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**CULTURAL IDENTIFICATION, CONTACT,
AND PSYCHOLOGICAL ADAPTATION:
EXAMINING THE FUNCTIONAL ROLE OF LONELINESS IN
PREDICTING SOJOURNER DEPRESSION**

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Although intercultural contact is at the heart of the acculturation experience, the effects of this contact on sojourners' social and psychological adaptation remain a subject of debate. This is due in part to varying emphases on the affective, behavioral and cognitive components of acculturation (Ward, 2001a). It is further compounded by competing theoretical approaches that frame intercultural encounters as a source of uncertainty and anxiety (Gudykunst, 1985), on one hand, and as an avenue of culture learning and social support, on the other (Berry, 1997; Bochner, 1982).

Those who have highlighted the benefits of intercultural contact in sojourner research have examined both the quality and quantity of intercultural interactions as predictors of adaptation. Research has shown that having local friends is associated with decrements in psychological distress (Redmond & Bunyi, 1993). Frequent social contact with host nationals relates to general adjustment and sojourn satisfaction (Pruitt, 1978; Torbiorn, 1982). It has also been associated with communication competence, fewer academic problems, and fewer social difficulties in student sojourners (Pruitt, 1978; Ward & Kennedy, 1993a; Ward & Searle, 1991; Zimmerman, 1995). These positive findings, however, are by no means uniform; there are also instances where more frequent contact with host nationals is associated with negative psychological outcomes for sojourners, including depression, mood disturbance and identity conflict (Leong & Ward, 2000; Ward & Kennedy, 1992, 1993a).

Mixed findings such as these should not be surprising in themselves. The contact hypothesis tells us that contact per se is insufficient to enhance intergroup perceptions and that specific features of the contact, including the status of its participants and the purpose and the outcomes of the

interactions, have psychological and social consequences for intergroup relations. Similarly, specific features of intercultural contact are likely to have psychological and social consequences at the intrapersonal level. Certainly, the quality of intercultural interactions affects sojourners' psychological well-being (Stone Feinstein & Ward, 1990). Research has shown that comfort and satisfaction with host national contact are associated with greater sojourn satisfaction (Klineberg & Hull, 1979; Rorlich & Martin, 1991) and enhanced psychological and social adaptation (Searle & Ward, 1990; Ward & Kennedy, 1993b).

Bochner and colleagues have argued that three distinct social networks are important for sojourners and identified these as host nationals, compatriots, and other non-compatriot sojourners (Bochner, McLeod & Lin, 1977). The last of these three has received only limited attention in the sojourner literature while co-national relations have been identified as the most salient, and the quality and quantity of these interactions have been studied extensively (Sykes & Eden, 1987). Satisfaction with co-national contact is typically associated with positive psychological outcomes in sojourner research (Searle & Ward, 1990; Ward & Kennedy, 1993a). Ward and Rana-Deuba (2000) found that satisfaction with the quality of co-national relations predicted positive mood states in a multi-national sample of expatriates in Nepal. Ying and Liese (1991) likewise noted that post-arrival mood improvement in Taiwanese students in the United States was associated with having Chinese friends. Co-national friendships, however, are not always conducive to sojourners' psychological well-being. Pruitt's (1978) study of African students in United States found overall adjustment poorer in those who had greater contact with compatriots. Similarly, Ward and Searle (1991) reported that more co-national contact was related to greater mood disturbance in international students in New Zealand. These findings raise questions about the direction of causal influence in the links between co-national contact and psychological adaptation in sojourners.

Unravelling the seemingly contradictory findings on the relationship between contact and sojourner adaptation presents a significant challenge because of the varied conceptual, theoretical and measurement approaches adopted in studies of cross-cultural transition. Not only is there the issue of the quality versus quantity of intra- and intercultural relations, but also the diversity of theoretical models underlying the empirical investigations of contact and its correlates. Above and beyond these issues, is the possibility

that contact variables are less likely to exert a direct effect on sojourner adaptation than to be mediated by other psychosocial variables. This research examines loneliness as a mediator of intra- and intercultural contact and psychological adaptation.

