyen (1998) for use with Vietnamese university students. The original questionnaire (Lay & Nguyen, 1998) consisted of five subscales: general, family, academic, outgroup, and ingroup hassles. In the present study, the academic hassles subscale was deemed to be irrelevant for many of the participants and was therefore omitted. Items from the earlier scale that did not apply to an Iranian sample, or appeared redundant, were deleted. General hassles formed the acculturation-nonspecific subscale. The other three subscales (family, outgroup, and ingroup) were acculturation-specific. We attempted to construct and select items that were largely “decontaminated” in terms of their content. Items that referred directly to physical symptoms or depression were not included. For example, the
potential hassle items “Not being able to concentrate” and “Not having enough sleep” would not be acceptable because of their high content overlap with measures of psychological distress or depression (see Dohrenwend & Shrout, 1985; Kohn et al., 1990; Kohn & Macdonald, 1992; and Lazarus, DeLongis, Folkman, & Gruen, 1985, for a discussion of confounded and decontaminated hassle scales).

The questions were worded with specific reference to Iranian immigrants, with six items in each of the general, family, and outgroup subscales. Due to a translation inconsistency, the ingroup subscale contained only five items. General hassles referred to acculturation-nonspecific experiences. The acculturation-specific subscales, referring to immigrant-based experiences, included the following: “My ideals and values being rejected by my family member(s) because they are seen as too Western” (family), “Often being mistaken for Arab at school/work” (outgroup), and “Irritated when someone in my group of Iranian friends speaks English” (ingroup). Items were rated on a 4-point scale ranging from “not at all part of my life” (1) to “very much part of my life” (4) during the past few months. The four hassles scale scores were summed and Cronbach’s alpha coefficient for the 23-item scale was .79.

This grouping, as well as the psychosocial adjustment grouping and the connectedness grouping described below were confirmed through a principal components factor analysis with varimax rotation, resulting in a three-factor solution explaining 56 per cent of the variance.

Psychosocial Adjustment. This variable in the model included Ryff’s (1989) short form of her psychological well-being measure (18 items). Each item was rated on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Cronbach’s alpha coefficient was .74.

The second component of the psychosocial adjustment variable was assessed with an 11-item perceived bicultural competence questionnaire. This was a revised version of a measure used by Lay et al. (1998, Study 5) with Russian participants, and was originally based on LaFromboise et al. (1993). Items were concerned with communication abilities (understand, speak, read, and write English), bicultural efficacy (“I feel that I have the necessary skills to adjust to the Canadian culture”), and knowledge of role repertoires (“I would feel comfortable in a group of people where I am the only Iranian”). The four items concerning understanding, speaking, reading, and writing English were first combined to form a single composite measure of English language skills and the average across the four items was calculated. The mean score was added to the remaining seven items. This procedure was designed to reduce the contribution of English language skills, per se, to the overall measure of perceived bicultural competence. The response format ranged from “not at all” (1) to “very well” (5). Cronbach’s alpha for this measure was .79.
The third component of psychosocial adjustment was drawn from an overall nine-item measure of perceived social support, with three items pertaining to Canadian friends. These items formed the measure of perceived outgroup support. Each item was rated on a scale ranging from “strongly disagree” (1) to “strongly agree” (5). The overall scale was adapted from the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). Cronbach’s alpha coefficient was .90. Scores on psychological well-being, bicultural competence, and perceived outgroup social support were converted to standard scores and summed to create the overall psychosocial adjustment measure.

**Connectedness.** The first component of the connectedness variable in the model was the 21-item Family Allocentrism Scale, a measure of connectedness to one’s family (Lay et al., 1998). Evidence for the reliability and validity of the scale is presented in Lay et al. (1998). Each item was rated on a 5-point scale ranging from “extremely uncharacteristic” (1) to “extremely characteristic” (5). Cronbach’s alpha was .81.

The second component, ethnic identity, was based on Cameron et al. (1997). The scale measures three aspects of ethnic identity: cognitive centrality of one’s ethnic origins, ingroup ties and similarity to one’s ethnic group, and affective evaluation of one’s ethnic group. In the present study, the initial 35-item scale was reduced to 15 items, with five items representing each of the three components of ethnic identity. Each item was rated on a 5-point scale ranging from “strongly disagree” (1) to “strongly agree” (5). Cronbach’s alpha coefficient across the 15 items was .88.

The third component of connectedness was based on perceived ingroup social support pertaining to family (three items) and to Iranian friends (three items). Cronbach’s alpha coefficient across the six items was .81. Scores on family allocentrism, ethnic identity, and perceived ingroup social support were converted to standard scores and summed to construct a measure of connectedness to one’s family and culture.

