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Factor Structure and Psychometric Properties of the Acculturative Stress Index

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by

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Abstract

In the present study, secondary data collected from two community samples of Korean immigrants living in Toronto, Canada was employed to test the factor structure and psychometric properties of the Acculturative Stress Index (ASI). In Study 1 (n = 860), an exploratory factor analysis of the ASI produced a seven-factor model composed of Social Isolation, Language Difficulties, Civic Disengagement, Employment Barriers, Family Problems, Social Exclusion, and Homesickness. In Study 2 (n = 274), a confirmatory factor analysis supported the factor model identified in Study 1. Results provided evidence to support the construct validity and internal consistency reliability of the ASI. The findings demonstrate that the ASI is a psychometrically sound measure for identifying diverse sources of acculturative stress experienced by first-generation Korean immigrants. In future research, the reliability and validity of the ASI among immigrants from other ethnic groups and cultural contexts may be examined.

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Overview

Immigrants represent approximately 20 percent of Canada's total population and are projected to become the sole source of population growth by 2025 (Hiebert 2005; Statistics Canada, 2007a). As immigrants account for a rapidly increasing percentage of the total population of Canada, as well as several other countries throughout the world, a growing body of research has sought to examine factors affecting the health and well-being of immigrants (Schwartz, Unger, Zamboanga, & Szapocnik, 2010). Acculturation and acculturative stress have become important topics of research in understanding factors that may hinder immigrants' health and successful settlement and adaption to a new country.

Acculturation has been described as the process of change that individuals or groups undergo as a result of continuous contact with another culture (Williams & Berry, 1991). Acculturative stress, in turn, is defined as stress arising from the demands of acculturation (Berry, 1998). As applied to first-generation immigrants, it can be described as stress related to the move from one's country of origin to another country (Joiner & Walker, 2002). During the process of learning and adopting new sets of cultural norms and social structures, immigrants are exposed to varying degrees of stressors. Common stressors experienced by immigrants include homesickness, social exclusion, unemployment or underemployment, inadequate financial and social resources, language or communication difficulties, and changes in family dynamics (Dean & Wilson, 2009; Fitinger & Schwartz, 1981; Fleury, 2007; Hull, 1979; Kuo, 1984; Sandhu & Asrabadi,

1994; Sue & Morishima, 1982). Such stressors are likely to exert harmful effects on the health of immigrants. Indeed, acculturative stress has been associated with several deleterious mental health outcomes in diverse ethnic groups, including anxiety, depression, and suicidal ideation (Crockett, 2007; Hovey, 2000; Joiner & Walker, 2002; Salgado de Snyder, 1987).

Despite its importance in understanding the experience of immigrants, psychometrically sound and comprehensive measures of acculturative stress are limited. Among the available measures, there is little consensus on what domains are essential to measuring acculturative stress, and to date, no existing multidimensional measures of acculturative stress have undergone rigorous psychometric validation through both exploratory and confirmatory factor analyses. In addition, few acculturative stress measures focus specifically on the experiences of first-generation immigrants. The purpose of the current study is to use data collected from two community samples of immigrants to assess the factor structure and psychometric properties of the Acculturative Stress Index (ASI), a multidimensional measure of acculturative stress developed for first-generation Korean immigrants living in Canada. Although preliminary validity results for the ASI have been reported in previously published studies, no study has carried out a rigorous evaluation of the factor structure and psychometric properties of the ASI.

Development of the Acculturative Stress Index

The ASI was developed for the Korean Mental Health Study (KMHS), a two-wave panel study of life strains and mental health problems among Korean immigrant

adults living in Toronto in 1990 (Noh & Avison, 1996). The ASI was included in the KMHS as part of a battery of measures administered to 860 adults who were selected via random sampling from over 4000 households listed in the directory of the Korean Society of Toronto. Scale items were developed based on a theoretical and empirical review of the literature and were designed to reflect both cultural and structural sources of stress in the immigrant adaption experience. The original 31-item measure consisted of two parts: Part I consisted of 25 items designed to reflect stress from experiences of homesickness, social isolation, marginalization, discrimination, socioeconomic adjustment, and family problems. Part II of the ASI consisted of seven items developed to assess language difficulties. In the KMHS, the internal consistency coefficient (α) of the 31-item ASI was 0.91 (Noh & Avison, 1996). In addition, total ASI scores were found to predict depressive symptom scores 12 months later ($p < 0.05$). The effects of acculturative stress on depressive symptoms persisted after taking into account stress from life events unrelated to the acculturation process, as well as social support, self-esteem, mastery, and sociodemographic factors.

Part I of the ASI was subsequently included in a survey administered as part of the Growing Up Canadian project, a follow-up of a subsample of families ($n = 199$) that had participated in the KMHS (Noh & Kaspar, 2003). In this follow-up study, the internal consistency coefficient (α) for the ASI (Part I) was 0.95.

Defining and Measuring Acculturative Stress

Criticisms related to research on acculturative stress most often relate to the conceptualization and measurement of the construct. A frequently noted flaw in the

research literature is the use of indirect measures of acculturative stress. Specifically, in some studies, mental health scales (e.g., depression) have been employed as measures of acculturative stress, confounding acculturative stress with the mental health outcomes it is presumed to cause (Rudmin, 2009). In other studies, acculturative stress has been treated as a component of acculturation, with acculturative stress measured by the amount of mental health variance accounted for by acculturation (see Berry, Kim, Minde, & Mok, 1987; Dona & Berry 1994; Liebkind 1996; Zamanian et al., 1992).

Acculturative stress measures have been criticized for confounding acculturative stress with sources of stress that are not unique to the acculturation experience, including general life stress, or other conceptually distinct constructs, such as employment difficulties or financial strain (Rodriguez et al., 2002; Rudmin, 2009). Although stress from employment difficulties or financial strain is not limited to immigrants or individuals undergoing acculturation, difficulties finding employment that is commensurate with the education and experience attained in one's country of origin is a powerful source of stress among first-generation immigrants. For example, in their recent qualitative study, Dean and Wilson (2009) showed that loss of income, occupational skills, and social status were among the most frequently cited reasons for increased stress among recent immigrants to Canada. Moreover, a longitudinal survey of immigrants in Canada showed that 54 percent of immigrants remain unemployed between 2-4 years after arrival (Statistics Canada, 2007b). Immigrants who manage to find employment are often employed in positions that underutilize their education and skills (Freidland & Price, 2003). Thus, acculturative stress measures for first-generation immigrants should

distinguish between sources of stress applicable to any individual, regardless of immigrant status or generation, and sources of stress related to first-generation immigrant acculturation. For example, the Barcelona Immigration Stress Scale (BISS) was developed to measure acculturative stress among immigrants in Spain (Tomas-Sabado, Qureshi, Antonin, & Collazos, 2007). Although the measure is still in its early stages of development, several items composing the scale do not distinguish between sources of stress related to acculturation and sources of general life stress that are likely to be experienced by both immigrants and non-immigrants (e.g., "I have too many responsibilities", "I am very worried about my health").