Loneliness has been noted as a common consequence of cross-cultural transition (Pruitt, 1978; Sam & Eide, 1991) and is cited as one of the most significant problems experienced by sojourners (Chataway & Berry, 1989). It is predicted by low satisfaction with friendships both locally and overseas (Wiseman, 1997) and has been linked to various forms of psychological distress, including global mood disturbance (Stone Feinstein & Ward, 1990; Ward & Searle, 1991), decrements in life satisfaction (Neto, 1995), and lowered satisfaction with coping abilities (Chataway & Berry, 1989). Consequently, we hypothesize that the quality and quantity of intra-cultural and intercultural contact will predict decrements in loneliness and that loneliness, in turn, will directly affect psychological adaptation by leading to elevated symptoms of depression.

We also examine variables underlying intra- and intercultural contact. Although there are a number of factors associated with the patterns of host and co-national contact, including length of residence in the host culture (Ward & Kennedy, 1992), attitudes toward hosts (Ward & Searle, 1991), cultural distance (Furnham & Alibhai, 1985; Redmond & Bunyi, 1993), language ability (Masgoret & Gardner, 1999) and fluency (Noels, Pon & Clement, 1996), and participation in orientation programs (Westwood & Barker, 1990), our emphasis is on cultural identity. Cross-cultural research indicates that identification with co-nationals and host nationals is associated with increased interaction with members of these respective groups. This has been demonstrated in both adult (Ward & Kennedy, 1992) and student (Kennedy, 1999; Ward & Searle, 1991) sojourning samples. Similar findings arise in studies of migrants and established ethno-cultural communities; indeed, in many of these instances intra-group contact and relations are perceived as an integral component of ethnic identity (Cuéllar, Arnold & Maldonado, 1995; Keefe, 1992; Mendoza, 1989).

In light of the above, we propose to test the adequacy of a causal model of sojourner adaptation whereby host and co-national identification exerts direct influences on intercultural and intra-cultural contact, respectively, and loneliness, in turn, mediates the influence of contact on sojourner adaptation. A conceptual model of cultural identification, intra-

and intergroup contact, loneliness, and depression is considered which predicts that cultural identification will contribute to the frequency and quality of contact with the relevant cultural group. American sojourners who perceive their experiences and behaviors to be similar to those of other Americans (co-national identification) will tend to have more frequent and fulfilling contacts with Americans (intra-cultural contact). Similarly, it is expected that a strong identification with Singaporeans (host national identification) will foster increased contact with Singaporeans as well as greater satisfaction with these interactions (intercultural contact). Thus, sojourner identification with the co-national and host national communities is hypothesized to affect both the quality and quantity of contact within these communities. Adaptation outcomes develop from this initial base in predictable ways. That is, feelings of loneliness are expected to arise from low levels of and dissatisfaction with intra- and intercultural contact, and loneliness, in turn, will lead to high levels of depression.

Method

Participants and Procedure

The sojourner sample included 139 nationals of the United States of America (45 men and 94 women) who were resident in Singapore. Their ages ranged from 15-59; $M = 40.7$ ($SD = 7.6$) years. The majority of the respondents ($N = 131$, 94%) described themselves as Caucasian (Euro-Americans); the remainder included Afro-, Asian-, and Hispanic-Americans. Most participants were married ($N = 128$, 92%); seven were single (5%) with the remainder divorced, widowed or cohabiting in a *de facto* relationship.

Forty-three per cent ($N = 60$) of the sample was employed at the time of the survey, and 5% were students; however, 43 of the 45 men in the study were employed, while this was true for only 17 of the 94 women. Of those employed, the most common occupations were in education (30%), management (25%), civil service (13%) and engineering (10%); however, a wide range of professions, including science, acting, counselling, journalism, and sales, were represented in the sample. With respect to educational qualifications, the majority of the respondents ($N = 71$, 73%) had university degrees, and an additional 15% ($N = 20$) had secondary school diplomas. Mean length of residence in Singapore was 30.7 months ($SD = 34.5$).

Informal contact was made with members of the American community who were recruited to distribute questionnaires to their compatriots. The research materials were prefaced with an introductory explanatory letter emphasizing that participation in the study was anonymous and voluntary. One hundred and thirty-nine questionnaires were returned to the researcher via this procedure in stamped, pre-addressed envelopes.

Materials

In addition to a section on demographic information, the questionnaire included measurements of: cultural identification (host and co-national), intra- and intercultural contact, loneliness and psychological adaptation.