**Acculturation Attitude.** The present scale was a revised version of Kim’s (1984) Acculturation Attitudes Scale. Ten issues were addressed: friendship, marriage, children, language, names, cultural activity, newspaper readership and TV watching, association with members of a culture, living in a particular community, and studying history or literature of a cultural group. The items covered the two modes of acculturation: assimilation and separation, plus integration. The latter items were not considered in further analyses. Each item represented one mode of acculturation. Ten items for each acculturation mode were included in the scale and high scores on each subscale indicated the preference for a particular mode of acculturation. Cronbach’s alpha coefficients were .81 (separation) and .77 (assimilation).
**Ingroup and Outgroup Behavior.** This self-report behavior questionnaire concerned various interactions with Iranians and Iranian culture (ingroup behavior) and with Canadians and the Canadian culture (outgroup behavior). There were six items pertaining to ingroup behavior and six items pertaining to outgroup behavior. Items referred to reading Iranian newspapers, reading Canadian newspapers, watching Iranian television, watching Canadian television, reading Persian literature, reading Canadian literature, use of Persian, use of English, having Iranian friends, having Canadian friends, participating in Iranian cultural events, and participating in Canadian cultural events. Each item was rated on a 4-point scale ranging from “not at all” (1) to “a lot or very much” (4). Cronbach’s alpha coefficient for both scales was .70.

**Psychophysical Distress.** The first component of psychophysical distress was the Beck Depression Inventory (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961). Only 19 of the original 20 items were used in the analyses due to a translation problem. Responses ranged from 0 to 3 for each item. Cronbach’s alpha was .87.

The other component was based on health symptoms. Items were drawn from the 20-item Health Problems Inventory-Revised (Kohn, Gurevich, Pickering, & MacDonald, 1994) and from the 18-item Stress Symptoms Checklist (Cheng & Hamid, 1996). The latter involves common symptoms among some Eastern cultural groups (e.g. Chinese). The underlying assumption of such items is that some cultures, including the Iranian culture (Good, Good, & Moradi, 1985), have a tendency, in part, to show their psychological and emotional problems in somatic ways.

The present Health Symptoms Scale consisted of 18-items and each item was rated on a 4-point scale regarding frequency of experience in the previous month, from “not at all” (1) to “extremely” (4). Cronbach’s alpha coefficient was .90. Although female participants indicated higher levels of physical symptoms compared to male participants, no other gender differences in the other variables in the model were found. The correlation coefficient between depression scores and health symptom scores was .63 ($p < .001$). To better capture the nature of depression in Iranian culture (Good et al., 1985), we combined the measures of depression and physical symptoms to construct a measure of psychophysical distress. Scores on depression and physical symptoms were first converted to standard scores and then combined. A second advantage of this procedure was the reduction in the number of variables to be included in the Structural Equation Modeling to follow.

**Procedure**

Participants were recruited through the Iranian Community Association of Ontario in Toronto, Iranian Associations at local universities, and several...
English as a Second Language classes in the greater Toronto area. An advertisement was also placed in one of the popular Iranian papers in Toronto. To publicise the research further, an interview with the first author was broadcast during a local Iranian television program. Participants were told that by participating in the study, they were helping to contribute to a better understanding of the challenges which Iranian immigrants face in adjusting to the new society. Written informed consent was obtained from all of the participants and they were told that by providing their names and phone numbers on the form they would be eligible for a $100 lottery. Individuals were reminded that they could withdraw from the study at any point and that the material was confidential.

RESULTS

Descriptive Statistics

The mean and standard deviation for each of the variables in the model are presented in Table 1. No gender differences with respect to these variables were found. As anticipated, family allocentrism was found to be relatively