There is little consensus on the domains that should comprise multidimensional acculturative stress measures. The lack of consensus may be in part due to the different populations for which the measures have been developed. Acculturative stress has been a topic of interest in the study of various populations of migrants, including first-generation immigrants, refugees, sojourners (e.g. international students), as well as later generations of immigrants born in the country of settlement. Rodriguez and colleagues (2002) note that while both first-generation immigrants and later generations of immigrants experience acculturative stress, the nature of the stress is likely to be different. Both first-generation immigrants and Canadian-born children of immigrants may experience stress related to conflicts between the customs and values of Canadian culture versus those of their ethnic culture. However, while native-born descendents of immigrants may experience stress from the challenges associated with negotiating a bicultural identity, first-generation immigrants may experience additional stressors related to moving from

their home country environment. In fact, among first-generation immigrants, homesickness or extensive longing for one's home country has been shown to be a powerful source of acculturative stress among recent migrants (Noh & Moon, in press; Sandhu & Asrabadi, 1994).

Measures designed to be used for both first-generation immigrants and later generations of immigrants often neglect sources of stress specific to the foreign-born immigrant acculturation experience. For example, the Multidimensional Acculturative Stress Inventory (MASI) is a 36-item multidimensional scale designed to assess acculturative stress among the Mexican Americans in the United States (Rodriguez, Myers, Mira, Flores, & Gracia-Hernandez, 2002). Since the MASI was intended to be used for first-generation immigrants as well as later generations of immigrants, it does not include items tapping stress from homesickness or other sources of stress specific to foreign-born migrants. Similarly, one of the first and most common multidimensional measures of acculturative stress, the Social Attitudinal Familial Environmental Scale (SAFE) assesses acculturative stress in four contexts: social, attitudinal, familial, and environmental (Padilla, Wagatsuma, & Lindholm, 1985). Both the original 60-item SAFE scale and the 24-item short version of the measure (Mena, Padilla, & Maldonado, 1987) were designed to be used for both first-generation immigrants and later generations of immigrants. Consequently, these measures lack items that assess stressors specific to the first-generation immigrant acculturation experience. Acculturative stress measures that are not developed specifically for foreign-born immigrants may exclude sources of stress related to integration into the broader social structures and systems of the host country,

such as economic and political systems (Gordan, 1964). Since the nature of acculturative stress will vary for different types of migrants, acculturative stress measures must be developed and validated with focus on a specific population of migrants (e.g. first-generation immigrants).

Several popular acculturative stress measures have been developed and validated using university or college student samples (e.g., Mena, Padilla, & Maldonado, 1987; Sandhu & Asrabadi, 1994). The experience of acculturative stress experience among university or college students may be quite different from acculturative stress experienced in a general community population due to differences in age, educational background, and other sociodemographic factors. For example, Noh and Moon (in press) showed that acculturative stress in a community sample of first-generation Korean immigrants, as measured by the ASI, was significantly associated with age; older immigrants reported lower levels of acculturative stress compared to younger immigrants. Since community samples more accurately represent the wider population of immigrants in Canada, validating acculturative stress measures using community samples should increase their generalizability and utility.

Contributions of the Present Study

Although a few multidimensional measures of acculturative stress have undergone psychometric validation through factor analysis, none have undergone further validation through confirmatory factor analysis. In addition, currently available measures lack coverage of important acculturative stressors specific to first-generation immigrants and/or fail to incorporate both cultural and structural forces in the acculturative stress

experience. An acculturative stress measure developed specifically for first-generation immigrants allows for a more focused and comprehensive coverage of the stressors experienced by immigrants during the process of adjusting to a new country. Further, by comprehensively identifying and measuring such stressors, researchers and mental health professionals will have a better understanding of the nature and impact of the various challenges new immigrants face as they settle and adjust to living in Canada. Thus, the purpose of the present study is to test the factor structure and psychometric properties of the Acculturative Stress Index, a comprehensive and multidimensional measure of acculturative stress developed for first-generation Korean adult immigrants living in Canada. Although preliminary evidence for the validity of the ASI is promising, validation of the ASI domains have not been completed to date. In Study 1, an exploratory factor analysis (EFA) of secondary data drawn from a community sample of first-generation Korean immigrants will be conducted to determine whether the ASI has a multidimensional factor structure. In Study 2, a confirmatory factor analysis (CFA) of secondary data drawn from a separate community sample of first-generation Korean immigrants will be conducted to confirm and refine the multidimensional factor structure of the ASI. It is noted that only data from Part 1 of the ASI was available for Study 2; unfortunately, Part II of the measure was not included in the survey administered to participants in Study 2. Thus, in Study 1, two separate EFAs, one on the complete ASI, and the other on only Part 1 of the ASI, will be conducted to facilitate comparison with the factor model identified in the CFA.

A number of measures could be used to assess the construct validity of the ASI. However, for the purpose of this study, relationships between the ASI and psychological distress (depressive symptoms) and psychological resources (mastery and self-esteem) will be examined. Psychological distress and psychological resources are key variables examined in studies on the stress process (e.g., Ensel & Lin, 1991; Noh & Avison, 1996; Pearlin, Lieberman, Menaghan, & Mullan, 1981). In accordance with the stress process model, higher levels of acculturative stress are expected to be related to lower self-esteem and mastery (Noh & Avison, 1996; Pearlin, Lieberman, Menaghan, & Mullan, 1981). As psychological distress is a typical outcome of stress, higher levels of acculturative stress are expected to be related to higher depressive symptoms.

Since the acculturation construct is closely related to acculturative stress, validity indicators used for acculturation measures will be employed to provide additional evidence for the construct validity of the ASI (Rodriguez et al., 2002). This approach has been recommended by Rodriquez and colleagues (2002) when established indicators for acculturative stress are unavailable. Specifically, length of residence and English language proficiency will be included as additional validity criteria in the present study. To summarize, the following hypotheses are proposed:

Hypothesis 1: The ASI will have a multidimensional factor structure.

Hypothesis 2: ASI scores will be negatively correlated with length of residence and English language proficiency.

Hypothesis 3: ASI scores will be positively correlated with psychological distress, such that higher levels of acculturative stress will be correlated with higher levels of psychological distress (i.e., depressive symptoms).

Hypothesis 4: ASI scores will be negatively correlated with psychological resources, such that higher levels acculturative stress will be correlated with lower levels of psychological resources (i.e., self-esteem and mastery).

Study 1: Exploratory Factor Analysis

The purpose of Study 1 was to assess the factor structure of the ASI through an exploratory factor analysis of data collected from the original sample for which the measure was developed. In addition, the reliabilities of the total ASI and ASI factors were examined.