Cultural identification. The Acculturation Index (Ward & Rana-Deuba, 1999) was used to tap cultural identification. The measure contains 21 cognitive and behavioral domains (e.g., recreational activities, language, food, political ideology, material comfort). Respondents are asked to consider two questions about their lifestyle in Singapore with reference to those domains: "Are your experiences and behaviors similar to those of other Americans (co-nationals)?" and "Are your experiences and behaviors similar to those of Singaporeans?" Respondents rate the similarity for both host and co-nationals on 7-point scales whose end points are labelled *not at all* and *extremely*. This results in two independent "similarity" scores for a variety of cognitions and behaviors (range = 0-126). These scores are termed co-national identification and host national identification.

Intra- and intercultural contact. The quantity of intra- and intercultural contact was measured across 13 areas (e.g., going shopping, discussing social issues, participating in sporting activities). Respondents indicated the extent of their contact with host nationals and co-nationals in these areas using 4-point rating scales (end points: *never/often*). Total contact scores range from 0-39 with higher scores indicating more extensive interaction. In addition, participants rated their satisfaction with the quality and quantity of contact with host nationals and co-nationals on a 5-point scale (end points: *not at all satisfied/very satisfied*).

Loneliness. The revised UCLA Loneliness Scale (Russell, Peplau & Cutrona, 1980) was used in the study. The scale contains 20 items pertaining to relationship satisfaction and dissatisfaction. Respondents indicate the frequency of their feelings (e.g., "I feel left out") on 4-point scales

(endpoints: *never/often*). Scores range from 0-60 with higher scores reflecting greater loneliness.

Psychological adaptation. In line with previous research by Ward and colleagues on sojourner adjustment, the Zung (1965) Self-rating Depression Scale (ZSDS) was used to assess psychological adaptation. The ZSDS employs 4-point frequency scales (end points: *a little of the time/most of the time*) to assess affective and behavioral components of depression. Scores range from 0-60 on this 20-item scale with higher scores associated with increased symptoms of depression (i.e., poorer psychological adaptation).

Results

Preliminary Analyses

The purpose of this study was to assess the adequacy of a model of psychological adaptation that proposes various relationships to explain the interplay between cultural identification, intra- and intercultural contact, loneliness, and depression in sojourners. Prior to testing the proposed model, Cronbach alphas were calculated to check scalar reliability, and paired *t*-tests were conducted to examine the patterns of intra- and intercultural interactions. The Cronbach alpha reliability coefficients for the identification, contact, loneliness and psychological adjustment measures demonstrated good internal consistency: co-national identification ($\alpha = .93$), host national identification ($\alpha = .88$), intra-cultural contact ($\alpha = .85$), intercultural contact ($\alpha = .87$), loneliness ($\alpha = .93$) and depression ($\alpha = .82$). The psychometric properties of the scales are reported in Table 1.

The *t*-test results demonstrated that the American sojourners engaged in significantly more social interactions with co-nationals ($M = 23.61$, $SD = 7.48$) than with members of the host community ($M = 15.16$, $SD = 8.44$); $t(132) = 10.41$, $p < .001$. In terms of satisfaction with the quantity and quality of their interactions within the two communities, sojourners expressed greater satisfaction with intra-cultural contact both in terms of the quantity, $t(137) = 7.46$, $p < .001$, and the quality, $t(136) = 9.96$, $p < .001$, of these interactions (see Table 1).

Table 1

Psychometric Properties of the Measurement Scales

Scale	No. of Items	Mean	SD	Range	Alpha
Co-national Identification	21	82.58	19.65	16-120	.93
Host National Identification	21	40.69	15.57	0-82	.88
Intra-cultural Contact					
Frequency	13	23.61	7.48	2-39	.85
Satisfaction					
Quantity	1	4.25	0.92	1-5	-
Quality	1	3.88	1.03	1-5	-
Intercultural Contact					
Frequency	13	15.16	8.44	0-37	.87
Satisfaction					
Quantity	1	3.14	1.08	1-5	-
Quality	1	3.01	1.09	1-5	-
Loneliness	20	19.92	11.32	0-55	.93
Depression (ZSDS)	20	14.55	8.29	1-41	.82

Model Testing

The proposed model was derived from a review of existing research and theory dealing with sojourner adaptation as described in the introduction. In employing structural equation modelling techniques, the objective is to test a theoretically driven model linking indicator variables to latent variables, where appropriate, and displaying functional relationships among the latent variables. The adequacy of this model is determined by examining whether the proposed model can account for the relationship among the variables, as reflected in the variance/covariance matrix for the variables. If the fit is relatively close, it can be concluded that the hypothesized model is appropriate for explaining the relationships obtained among the variables.