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Mean and Standard Deviation for Each of the Single Variables in the Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Psychosocial Adjustment</strong></td>
<td></td>
</tr>
<tr>
<td>Psychological Well-Being</td>
<td>68.9</td>
</tr>
<tr>
<td>Bicultural Competence</td>
<td>30.0</td>
</tr>
<tr>
<td>Outgroup Social Support</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>Connectedness</strong></td>
<td></td>
</tr>
<tr>
<td>Family Allocentrism</td>
<td>74.5</td>
</tr>
<tr>
<td>Ethnic Identity</td>
<td>54.9</td>
</tr>
<tr>
<td>Ingroup Social Support</td>
<td>22.7</td>
</tr>
<tr>
<td><strong>Hassles</strong></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>13.1</td>
</tr>
<tr>
<td>Family</td>
<td>7.5</td>
</tr>
<tr>
<td>Ingroup</td>
<td>9.1</td>
</tr>
<tr>
<td>Outgroup</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Modes of Acculturation</strong></td>
<td></td>
</tr>
<tr>
<td>Separation</td>
<td>22.8</td>
</tr>
<tr>
<td>Assimilation</td>
<td>18.5</td>
</tr>
<tr>
<td><strong>Behavior</strong></td>
<td></td>
</tr>
<tr>
<td>Ingroup Behavior</td>
<td>15.0</td>
</tr>
<tr>
<td>Outgroup Behavior</td>
<td>15.7</td>
</tr>
<tr>
<td>Depression</td>
<td>8.3</td>
</tr>
<tr>
<td>Physical Symptoms</td>
<td>28.0</td>
</tr>
</tbody>
</table>
high \((M = 74.5)\), compared to a Western culture group of Canadian, Anglo, and Western European origins \((M = 59.5)\) reported in Lay et al. (1998). In addition, the results indicated that participants in the study were not more depressed than would be expected in the general population \((M = 8.3)\). Furthermore, the respondents’ scores on psychological well-being would appear to be in the relatively high range \((M = 68.5)\).

### Structural Equation Modelling

The zero-order correlation coefficients between all variables in the model are presented in Table 2. A Structural Equation Modeling (SEM) analysis was performed to examine the interrelationships among the variables and the fit of these data to the proposed model (Ullman, 1996). In this model, modes of acculturation, hassles, and the predicted ingroup and outgroup behavior variables were measured as observed variables. Although psychosocial adjustment, connectedness, and psychophysical distress were assessed indirectly using a number of other measured variables (that is, the components of these composite scores), they were tested as observed variables. There were a number of reasons for not having a latent structure model and for examining the variables in the model as measured variables. First, a smaller number of variables results in fewer degrees of freedom and fewer relations between variables that need to be defined. Analysing complex relations among observed and latent variables is difficult and makes interpretation ambiguous. Furthermore, SEM is based on covariances. Covariances, like correlations, are sensitive to sample size and are less stable when estimated from a small sample size (Ullman, 1996). For small to medium size models, a sample size of 200 is appropriate (Ullman, 1996). Adding more variables to the present model would decrease the ratio between

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**TABLE 2**

Correlation Coefficients between All Variables or Composite Measures in the Model

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Psychosocial adjustment</td>
<td></td>
<td>-0.12</td>
<td>-0.23**</td>
<td>-0.33**</td>
<td>-0.17*</td>
<td>-0.05</td>
<td>0.46**</td>
<td>-0.39**</td>
</tr>
<tr>
<td>2. Connectedness</td>
<td>-0.22**</td>
<td></td>
<td>0.24**</td>
<td>-0.32**</td>
<td>0.27**</td>
<td>-0.10</td>
<td>-0.01</td>
<td>0.33**</td>
</tr>
<tr>
<td>3. Hassles</td>
<td></td>
<td>0.23**</td>
<td></td>
<td>0.19*</td>
<td>-0.09</td>
<td>-0.01</td>
<td></td>
<td>0.33**</td>
</tr>
<tr>
<td>4. Separation</td>
<td>-</td>
<td>-0.01</td>
<td>0.30**</td>
<td>-0.38**</td>
<td>0.17*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Assimilation</td>
<td>-</td>
<td>-0.33**</td>
<td></td>
<td>0.06</td>
<td>-0.07</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Ingroup Behavior</td>
<td>-</td>
<td>-0.20**</td>
<td>0.10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Outgroup Behavior</td>
<td></td>
<td>-0.17*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Psychophysical Distress</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

*Note: * \(p < .05\); ** \(p < .01\).*
number of participants and number of measures, and reduce the power of the analysis. The present model with a ratio of 20 participants per variable (8 variables in the model and a total of 166 participants) was adequate. Finally, an important aspect of any scientific model is parsimony.

The hypothesised model was first examined by connecting each of the composite predictor variables to the two modes of acculturation. Both of the modes of acculturation were then linked to each of the outcome variables. The model also included direct paths between psychosocial adjustment and outgroup behavior, psychosocial adjustment and psychophysical distress, connectedness and ingroup behavior, and hassles and psychophysical distress. The results of this initial SEM analysis provided three nonsignificant links. They were between psychosocial adjustment and assimilation, hassles and assimilation, and separation and psychophysical distress. These paths were eliminated and the SEM analysis repeated. Their elimination was not seen to alter the original overall model in any significant way. A chi-square difference test was then calculated between the two models to determine whether the model with fewer paths was a significant improvement over the initial model examined. The findings indicated no significant chi-square difference between the two models. Thus, both models were statistically viable. The modified model, however, was viewed to be more parsimonious and had a better ratio between degrees of freedom and number of variables.