Method

Participants and procedure. Data for the exploratory factor analysis were drawn from the Korean Mental Health Study (KMHS), a study of mental health among first-generation Korean immigrants living in Toronto. The study was approved by the Research Ethics Board at the University of Western Ontario in London, Ontario. Participants were recruited using a simple random sampling method. A random number table was used to select 1039 households from the Directory of the Korean Society of Toronto, which listed over 4,000 households and an estimated 8,000 adults. An information letter, which explained the purpose and nature of the study, was mailed to each of the selected households. Within each selected household, one adult (age 18 or older) was randomly selected to participate in the study. Those who migrated before the

age of 16 were excluded because their migratory experiences were expected to be substantially different from those of older immigrants. All measures were translated into Korean and subsequently back-translated to English by independent translators. Data were collected by bilingual interviewers during in-person interviews conducted in 1990 and 1991. Each participant read and signed an informed consent form, which explained the purpose and nature of the study. A total of 860 adults completed interviews, representing a participation rate of 86%. Interviews were approximately 90 minutes in length.

The sample included 455 (52.9%) males and 403 (46.9%) females. Two participants (0.2%) did not report their sex. Participants were between the ages of 20 and 84, with an average age of 45 (*SD* = 14.02). Most of the sample were married (*n* = 710; 82.6%), 88 (10.2%) were never married, 41 (2.4%) were separated or divorced, and 21 (2.4%) were widowed. More than half (52.6%) of the total sample had completed post-secondary education in Korea before migrating to Canada. At the time of interview, the average length of residence in Canada was 12 years (*SD* = 6.25).

Instruments. Acculturative stress was measured with the two-part, 31-item Acculturative Stress Index (ASI; Noh & Avison, 1996; Noh & Kaspar, 2003). As noted previously, the ASI includes items designed to assess stress from different areas of the immigrant adaptation experience. Part 1 of the measures reflects stress from experiences of homesickness (e.g., “I am unable to do the things I used to enjoy when I was in Korea”), social isolation (e.g., “I am not able to find someone I can confide in”), discrimination and exclusion (e.g., “Others discriminate against me”), marginalization

(e.g., “I have few, if any, opportunities to participate in Canadian politics”), socioeconomic adjustment problems or lack of opportunities for occupational and financial mobility (e.g., “The job experience I had in Korea is not recognized in Canada” and “I have few opportunities to earn more income”) and changes in family relations (e.g., “I feel that my relationship with my spouse would be better if we were living in Korea”). Participants were asked to indicate how often they experience stress from the situation described in each item of the ASI. Responses were based on a 4-point Likert scale ranging from 1 (*never*) to 4 (*very often*); responses were rated as “never” if an item was not applicable. Part 2 of the measure assesses language difficulties. Participants were asked to indicate the extent to which they experience language difficulties when at work, talking to children, reading newspapers or magazines, shopping, reading official documents, and listening to the radio or watching television. Reponses were based on a 4-point Likert scale ranging from 1 (*never*) to 4 (*very often*); responses were rated as “never” if an item was not applicable. Scores for each item were equally weighted and summed to provide a total score, with higher scores reflecting higher levels of acculturative stress.

Results

As noted previously, two separate EFAs were conducted. The first EFA was conducted using data from the complete ASI (Parts 1 and 2), and the second EFA was conducted using data from only Part 1 of the ASI (excluding language items).The purpose of conducting two separate EFAs was twofold: 1) to facilitate comparison between the factor models identified in Study 1 and Study 2 (where data from Part 2 of

the ASI was unavailable) and 2) to determine if the ASI factors that comprise Part 1 of the ASI remain intact without Part 2 of the scale. SPSS Version 16.0 (SPSS Inc., 2007) was used to conduct preliminary and exploratory factor analyses of the data. An a priori alpha level of 0.05 was used for all reported statistical analyses.

Preliminary analyses. Preliminary analyses were conducted to assess the factorability of the sample correlation matrices. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy approaches one if partial correlations are small; values of .60 and greater are required for good factor analysis (Tabachnick & Fidell, 2001). In the present study, the overall KMO values with and without Part 2 (language items) were 0.90 and 0.91, respectively. All individual KMO statistics, as indicated by the diagonal elements of the anti-image correlation matrices, were greater than .80. In addition, Bartlett's test of sphericity was significant with and without the language items, $\chi^2(465) = 9895.02$, $p < .001$ and $\chi^2(300) = 7951.35$, $p < .001$, indicating that correlations between items were sufficiently large for factor analysis (Fields, 2009). Since skewness and kurtosis values of ASI items indicated deviation from multivariate nonnormality, logarithmic transformations were applied to all ASI items. While the results with and without variable transformations were highly similar, the pattern matrix for the second EFA provided slightly greater interpretability without variable transformation. Thus, results for analyses without variable transformations are reported. Missing values were addressed using listwise deletion of cases, resulting in a final sample of 658 for the first EFA (ASI without language items) and 704 for the second EFA (ASI with language items). The number of cases used for both analyses well exceeds the recommended

sample size (n > 300) to generate a stable factor solution (Comrey & Lee, 1992; Tabachnick & Fidell, 2001).

Exploratory factor analyses of ASI Part I. A maximum likelihood extraction with oblique (Direct Oblimin) rotation was used on the initial 25 items comprising Part I of the ASI. To determine the number of factors to retain, Kaiser's (1958) criterion (i.e. eigenvalue > 1) and Cattell's (1966) scree test were used. Kaiser's criterion and the scree plot converged on a six-factor solution. To ensure that each item shared a sufficient amount of variance with each factor, only items that met a minimum factor loading of |.40| (16% of variance) on a single factor were retained. Six of 25 items had factor loadings below |.40|: "I am mistreated by other Koreans", "I am unable to find adequate social support or a social group in Canada", "I do not understand the school or educational system in Canada", "I have few, if any, opportunities to earn more income", "I am disappointed that my standard of living is not what I had hoped for when I first came to Canada", and "I do not have the time or money for a vacation". In addition, one item ("I am constantly reminded by others about my minority status") had factor loadings above .35 on two factors. Table 1 reports the pattern matrix (i.e., factor loadings), means, and standard deviations for the remaining 18 ASI items (excluding seven out of 25 items). Each factor was interpreted and labelled by examining item content and correlations. The first factor, Social Isolation, accounted for 34.7% of the variance and consisted of two items describing a lack of close friends or confidants (e.g., "I am not able to find someone I can confide in"). The second factor, Civic Disengagement (or marginalization), accounted for 7.4% of the variance and consisted of two items

Table 1
Factor Loadings, Means, and Standard Deviations for the ASI – Without Language Items