A causal model includes a measurement and a structural model. The measurement model estimates the relationships among indicator variables

and hypothesized latent variables, and these estimates can be tested for significance. The structural model concerns the relationships between the indicator variables and hypothesized latent variables, expressed in terms of correlation and regression coefficients. Similar to the measurement model, the structural model allows for tests of significance of these estimates.

The use of structural equation modelling is appropriate in the present situation, where it is possible to hypothesize relationships between a number of variables based on previous research and theory. The proposed model is concerned with demonstrating how cultural identification, intra- and intercultural contact, and feelings of loneliness may be functionally related to depression in sojourners. The model proposes direct paths linking six latent variables: Co-national Identification, Host National Identification, Intra-cultural Contact, Intercultural Contact, Loneliness, and Depression. The proposed model was tested using the AMOS 4.0 program (Arbuckle, 1999) applied to the variance/covariance matrix. Figure 1 presents this model showing the relationships of the indicator variables to the latent variables as well as the functional relationships among the latent variables.

The measurement model. In the model, two of the latent constructs, Co-national Identification and Host National Identification, are considered exogenous variables in that their causes are not represented in the structural equation model. The Acculturation Index (Ward & Rana-Deuba, 1999) was used to measure the variables referring to Co-national and Host National Identification by assessing the degree to which sojourners identified with each group on 21 cognitive and behavioral domains. Further examination of these measures using factor analytic procedures demonstrated that three sub-domains could best define the cultural identification construct: general lifestyle (7 items), socio-cultural (11 items), and socio-economic (4 items). As shown in Figure 1, Co-national and Host National Identification were each assessed by indicators referring to these three domains.

While the two identification measures represent exogenous latent variables, the remaining four latent constructs in the model are designated as endogenous variables, i.e., variables that are influenced by (and may influence) other latent variables. These are: Intra-cultural Contact, Intercultural Contact, Loneliness, and Depression. Intra- and Intercultural Contact were each assessed by three sub-measures: quantity of contact, satisfaction with quantity of contact, and satisfaction with quality of contact.

The latent construct assessing Loneliness was based on an adapted form of the UCLA Loneliness Scale consisting of 20 items pertaining to relationship satisfaction/dissatisfaction. A factor analysis of these items confirmed that two factors best accounted for the correlations among the items, one positive factor referring to social affiliation (10 items) and the other referring to negative feelings of alienation/isolation (10 items). This two-factor structure is consistent with that reported by Knight, Chisholm, Marsh, and Godfrey (1998) based on a New Zealand sample of 978 adults. As shown in Figure 1, these two sub-measures formed the basis for the indicators used to assess the latent construct of Loneliness.

The latent construct of Depression was assessed using the Zung (1965) Self-rating Depression Scale (ZSDS) consisting of 20 items. Further examination of this measure revealed that two underlying dimensions could best account for the correlations among the items comprising the ZSDS. The first factor referred to various affective variables associated with depression and the other to behavioral indicators of depression. Items referring to each of these two factors, affective (8 items) and behavioral (12 items),

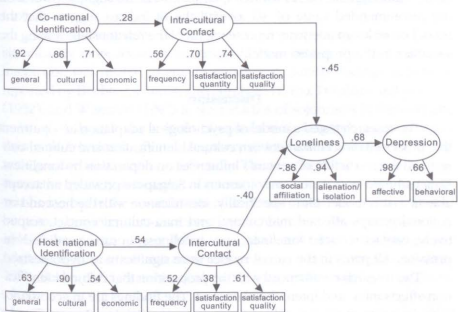


Figure 1. Model of psychological adaptation in sojourners.

served as indicators for the latent construct of Depression (see Figure 1). As can be seen in Figure 1, all of the coefficients for the measurement model are significant and the majority of them are substantial in magnitude.