The results of the final SEM analysis indicated that the fit of the data to the model was acceptable. The comparative fit index (Bentler, 1990) was .986. In further support, there was a nonsignificant $\chi^2 (11, N = 164) = 14.5, p = .21$ and the Root Mean Square approached zero (value = .04). The outcome of the SEM analysis is presented in Figure 1.

**Relations between Components of the Model.** Psychosocial adjustment was directly and positively linked to outgroup behavior ($\beta = .41$) and directly and negatively related to psychophysical distress ($\beta = -.35$). Furthermore, psychosocial adjustment was negatively associated with attitude toward separation ($\beta = -.32$), and in turn, this attitude was positively linked to ingroup behavior ($\beta = .26$) and negatively related to outgroup behavior ($\beta = -.23$). Thus, individuals high in psychosocial adjustment were less likely to endorse a separation mode of acculturation, and this less favorable attitude was linked to less ingroup behavior and to more outgroup behavior, compared to individuals low in psychosocial adjustment.

Connectedness to family and culture was directly and positively related to ingroup behavior ($\beta = .15$). Thus, immigrants high in connectedness engaged in more ingroup behavior, compared to their counterparts with lower levels of connectedness. Furthermore, immigrants with higher levels of connectedness expressed more favorable attitudes towards separation ($\beta = .32$) and less favorable attitudes towards assimilation ($\beta = -.32$).
compared to those with lower levels of connectedness. Connectedness was also linked through separation to ingroup behavior ($\beta = .26$) and to outgroup behavior ($\beta = -.23$). Moreover, connectedness was linked through assimilation to ingroup behavior ($\beta = -.27$), to outgroup behavior ($\beta = -.13$), and to psychophysical distress ($\beta = -.18$). Individuals high in connectedness with less favorable attitudes towards assimilation experienced more ingroup behavior, less outgroup behavior, and higher levels of distress.

As expected, hassles were directly and positively related with psychophysical distress ($\beta = .27$). Higher levels of hassles were also associated with a more favorable attitude towards separation ($\beta = .23$), which, in turn, was linked to more ingroup behavior ($\beta = .26$) and less outgroup behavior ($\beta = -.23$). Thus, a greater experience of hassles was associated with a more favorable attitude towards separation, and, along with lower levels of psychosocial adjustment and higher levels of connectedness, contributed to more ingroup behavior and to less outgroup behavior.

Per Cent of Variance Accounted for. To examine the effectiveness of the variables in the model in a supplementary way, the per cent of variance in dependent variables accounted for by predictor variables was calculated. We used the equation from the Standardised Solution of SEM analysis output. The percentage of variance in dependent variables accounted for by predictor variables was calculated using the following equation: $1 - (\text{disturbances})^2$. For example, hassles, psychosocial adjustment, and connectedness accounted
for 21 per cent of the variance in separation; this was calculated in the following manner: 

\[ 1 - (0.89)^2 = 0.207 \text{ or } 21 \text{ per cent.} \]

Twenty-four per cent of the variance in predicting scores on the separation mode of acculturation was accounted for by psychosocial adjustment, connectedness to one’s family/culture, and hassles. Connectedness accounted for 10 per cent of the variance in assimilation. Similarly, it was found that psychosocial adjustment, hassles, and assimilation accounted for 27 per cent of the variance in psychophysical distress. Connectedness, separation, and assimilation accounted for 22 per cent of the variance in ingroup behavior. Finally, psychosocial adjustment, separation, and assimilation accounted for 30 per cent of the variance in outgroup behavior.

**DISCUSSION**

The proposed model of individual differences in the acculturation process received considerable support in the present study. The immigrant’s level of psychosocial adjustment, or resilience, a variable not often examined in previous acculturation studies, played an important role. This variable was directly linked to both outgroup behavior and psychophysical distress. In turn, connectedness to family and culture was directly linked to ingroup behavior. Daily hassles were directly associated with psychophysical distress. Furthermore, the two modes of acculturation examined played a central role in linking the composite variables to the outcome variables. All three composite individual difference measures were associated with separation as a mode of acculturation, and separation predicted both ingroup behavior and outgroup behavior. Furthermore, connectedness was linked to all three outcome variables through the assimilation mode of acculturation. The central position of modes of acculturation in the acculturation process thus received considerable support in the present study.