	Factor loadings							
Factor Labels and Items	1	2	3	4	5	6	*M*	*SD*
Social Isolation								
I am not able to find someone that I can confide in. (4)	**.89**	.02	.03	.04	.02	-.05	2.05	1.08
I do not have good and/or close friends. (5)	**.86**	-.00	.05	.01	.01	-.09	2.11	1.09
Civic Disengagement								
I have few, if any, opportunities to participate in Canadian politics. (14)	.01	**-.89**	-.02	-.01	.06	-.05	1.35	0.73
I feel helpless in making political decisions. (16)	.00	**-.79**	-.07	.01	-.03	.00	1.45	0.81
Employment Barriers								
The job experience I had in Korea is not recognized in Canada. (8)	-.04	-.04	**-.94**	-.00	.04	.01	1.66	1.00
My education in Korea is not recognized at work. (9)	.02	-.11	**-.72**	-.04	-.04	.04	1.45	0.89
I have a job that is below my experience and qualifications. (7)	.06	.10	**-.62**	.13	-.04	-.11	1.84	1.07
Family Problems								
I worry about my family members losing cohesion with each other, and I would not have to worry about this problem if I lived in Korea. (23)	-.02	.05	.01	**.71**	-.03	-.10	1.63	0.91
I frequently argue with my spouse.(24)	-.06	.03	.07	**.70**	-.06	.03	1.67	0.87
I feel that my relationship with my spouse would be better if we were living in Korea. (20)	-.02	.08	-.13	**.62**	.01	-.07	1.55	0.88
I feel that my children will grow up and not respect my spouse and I as parents. (22)	.05	-.07	-.02	**.49**	-.03	.06	1.55	0.83
I worry about the future of my children. (21)	.05	-.02	-.04	**.46**	-.02	-.10	2.10	1.12
I feel that the relationship between my spouse and my parents has gotten worse since I have come to Canada. (25)	.07	-.08	.00	**.44**	.06	.04	1.28	0.64
Social Exclusion								
Others discriminate against me. (11)	.04	.05	-.05	-.01	**-.80**	.01	1.96	0.86
I am treated as an alien by other Canadians. (12)	.03	-.06	.03	.04	**-.76**	.01	1.91	0.84
Homesickness								
I am living away from family, relatives, and friends. (2)	.07	-.05	-.03	-.05	.05	**-.76**	2.05	1.02
I lack the opportunity to visit Korea. (1)	-.05	-.01	.04	.07	-.02	**-.75**	1.81	0.99
I am unable to do the things I used to enjoy when I was in Korea. (3)	.15	-.04	-.08	.02	-.04	**-.49**	1.98	0.99
Variance Explained by Factor (%)	34.7	7.4	6.4	5.4	4.3	4.0		

Note. $N = 704$ after listwise deletion of missing values. Original scale item numbers appear in parentheses. Variables are ordered and grouped by size of factor loadings. Item means are based on a response scale of 1-4.

Table 2
Factor Loadings, Means, and Standard Deviations for the ASI - With Language Items

	Factor loadings								
Factor Labels and Items	1	2	3	4	5	6	7	*M*	*SD*
Social Isolation									
I am unable to find someone that I can confide in. (4)	**.88**	-.01	.01	.02	.04	-.02	-.05	2.06	1.07
I do not have good and/or close friends. (5)	**.87**	-.02	-.01	.05	.00	.02	-.10	2.12	1.09
Language Difficulties									
When I read a newspaper or magazine. (28)	-.01	**.90**	.02	.03	.07	.00	.09	2.71	0.98
When I try to understand the TV or radio. (31)	.01	**.89**	.04	-.01	-.02	-.00	.03	2.52	0.94
When I try to understand official documents (e.g., tax forms). (29)	.01	**.87**	-.02	.04	.11	.00	.07	2.65	1.04
When I am at work. (27)	.07	**.70**	.04	.01	-.07	-.04	-.06	2.19	0.92
When I go shopping (e.g., when talking to a sales clerk). (30)	-.03	**.68**	.07	-.06	-.10	.00	-.19	1.66	0.87
When I talk to children. (26)	-.03	**.55**	-.11	-.00	-.01	.06	-.02	1.84	0.93
Civic Disengagement									
I have few, if any, opportunities to participate in Canadian politics. (14)	.01	-.01	**-.88**	-.04	-.01	.05	-.07	1.36	0.74
I feel helpless in making political decisions. (16)	.01	-.01	**-.78**	-.08	.00	-.04	-.01	1.47	0.82
Employment Barriers									
The job experience I had in Korea is not recognized in Canada. (8)	-.04	.01	-.04	**-.96**	.00	.05	.04	1.68	1.01
My education in Korea is not recognized at work. (9)	.02	-.03	-.12	**-.70**	-.03	-.05	.03	1.46	0.88
I have a job that is below my experience and qualifications. (7)	.07	-.02	.10	**-.59**	.13	-.06	-.11	1.86	1.07
Family Problems									
I frequently argue with my spouse. (24)	-.06	.01	.04	.08	**.68**	-.07	.01	1.69	0.88
I worry about my family members losing cohesion with each other, and I would not have to worry about this problem if I lived in Korea. (23)	-.02	-.01	.06	-.02	**.67**	-.05	-.13	1.65	0.92
I feel that my relationship with my spouse would be better if we were living in Korea. (20)	-.03	-.00	.09	-.13	**.59**	-.00	-.10	1.57	0.90
I feel that my children will grow up and not respect my spouse and I as parents. (22)	.05	-.01	-.08	-.02	**.49**	-.02	.07	1.56	0.83
I worry about the future of my children. (21)	.06	.13	-.03	-.04	**.48**	-.00	-.03	2.13	1.12
I feel that the relationship between my spouse and my parents has gotten worse since I have come to Canada. (25)	.08	-.05	-.07	-.01	**.41**	.06	.01	1.29	0.65
Social Exclusion									
Others discriminate against me. (11)	.03	-.00	.04	-.05	.00	**-.78**	.03	1.98	0.85
I am treated as an alien by other Canadians. (12)	.02	-.05	-.07	.03	.04	**-.76**	.00	1.93	0.84
Homesickness									
I am living away from family, relatives, and friends. (2)	.08	.05	-.06	-.02	-.04	.04	**-.74**	2.06	1.02
I lack the opportunity to visit Korea. (1)	-.02	.01	-.02	.05	.10	-.02	**-.70**	1.83	1.00
I am unable to do the things I used to enjoy when I was in Korea. (3)	.14	.00	-.05	-.09	.04	-.04	**-.47**	1.99	0.99
Variance Explained by Factor (%)	27.8	12.9	6.0	5.2	4.3	3.6	3.4		

Note. $N = 658$ after listwise deletion of missing values. Original scale item numbers appear in parentheses. Variables are ordered and grouped by size. Item means are based on a response scale of 1-4.

describing a lack of engagement in political activities (e.g., “I have few, if any, opportunities to participate in Canadian politics”). The third factor, Employment Barriers (or socioeconomic adjustment), accounted for 6.4% of the variance and consisted of three items describing underemployment or unemployment due to lack of recognition of foreign credentials (e.g., “I have a job that is below my experience and qualifications”). The forth factor, Family Problems, accounted for 5.4% of the variance and consisted of six items describing various problems or concerns related to one’s family unit (e.g., “I worry about the future of my children”). The fifth factor, Social Exclusion (or discrimination), accounted for 4.3% of the variance and consisted of two items describing experiences of discrimination and alienation (e.g., “I am treated as an alien by other Canadians”). The sixth factor, Homesickness, accounted for 4.0% of the variance and consisted of three items describing separation from one’s home country and attachments (e.g. “I am unable to do the things I used to enjoy when I was in Korea”). The combined six-factor solution accounted for 62.1% of the total variance in ASI scores.