The structural model. The structural model is concerned with the functional relations among the latent variables as indicated by the regression coefficients between the latent variables. Consistent with the proposed model, Co-national Identification was shown to have a direct influence on Intra-cultural Contact, whereas Host National Identification directly influenced Intercultural Contact. Less frequent and less satisfying intra- and intercultural contact, in turn, contributed to increased Loneliness in sojourners. Loneliness, in turn, predicted higher levels of Depression.

Assessments of the adequacy of the model indicate that all of the goodness-of-fit indices are acceptable. That is, this model has a $\chi^2_{(99)} = 179.439$, $p < .001$, a $\chi^2/df = 1.81$, an adjusted goodness-of fit index (AGFI) of .81 (GFI = .84), an incremental fit index (IFI; Bollen, 1989) of .90, a non-normed fit index (TLI; Bentler & Bonnett, 1980) of .87, a comparative fit index (CFI; Bentler, 1990) of .90, and a root mean square residual (RMSEA) of .08. Although the values for AGFI, GFI, and TLI are slightly lower than the recommended value of .90, overall the fit indices suggest that the model provides an adequate representation of the relationships among the variables in the proposed model.¹

Discussion

The research tested a model of psychological adaptation in sojourners that proposed direct links between cultural identification and cultural contact and the mediation of contact's influences on depression by loneliness. Data gathered from American sojourners in Singapore provided an acceptable fit to this model. More specifically, identification with the host and co-national groups affected intercultural and intra-cultural contact, respectively; contact reduced loneliness, and loneliness, in turn, predicted depression. All paths in the causal model were significant as hypothesized.

The research commenced with the proposition that cultural identification affects intra- and intercultural contact. The findings are in accordance with the contemporary acculturation literature, which has demonstrated a strong relationship between ethno-cultural identity and both intra- and

intergroup relations (e.g., Altrocchi & Altrocchi, 1995; Sodowsky, Lai & Plake, 1991; Ward & Kennedy, 1993a). The similarity-attraction hypothesis (Byrne, 1969), the cultural distance hypothesis (Ward, 2003) and aspects of Social Identity Theory (Deaux, 1996) can all be called upon to account for the identity-contact relationship.

More broadly, the research supports Furnham and Alibhai's (1985) contention that interactions with both host nationals and compatriots are related to sojourner adaptation. The findings also elaborate the patterns of these relationships and the conditions under which adaptive or maladaptive outcomes are likely to occur. In this instance the sociocultural context of this research warrants special comment.

The investigation was undertaken in the American expatriate community in Singapore, a cosmopolitan city-state in Southeast Asia where approximately one quarter of the work force is drawn from international sources. Americans number over 10,000 and represent one of the largest groups of expatriate residents. Singapore hosts an American club and an American school. It is also home to a large number of American multinational corporations. In short, Singapore affords ample opportunity for American expatriates to develop and maintain relationships with compatriots.

Under these conditions it is not surprising that expatriates engaged in significantly more social interactions with compatriots and that increased interaction was related to greater satisfaction. Similar findings have been reported by Bochner, Hutnik, and Furnham (1985), Furnham and Bochner (1982), and Wiseman (1997) in their studies of sojourners in England and in Israel. Although the amount of contact with Singaporeans was lower than with Americans, greater frequency of interaction was also associated with greater relationship satisfaction. The over-arching relationship between the quantity and quality of interaction with members of both groups was borne out in the construction of the latent contact variables. It should be noted, however, that increased contact between hosts and visitors, or indeed among sojourners themselves, does not always lead to greater relationship satisfaction or to more positive intergroup perceptions (Adelman, 1988; Berno, 1995; Stroebe, Lenkert & Jonas, 1988; Triandis & Vassiliou, 1967).

The consequential point of emphasis is that for host and co-national contacts to exert significant positive influences on sojourner adaptation,

both types of contact must be accessible, and there must be a positive relationship between the frequency of and satisfaction with that contact. The likelihood of these conditions being met will be determined by the broader socio-political context of cultural contact, including the characteristics of the participating groups. In Singapore the opportunities for American co-national contact are abundant, and it appears that this contact is largely satisfying. Furthermore, host national interactions are facilitated by the wide use of English and the relatively positive perceptions of Americans held by members of the local community (Ward, 2001b). The features of intercultural encounters between Americans and Singaporeans, however, have not been uniformly observed in studies of sojourner-host relations in the country (e.g., Leong & Ward, 2001; Lim & Ward, 2003), and indeed, represent only one variant of a diverse range of interaction patterns available to sojourners and members of the receiving society.