Because of the nature of the variables, the model is essentially intended to be culture non-specific and to hold across cultures. Nevertheless, culture-specific or population-specific aspects are expected to play some role. In this context, we found some specific relevance to our Iranian sample. In particular, for many Iranians the issue of maintaining an Iranian identity without loss of self and feeling of despair in the face of growing influence of the West is an important cultural theme (Good et al., 1985). In Iranian culture the importance of connectedness to family, friends, and homeland has been reported frequently (Coelho & Ahmed, 1980; Good et al., 1985). The sense of cultural connectedness was also evident in the present data as connectedness was related to both modes of acculturation. On the other hand, hassles and psychological well-being were found to be linked only to separation and not to the assimilation mode of acculturation. It is believed that, because we are dealing with an educated sample, it is likely that in the face of past experiences...
of success, Iranians experiencing difficulties in the new society will move towards the separation mode of acculturation. In fact, despite previous research, we found that separation did not predict depression and that only assimilation was linked to psychophysical symptoms. This may be traced to the fact that our sample, with high education and past achievements, perceive themselves to be more resourceful. Consequently, separation, as a response to current difficulties, has less negative implications for them, in contrast to a less educated and resourceful group of immigrants.

Having accounted for psychosocial adjustment, connectedness, and the experience of daily hassles, the immigrants in our study did not demonstrate any support for earlier research linking separation as a mode of acculturation to acculturative stress (Berry & Kim, 1988). Although contrary to findings of other researchers (Berry & Kim, 1988; Dona & Berry, 1994; Krishnan & Berry, 1992) who suggested that modes of acculturation would predict psychological distress, this may simply not be the case when other important variables are considered simultaneously.

Implications for Future Research

In keeping with the aim of the present study, the process of building the model started with a theoretical framework and then underwent some specific changes based on the empirical evidence. In this sense, the model is best regarded as exploratory, with further investigation required. In the future, the proposed model should be tested, and confirmation sought, using other samples of immigrants. Furthermore, the model should be tested with a broader range of education to compare the potential impact of level of education of the present sample on the outcome variables of the model. This would be an important step in assuring the contribution of the present model to the acculturation processes literature.

The existing model now provides a substantial, succinct, and lucid framework on which to build. In the future, a fourth outcome variable should also be added to the model. This variable will more directly reflect a second concern of the United Nations regarding immigrants in multicultural democratic societies (Liebkind, 1992). It will refer to the immigrant’s achievement of some satisfactory level of status within the host society, status concerned, for example, with attaining respect from others, obtaining desired material goods, and securing employment commensurate with one’s training and pre-immigration employment status.

A measure of intentions to return to their homeland at some point after immigration should also be examined in future work. This variable may prove to be strongly associated with the connectedness variable already present in the model. It may, nevertheless, add to the model in enhancing the prediction of modes of acculturation, and in turn, ingroup and outgroup behavior.
The factor of passage of time would also appear to be an important variable to incorporate into the model (Aycan & Berry, 1996; Boski, 1994). Levels of psychosocial adjustment, connectedness to one’s culture, perceived hassles, preferred mode of acculturation, and the acculturation behavior of immigrants, and the relations between these components of the model, may be expected to vary with the length of experience in the host society.

Finally, a further, and very different, test of the model in the future would approach the acculturation process and its goals from the perspective of policy makers in governments. Here the emphasis would be on the outcome variables and on an attempt to maximise their levels in democratic, multicultural host nations. One approach to this question would be to compare the levels of the outcome variables in multicultural societies (or societies that promote multiculturalism) with host nations that do not have such a multicultural character, while maintaining an interest in the role of the predictor variables.

As indicated earlier, the model is expected to be valid in other cultures because the central variables are not culture specific. There is evidence that indicates that many of the themes of selfhood (e.g. self-acceptance, autonomy, purpose in life), as well as connection to others (e.g. positive relation with others, family interdependence, ethnic identity), are consistent across cultures (Ryff & Singer, 1996). We are confident that the present individual difference model will prove to be a valuable contribution to the acculturation literature. Our confidence is based on the model’s focus on behavior and the relative purity of these measures, on the model’s comprehensiveness in its choice of predictor variables, and on the present empirical support.

In conclusion, the present study, with the use of a highly advanced and powerful analysis, was successful in supporting the proposed individual differences model of acculturation processes. Beyond this, the strength of the study lies in the selection of outcome variables and the comprehensiveness of the predictor variables. Assessed in terms of behavior, the outcome variables have been previously identified by the United Nations and within Canada’s multicultural program as some of the most important concerns of immigrants and host societies. Individual difference elements of the model were able to predict sizeable proportions of variance in these outcome variables. We view the model as extremely promising in promoting a greater understanding of the complexities of the full acculturation process.

REFERENCES