Exploratory factor analysis of ASI with language items. A maximum likelihood extraction with oblique (Direct Oblimin) rotation and specification of a seven-factor solution was performed on the 31 items comprising Parts 1 and 2 of the original ASI. A minimum factor loading of |.40| on only one factor was set as the criterion for item retention. All six language items loaded on the same factor, labelled Language Difficulties, and accounted for 12.9% of the variance. With the exception of the addition of the Language Difficulties factor, the factor structure was identical to that described in the first EFA. Specifically, the items comprising each ASI factor remained intact with

inclusion of the language items, with only slight changes in factor loadings. Six of 31 items failed to meet the |.40| cutoff for item retention and one item had cross-loadings above .35 on two factors; these items were identical to those identified in the first EFA. Table 2 reports the pattern matrix, means, and standard deviations for the remaining 24 ASI items. The Social Isolation, Civic Disengagement, Employment Barriers, Family Problems, Social Exclusion, and Homesickness factors explained 27.8%, 6.0%, 5.2%, 4.3%, 3.6%, and 3.4% of the variance, respectively. The combined seven-factor solution accounted for 63.1% of the total variance in ASI scores.

Reliability. Estimates of internal reliability for the seven ASI factors were computed using Cronbach's coefficient alphas and ranged from .76-.90: Social Isolation (.88), Language Difficulties (.90), Civic Disengagement (.83), Employment Barriers (.83), Family Problems (.76), Social Exclusion (.81), and Homesickness (.78). Cronbach's alpha for the 18-item ASI (without Language Difficulties factor) and 24-item ASI (with Language Difficulties factor) were .89 and .83, respectively.

Study 2: Confirmatory Factor Analysis and Estimates of Reliability and Validity

The purpose of Study 2 was to support and/or refine the factor structure found in Study 1 through confirmatory factor analysis of data obtained from a separate sample, and to provide estimates of reliability for the total ASI and ASI factors. In addition, to test the construct validity of the final ASI measure, correlations between the ASI and acculturation indicators, psychological distress, and psychological resources were examined.

Method

Participants and procedure. Data for the confirmatory factor analysis were drawn from the Korean-Canadian Community Survey (KCCS), a study conducted by Noh and colleagues to examine emotional and cognitive issues among first-generation Korean immigrants living in the Greater Toronto Area (GTA). The KCCS was part of a multisite international research project that focused on culture, cognitive style, and depression. The study was approved by the Research Ethics Board at the Centre for Addiction and Mental Health (CAMH) in Toronto, Ontario. Survey data was collected by trained bilingual interviewers during in-person interviews. The survey, which was composed of a series of psychosocial scales and demographic questions, was constructed in English and translated into Korean by three independent translators. After the translations were reviewed and combined into a single survey by two researchers, all interviewers participated in the review and back-translation as part of the interview training. Participants were recruited from all regions of the GTA using non-probability purposive sampling. The researchers aimed to mimic the demographic profile of the Korean community in the GTA by obtaining proportionate representations of gender, age, higher education, and religious affiliation (Protestant, Catholic, Buddhism, and no religious affiliation). Participants were given a consent form, which explained the purpose and nature of the study. A total of 274 participants provided written consent to participate and completed interviews. All interviews were conducted from January to May 2010, with each interview lasting between 1.5 to 2 hours.

Overall, 130 (47.4%) participants were male and 144 (52.6%) were female. Participants were between the ages of 18 and 71, with an average age of 43 (*SD* =

13.53). Of the participants, 161 (58.8%) were married, 85 (31.0%) were never married, 20 (7.3%) were separated or divorced, and 8 (2.9%) were widowed. Forty-three percent of the total sample completed post-secondary education in Korea before migrating to Canada. At the time of interview, the average length of residence in Canada was 16 years (*SD* = 9.20).

Instruments.

Acculturative Stress Index. Part I of the ASI, as described in Study 1, was used.

Psychological distress. Psychological distress was measured with a modified version of the Centre for Epidemiologic Studies Depression Scale (CES-D). The 20-item CES-D was developed to assess levels of depressive symptomatology in community populations (Radloff, 1977). Items represent the major components of depression: depressed mood, feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbances. Researchers have noted a response bias among Asians toward reporting unusually low levels of positive affect (Lin, 1989; Noh, Avison, & Kaspar, 1992; Noh and Avison, 1996). Thus, the four items measuring positive affect were excluded to avoid overestimating depressive symptom levels in participants in the current study. Responses to each item were based on a 4-point scale ranging from 0 (*rarely* or *none of the time*) to 3 (*most* or *all of the time*). Item responses were summed to compute a total score, with higher scores reflecting higher levels of depressive symptoms. The 16-item scale showed an internal reliability (Cronbach's alpha) of .89 in a previous sample of Korean

immigrants (Noh & Avison, 1996). Cronbach's alpha for the 16-item CES-D was .89 in the current sample.

Psychological resources. Psychological resources were measured with a shortened version of the Rosenberg Self-Esteem Scale (RSE; Rosenberg, 1965) and the Pearlin Mastery Scale (Pearlin & Schooler, 1978). To assess self-esteem, five items from Rosenberg's (1979) scale were adopted with minor modifications: "You feel that you have a number of good qualities", "You feel that you are a person of worth at least equal to others", "You are able to do things as well as most other people", "You take a positive attitude toward yourself", and "All in all, you are inclined to feel that you are failure". Responses were based on a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). After reverse coding the negatively-phrased item, item responses were summed to compute a total score, with higher scores reflecting higher levels of self-esteem. The shortened scale had a Cronbach's alpha of .79 in a previous sample of Korean immigrants (Noh & Avison, 1996). In the current sample, Cronbach's alpha was .82 for the five self-esteem items.

The Pearlin Mastery Scale was used to assess mastery, or the degree to which respondents saw themselves as being in control of the forces that affect their lives (Pearlin & Schooler, 1978). Sample items include: "You have little control over the things that happen to you", "There is really no way you can solve some of the problems you have", "What happens to you in the future mostly depends on you", and "There is little you can do to change many of the important things in your life". Responses were based on a 5-point Likert scale ranging from 1 (*strongly agree*) to 5 (*strongly disagree*).