Central to our model of sojourner adaptation, both the quality and quantity of social contact was found to underpin the experience of loneliness. Research with the general population has similarly demonstrated that individuals who lack close social contact tend to report higher levels of loneliness and feelings of isolation. Indices of social contact such as the total number of personal acquaintances, feelings of closeness, and how well the acquaintances know each other (i.e., density of the social network) have been examined as predictors of loneliness in this broader research literature (Green, Richardson, Lago, & Schatten-Jones, 2001; Stokes, 1985). Our study focuses on the sojourner's frequency of contact with members of the host and co-national communities in various social situations as well as their satisfaction with these encounters. Considering both the frequency and the satisfaction with social interactions seems particularly relevant in the investigation of psychological well-being in sojourners since these individuals tend to experience more difficulties in establishing meaningful relationships than do locals (Barker, Child, Gallois, Jones & Callan, 1991; Zheng & Berry, 1991).

It is widely recognized that loneliness is a significant problem for individuals who relocate across cultures. Loneliness was ranked among the top ten difficulties experienced by expatriate wives in McCoy's (1983) study in Hong Kong and was experienced by almost one quarter of Sam and Eide's (1991) sample of international students in Norway. More importantly, it has been identified as a powerful predictor of psychological

adjustment difficulties, notably global mood disturbance (Stone Feinstein & Ward, 1990) and decreased life satisfaction (Neto, 1995), in both sojourning and migrant groups. This research reiterates the salience of loneliness during cross-cultural transition and its negative consequences for psychological well-being.

In addition to exerting a direct influence, loneliness mediates the impact of host and co-national contact on sojourners' psychological adjustment. A similar pattern was found in Kennedy's (1999) longitudinal study of Singaporeans abroad where the quantity of intercultural contact was not directly related to psychological well-being, but it did predict perceived quality of social support. Taken together, these data tentatively suggest that the consequences of intra- and intercultural contact for sojourners' psychological adaptation emerge in connection with broader affective relationship domains, such as loneliness or social support. This notion merits further attention in future research.

In conclusion, this investigation has examined a new model of sojourner adaptation that demonstrates links between cultural identification and cultural contact and highlights the significance of loneliness as a mediator of contact's influence on adaptation outcomes. Although alternative pathways between cultural identification and contact or between contact and loneliness could be considered (see reviews by Phinney, 1990; Jones & Carver, 1991) data from American sojourners in Singapore strongly support our causal model. Specifically, strong identification with the co-national and host groups leads to more frequent and satisfying intra- and intercultural relations. Frequent and satisfying contact diminishes the experience of loneliness, and loneliness, in turn, affects depression. The model provides a meaningful interpretation of the interplay among the variables and how they relate to the psychological adaptation of sojourners. Future studies should further investigate the external validity of the findings by extending the model to different sociocultural contexts and by adopting a longitudinal approach in the causal modelling of sojourner adaptation. Investigators may also wish to consider the mediating role of other affective-relationship variables such as social support.

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NOTE

- ¹ It is possible to improve the fit of this model by considering the modification indices and estimating covariances between errors of measurement that improve the fit of the model. Covariances between the errors of related subscales of the same measuring instrument often result from non-random measurement error and allowing these to covary is considered an acceptable practice by some researchers (Byrne, 1989, pp. 58,

129). Some correlated errors were expected in the model based on common measuring instruments. Using this approach, we tested an alternative model that allowed two errors of the same measures to covary. This resulted in a better fitting model with a $\chi^2_{(97)} = 154.633$, $p < .001$, a $\chi^2/\text{df} = 1.59$, an adjusted goodness-of fit index (AGFI) of .83 (GFI = .88), an incremental fit index (IFI; Bollen, 1989) of .93, a non-normed fit index (TLI; Bentler & Bonnett, 1980) of .91, a comparative fit index (CFI; Bentler, 1990) of .93, and a root mean square residual (RMSEA) of .07). According to Browne and Cudeck (1993), a RMSEA of .05 indicates a close to perfect fit, whereas a RMSEA of .08 indicates that there is a reasonable error of approximation.

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