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Acculturation and Adaptation Revisited

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The research employed a new and recently developed instrument to examine the two dimensions (host and co-national identification) and four modes (integration, separation, marginalization, and assimilation) of acculturation and their relationship to sojourner adjustment. International aid workers in Nepal completed a questionnaire including the Acculturation Index and the assessments of psychological and sociocultural adjustment. Analyses revealed that strong co-national identification predicted enhanced psychological well-being, whereas strong host national identification was associated with better sociocultural adaptation. Acculturation styles were also related to adjustive outcomes. Sojourners who adopted an integrated style fared better psychologically than others, whereas those who assumed an assimilationist perspective experienced fewer social difficulties. The article highlights methodological issues pertaining to the measurement of acculturation and discusses the strengths and weaknesses of the use of categorical versus continuous data and mean comparisons versus correlational techniques in the analysis of the relationship among identification, acculturation, and sojourner adjustment.

ACCULTURATION AND ADAPTATION REVISITED

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Culture contact and change have attracted widespread attention in the international arena, and research with immigrants, sojourners, and refugees has flourished over the past two decades. Despite the burgeoning literature on acculturation, cumulative and substantive programs of psychological research are rare, and the integration and synthesis of the massive and expanding literature on cross-cultural transition and adjustment have been largely neglected. A major exception to this, however, is found in the work on acculturation and adaptation by John Berry and associates (Berry, 1990, 1997; Berry & Annis, 1974; Berry, Kim, Minde, & Mok, 1987; Berry, Kim, Power, Young, & Bujaki, 1989).

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Berry's contribution to the development of acculturation theory and research has been distinguished by a sound conceptual base and a systematic and comparative analysis of empirical data. The theoretical underpinnings of his work have been influenced by earlier research by Graves (1967); accordingly, the concept of psychological acculturation—psychological and behavioral changes that an individual experiences as a result of sustained contact with members of other cultural groups—represents a core construct in Berry's model. Both the process and product of acculturation have been examined with particular attention given to the prediction of acculturative stress. In addition, cross-cultural comparisons across diverse groups such as immigrants, sojourners, refugees, and native peoples have been systematically undertaken. Overall, Berry's model of acculturation and adaptation is highly regarded and widely recognized as exerting a prominent influence on theory and research in the field.

ACCULTURATION AND ADAPTATION

A major contribution to the study of psychological acculturation and the prediction of acculturative stress is found in Berry's conceptual analysis of acculturation attitudes (Berry et al., 1989), also referred to as acculturation strategies (Berry, 1997).¹ Berry (1974, 1984, 1994) has argued that there are two fundamental dimensions of acculturation: maintenance of original cultural identity and maintenance of relations with other groups. If evaluative responses to these two dimensions are dichotomized, then four acculturation attitudes or strategies may be distinguished: integration, separation, assimilation, and marginalization. More specifically, individuals who value both cultural maintenance and intergroup relations are seen to endorse an integrationist approach. Those who cherish cultural maintenance but do not value intergroup relations are believed to adopt a separatist position. By contrast, those who value intergroup relations but are relatively unconcerned with cultural maintenance may be classified as assimilationist. Finally, those individuals who value neither cultural maintenance nor intergroup relations are said to be marginalized. These four strategies have been found to relate in a predictable fashion to other features of the acculturation process such as changes in socioeconomic status, education, friendship patterns, and language use (Berry et al., 1989).

Berry and colleagues have combined theory and research on acculturation strategies and acculturative stress in their study of native peoples, immigrants, refugees, and sojourners (Berry & Annis, 1974; Berry et al., 1987; Berry, Wintrob, Sindell, & Mawhinney, 1982; Donà & Berry, 1994). The process of acculturation has been largely interpreted within a stress and

coping framework with emphasis on the negative psychological and psychosomatic consequences of cross-cultural contact and change. The quantity of acculturative stress and the adaptational problems subsequently experienced are assumed to be influenced by a number of factors that operate both on the personal and societal levels (Berry, 1990, 1997). Whereas these include personality and cognitive factors such as self-esteem and cognitive style, personal variables such as sex and ethnicity, and even macro social and political factors such as the degree of cultural pluralism extant in the wider society, attitudes toward acculturation are particularly significant predictors of acculturative stress. In this regard, comparative research has demonstrated that marginalization and separation are associated with high levels of acculturative stress (as assessed by the measurement of psychological and psychosomatic symptoms), integration is associated with a low level of stress, and assimilation is linked with an intermediate stress level (Berry et al., 1987).