After reverse coding the negatively-worded items, responses to each item were summed to compute a total score, with higher scores reflecting higher levels of personal mastery. The Pearlin Mastery Scale had a Cronbach's alpha of .76 in a previous sample of Korean immigrants (Noh & Avison, 1996). In the present sample, Cronbach's alpha was .72 for the seven mastery items.

Acculturation indicators. Length of residence in Canada (in years) and English language proficiency were used as acculturation indicators. To assess English proficiency, participants were asked how well they can speak, read, and write a letter in English. Responses were based on a 4-point Likert scale ranging from 1 (*poor*) to 4 (*excellent*). Responses to the three items were summed to compute a total score, with higher scores reflecting higher English proficiency. In the present sample, Cronbach's coefficient alpha was .93.

Results

A confirmatory factor analysis was conducted to support and/or refine the factor model generated in Study 1. As previously noted, since data from Part 2 of the ASI was not available in Study 2, only the 18-item six-factor model was tested. SPSS Version 16.0 (SPSS Inc., 2007) and AMOS Version 19.0 (Arbuckle, 2010) were used to conduct preliminary and confirmatory factor analyses of the data. An a priori alpha level of 0.05 was used for all reported statistical analyses.

Preliminary and confirmatory factor analyses. To test the stability of the six-factor 18-item ASI, a confirmatory factor analysis was conducted using a maximum likelihood estimation method. Three of the 274 participants interviewed for Study 2 had

missing data. Although AMOS uses a special form of maximum likelihood estimation for incomplete data, the three cases with missing data were removed to use AMOS's non-normality diagnostic and bootstrap features, and to attain modification indices. With 18 observed variables, a sample size of 271 appeared adequate to produce reasonably trustworthy parameter estimates based on Stevens (1996) recommendation of at least 15 cases per observed variable. To assess univariate and multivariate normality of the observed variables, critical values for skewness and kurtosis were examined. Individual skewness and kurtosis values, as well as Mardia's multivariate coefficient of multivariate kurtosis, indicated significant deviations from multivariate normality. To correct for nonnormality, the Bollen-Stine Bootstrap was performed and Bollen-Stine p-values were interpreted instead of the maximum-likelihood model chi-square statistics to assess overall model fit. Significant p-values ($p < .05$) indicate rejection of the null hypothesis that the model is a good fit to the data. Bootstrapping, which provides empirically-generated estimates of standard error, is also recommended for handling ordered categorical data in SEM (Kupek, 2005). The following goodness-of-fit indices were also used to assess the degree of model fit to the data: the Tucker-Lewis Index (TLI; >.90 acceptable, >.95 excellent; Hu & Bentler, 1999; Tucker & Lewis, 1973), Comparative Fit Index (CFI; >.90 acceptable, > .95 excellent; Bentler, 1990; 1992), Goodness-of-Fit Index (GFI; >.90 acceptable); Standardized Root Mean Square Residual (SRMR; <.08 acceptable, <.05 good), and Root Mean Square Error of Approximation (RMSEA; <. 08 acceptable, < .06 good; Hu & Bentler, 1999).

Sequence of analyses. Kline (2011) recommended testing a single-factor model before evaluating more complex models. If the single-factor model is a poor fit to the data, then the analyses may proceed to more complex models. Table 3 reports the sequence of analyses and fit indices for each tested model. The one-factor model showed a poor fit to the data, with a significant Bollen-Stine p-value (p <.001) and poor values for the other supportive fit indices (see Model 1, Table 3). After rejecting the one-factor model, the 18-item six-factor model was examined. Although the Bollen-Stine p-value remained significant (p < .01), the supportive indices suggested acceptable to good model fit (see Model 2, Table 3). In Model 3 (Table 3), the decision to remove item 23 ("I worry about my family members losing cohesion with each other, and I would not have to worry about this problem if I lived in Korea") was made on the basis of a combination of its low standardized factor loading (<.50), particularly relative to those of other scale items, and item content. Specifically, its removal was judged to increase the parsimony and conceptual clarity of the Family Problems factor. The removal of item 23 resulted in an improvement in overall model fit and supportive indices (Model 3, Table 3), and an increase in the internal reliability (Cronbach's alpha) of the factor from .84 to .86.

AMOS generates modification indices that provide suggestions for path additions that can improve overall model fit (Arbuckle, 2010; Kline, 2011). The larger the value of the modification index, the greater the predicted improvement in fit. The decision to incorporate a modification into the final model was made on the basis of whether the modification was theoretically meaningful and consistent with the model. Two of the suggested modifications required adding covariances between the error terms for items

Table 3
Sequence of Analyses and Selected Fit Indices for Tested CFA Models

Model	Fit Index								
	χ^2	*Df*	χ^2/df	Bollen-Stine bootstrap *p*	TLI	CFI	GFI	SRMR	RMSEA
1[a]	1307.15	135	9.68	<.001	.39	.46	.62	.13	.18 (.17, .19)
2[b]	258.17	120	2.15	<.01	.92	.94	.91	.05	.06 (.05, .08)
3[c]	211.32	104	2.03	.01	.95	.95	.92	.05	.06 (.05, .07)
4[d]	163.62	102	1.60	.11	.96	.97	.93	.05	.05 (.03, .06)

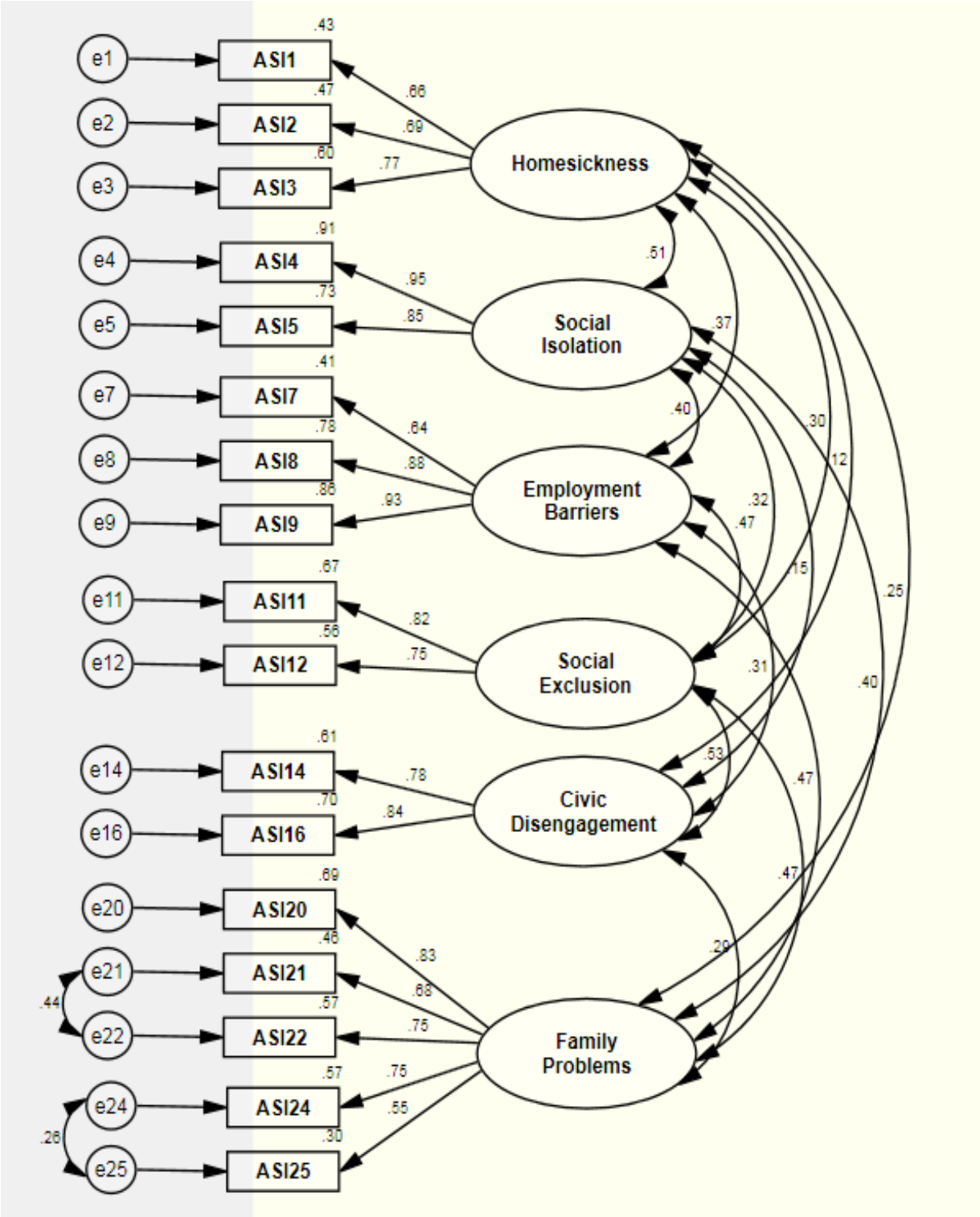
Note. N=271. TLI = Tucker-Lewis Index. CFI = Bentler Comparative Fit Index. GFI = Goodness-of-Fit Index. SRMR = Standardized Root Mean Square Residual. RMSEA = Root Mean Square Error of Approximation. Values within the parentheses indicate upper and lower bounds of the 90% confidence interval of RMSEA.
[a]Single-factor model
[b]Hypothesized 18-item six-factor model
[c]Six-factor model with deletion of item 23
[d]Final 17-item six-factor model with covariances added between error terms for 1) items 21 and 22 and 2) items 24 and 25

Table 4
Unstandardized and Standardized Factor Loadings for the Six-Factor Model of ASI

	Unstandardized	Standardized	*SE*
Homesickness factor			
ASI1[a]	1.00	.66	--
ASI2	1.10	.69	.13
ASI3	1.16	.77	.13
Social isolation factor			
ASI4[a]	1.00	.95	--
ASI5	0.94	.85	.07
Employment barriers factor			
ASI7[a]	1.00	.64	--
ASI8	1.39	.88	.12
ASI9	1.47	.93	.12
Social exclusion factor			
ASI11[a]	1.00	.82	--
ASI12	0.86	.75	.09
Civic disengagement factor			
ASI14[a]	1.00	.78	--
ASI16	1.01	.84	.13
Family problems factor			
ASI20[a]	1.00	.83	--
ASI21	0.90	.68	.08
ASI22	0.80	.75	.07
ASI24	0.83	.75	.07
ASI25	0.58	.55	.07

Note. N=271.
[a]Not tested for statistical significance. All other unstandardized estimates are statistically significant at $p < .001$.

Figure 1. *Final 17-Item Six-Factor Model of the Acculturative Stress Index*



21 (“I worry about the future of my children”) and 22 (“I feel that my children will grow up and not respect my spouse and I as parents”) and between items 24 (“I frequently argue with my spouse”) and 25 (“I feel that the relationship between my spouse and my parents has gotten worse since I have come to Canada”). Since items 21 and 22 both describe concerns related to one’s children, and items 24 and 25 both describe concerns related to one’s spouse, it seemed reasonable that these items would share variance that was not accounted for by the model. Thus, the two error covariances were incorporated into the final model, as illustrated in Figure 1. The model also allowed covariance among the unobserved factors. The final model generated a non-significant Bollen-Stine p-value (p = .11) and supportive fit indices indicated that the final 17-item six-factor model had a good to excellent fit to the data (see Model 4, Table 3). Table 4 reports unstandardized and standardized factor loadings for the final 17-item six-factor model.

Reliability. Cronbach’s coefficient alphas for the Social Isolation, Civic Disengagement, Employment Barriers, Family Problems, Social Exclusion, and Homesickness factors were .90, .79, .85, .86, .76, and .75, respectively. Cronbach’s coefficient alpha for the final 17-item ASI was .86.

Construct validity. The construct validity of the final 17-item ASI was tested by examining Spearman correlations between total scores on the 17-item ASI and acculturation indicators (English proficiency and length of residence), psychological distress (depression), and psychological resources (self-esteem and mastery).

Correlations between ASI and acculturation indicators. English language proficiency and length of residence in Canada were used as indicators of acculturation.

As hypothesized, the ASI was significantly negatively correlated with English language proficiency, r_s (269) = -.28, p < .01, and length of residence in Canada, r_s (271) = -.15, p < .01. Specifically, participants who reported higher levels of acculturative stress had lower English language proficiency and lived in Canada for fewer years.

Correlation between ASI and psychological distress. As predicted, the ASI was significantly positively correlated with psychological distress (i.e., depressive symptoms), r_s (268) = .25, p < .01. That is, participants who reported higher levels of acculturative stress had higher levels of depressive symptoms. .

Correlations between ASI and psychological resources. As hypothesized, the ASI was significantly negatively correlated with self-esteem, r_s (267) = -.13, p = .015 and mastery, r_s (266) = -.17, p < .01. Specifically, participants who reported higher levels of acculturative stress had lower levels of self-esteem and mastery.

Discussion

The current study sought to examine the factor structure and psychometric properties of the Acculturative Stress Index, a multidimensional measure of acculturative stress developed originally for first-generation Korean immigrants living in Canada. Although the ASI has been used in previous research, this study is the first to comprehensively report on its factor structure and psychometric properties. To the author's knowledge, the ASI is the first multidimensional measure of acculturative stress measure that has undergone rigorous psychometric validation through both exploratory and confirmatory factor analyses.

The results of the exploratory and confirmatory factor analyses supported the hypothesis that the ASI has a multidimensional factor structure. Specifically, in Study 1, an exploratory factor analysis of the two-part ASI yielded seven internally reliable factors that accounted for approximately 63% of the variance: Social Isolation, Language Difficulties, Civic Disengagement, Employment Barriers, Family Problems, Social Exclusion, and Homesickness. After removing seven items that did not meet criteria for item retention, factors were labelled to reflect the content of the items that comprised each factor. A separate EFA conducted on only Part 1 of the ASI showed that the ASI factors remained stable without Part 2 of the scale. That is, the items comprising the Social Isolation, Civic Disengagement, Employment Barriers, Family Problems, Social Exclusion, and Homesickness factors remained intact without the Language Difficulties items, and accounted for approximately 62% of variance. The ASI subscales showed acceptable to excellent internal reliabilities in the first sample, with Cronbach's coefficient alphas ranging from .76-.90.

In Study 2, a confirmatory factory analysis of Part 1 of the ASI supported the factor model generated in Study 1. During model refinement, one item was removed from the Family Problems factor to improve overall model fit. The ASI factors showed acceptable to excellent internal reliabilities in the second sample, with Cronbach's coefficient alphas ranging from .75 to .90. The joint findings of Study 1 and Study 2 contribute to the existing literature by identifying primary sources of acculturative stress experienced by first-generation Korean immigrants. Specifically, the Social Isolation domain reflects stress from a lack of close friends and confidants. The Language

Difficulties domain reflects stress from language and communication difficulties. The Civic Disengagement domain reflects stress from lack of engagement in political activity. The Employment Barriers domain reflects stress from underemployment or unemployment due to lack of recognition of experience and credentials attained in one's country of origin. The Family Problems domain reflects stress from problems or concerns related to one's family. The Social Exclusion domain reflects stress from experiences of discrimination and alienation. Finally, the Homesickness domain reflects stress arising from missing one's home country environment and attachment objects. The results of the present study are in line with previous literature on immigrant acculturation and migratory experiences and demonstrate that both cultural and structural integration factors influence the experience of acculturative stress among Korean immigrants in Canada. Milton Gordan's (1964) classic sociological theory on immigrant assimilation states that immigrants must adjust not only to new cultural norms (e.g. language, behaviours, values), but also to various new social structures and systems. Immigrants' difficulties integrating into political systems, occupational systems, and social institutions may be reflected in the Civic Disengagement, Employment Barriers, and Social Exclusion factors. The inclusion of cultural and structural factors in acculturative stress measures follows recommendations by Abraido-Lanza and colleagues (2006) to consider the roles of both cultural and structural forces in understanding the relationship between acculturation and health.

As hypothesized, total scores on the ASI (Part 1) were found to be negatively correlated with English proficiency and length of residence, indicating that participants

who experienced greater acculturative stress were less proficient in English and lived in Canada for fewer years compared to those who experienced less acculturative stress. Since acculturation and acculturative stress are closely related constructs, these results provide support for the validity of the ASI as a measure of acculturative stress. The findings are in accordance with previous studies that show English proficiency as a strong predictor of acculturative stress among Asian immigrants (Kuo & Roysircar, 2004; Lueck & Wilson, 2010). To the extent that English proficiency and length of residence reflect degree of acculturation, the finding is consistent with the notion that acculturative stress is greater among those who are less acculturated. However, since English proficiency and length of residence are not direct indicators of acculturation, these results must be interpreted with caution.

Correlations between the ASI and psychological distress/resources were in the hypothesized directions, providing additional construct validity support for the ASI. Specifically, total scores on the ASI were found to be positively correlated with psychological distress, such that participants who experienced greater acculturative stress experienced greater depressive symptoms. In addition, total scores on the ASI were negatively correlated with psychological resources, such that participants with greater acculturative stress had lower levels of self-esteem and mastery. These findings are consistent with the results of numerous studies on the stress process (e.g., Ensel & Lin, 1991; Noh & Avison, 1996; Pearlin, Lieberman, Menaghan, & Mullan, 1981). In the stress process model, psychological resources serve as protective factors against the adverse effects of stress. However, these resources are likely to erode with repeated

exposure to stressful experiences. Since the analyses conducted in the present study were correlation in nature, the causal direction and nature of the relationship between acculturative stress, psychological resources, and psychological distress cannot be inferred. Path analyses can be conducted to identify these and other variables as antecedents or outcomes of acculturative stress. Future research could also investigate the extent to which psychosocial resources, such as self-esteem and mastery, moderate the impact of the various acculturative stress factors on psychological distress. For example, it would be interesting to determine if the protective benefits of psychological resources are greater for some acculturative stress domains than for others.

The findings of the study should be considered in light of limitations. The Social Isolation, Civic Disengagement, and Social Exclusion factors were each comprised of two items. Generally, factors with less than three items are less stable than those comprised of three items or more. Kline (2001) stated that for CFA models with multiple factors, two indicators per factor are acceptable, but they may be prone to more problems in analysis. Thus, further work may be done to strengthen the stability of the ASI factors. For example, for the Civic Disengagement factor, additional items may be included to reflect lack of engagement in civic activities other than political participation.

It was previously noted that for Study 2, data from Part 2 of the ASI (language items) was unavailable. It would have been ideal to conduct the CFA and subsequent reliability and correlational analyses using data from both Part 1 and Part 2 of the ASI. However, given that the language items clustered into a separate factor in Study 1, and did not affect the factor structure comprising Part 1 of the ASI, it is likely that inclusion

of Part 2 of the ASI would not have substantially changed the model's closeness of fit to the data.

Since the ASI was developed for and validated on first-generation Korean immigrants living in Canada, the generalizability of the instrument for other immigrant ethnic groups may be limited. Further work on the ASI could examine the validity of the ASI domains for immigrants of other ethnic groups and cultural contexts. Future research could also examine the relative salience of the various ASI factors across diverse ethnic groups and cities in Canada. It would be interesting to examine, for example, if stress from social exclusion is greater among visible minority immigrants compared to non-visible minority immigrants or among immigrants living in relatively more culturally homogenous versus culturally heterogeneous cities.

Despite the limitations, the study has important theoretical and practical implications. The study makes a theoretical contribution by suggesting potentially fruitful avenues of future research that build on the current study. A multidimensional, psychometrically-sound acculturative stress measure for first-generation immigrants enables both researchers and practitioners to identify the nature and level of stress immigrants experience from diverse aspects of the acculturation experience. In a therapy or counseling setting, the identification of an immigrant's specific areas of adjustment difficulties can aid in the development of a more targeted and appropriate treatment plan. More broadly, the results of the present study provide greater knowledge of the various factors that contribute to acculturative stress among immigrants in Canada. A more comprehensive understanding of acculturative stress, in turn, can help facilitate the

removal of structural and systemic barriers that may impede immigrants' successful adjustment to life in Canada.

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