More recently, Ward and Kennedy (1994) have attempted to merge their own work on psychological and sociocultural adjustment with Berry's theory and research on acculturation strategies. Ward and colleagues have drawn on complementary conceptual frameworks to integrate the emerging literature on "culture shock" and, consequently, have argued for the distinction of psychological and sociocultural adjustment during cross-cultural transitions (Ward, 1996). The former, referring to psychological or emotional well-being, is best understood and interpreted within a stress and coping framework, whereas the latter, pertaining to the ability to "fit in" or negotiate interactive aspects of the new culture, is more appropriately placed within a social learning paradigm. An evolving program of research has indicated that the two adjustment outcomes, although interrelated, are conceptually distinct. First, they tend to be predicted by different variables. For the most part, psychological adjustment, operationalized in terms of depression or global mood disturbance, is strongly influenced by personality, life changes, and social support (Stone Feinstein & Ward, 1990; Ward & Kennedy, 1992, 1993a, 1993b; Ward & Searle, 1991). Sociocultural adaptation, measured in relation to the amount of difficulty experienced in the performance of daily tasks, is more dependent on variables such as length of residence in the new culture, language ability, cultural distance, and the quantity of contact with host nationals (Searle & Ward, 1990; Ward & Kennedy, 1992, 1993a, 1993b). Second, psychological and sociocultural adjustment exhibit different patterns of fluctuation over time. The greatest adjustment difficulties occur at point of entry in both cases; however, sociocultural problems steadily decrease and gradually level off, whereas psychological distress is more variable over time (Ward & Kennedy, 1996a, 1996b; Ward, Okura, Kennedy, & Kojima, 1998). Third, although the two adjustment domains are interrelated,

the magnitude of the relationship between psychological and sociocultural adaptation is variable, with findings tentatively suggesting that it increases with greater integration and cultural proximity. For example, psychological and sociocultural adjustment are more strongly related in sedentary groups (vs. sojourning groups) and in those sojourners who originate from cultures that are similar, rather than dissimilar, to the host culture (Ward & Kennedy, 1996b). Furthermore, the magnitude of the relationship between psychological and sociocultural adjustment increases over time (Ward et al., 1998). Finally, the two adjustment outcomes are differentially related to acculturation styles (Ward & Kennedy, 1994).

In their earlier research, Ward and Kennedy (1994) examined acculturation responses in relation to psychological and sociocultural adjustment in a sample of New Zealand government employees on overseas assignments. Assessing the two fundamental dimensions of acculturation (host and co-national identification) and the four acculturation modes (integration, separation, marginalization, and assimilation), they hypothesized and found that strong co-national identification was associated with a lower incidence of psychological distress. By contrast, strong host national identification was linked to a lower level of sociocultural difficulties. There also were differences across the four acculturation modes. For psychological adjustment, integrated sojourners exhibited less psychological distress than did assimilated ones; there were no other differences across the four groups. For sociocultural adaptation, however, the greatest amount of social difficulty was experienced by the separated group, the least was experienced by assimilated and integrated groups, and an intermediate level was experienced by the marginalized group. This was the first attempt to link explicitly modes of acculturation to psychological *and* sociocultural adjustment; however, this research approach also brings up important issues concerning the measurement of acculturation styles. These issues are discussed in the following subsection.

THE MEASUREMENT OF ACCULTURATION

In their extensive research on acculturation and acculturative stress, Berry and colleagues have relied on three methods to assess acculturation attitudes (personal communication, November 1996). These have included the ranked preferences of the four acculturation strategies through the use of vignettes (Pruegger, 1993), the assessment of attitudes toward host and co-national communities as a basis for classifying research participants into one of the four acculturation groups (Donà & Berry, 1994), and the simultaneous measurement of the four acculturation attitudes via separate subscales (Kim &

Berry, 1985). The bulk of acculturation research, in line with Berry's own preference, has used four separate scales for the measurement of Assimilation, Separation, Integration, and Marginalization.

Berry et al. (1989) presented an in-depth description of the construction of the culture-specific measurements of the four acculturation attitudes for French Canadians as well as for Portuguese, Hungarian, and Korean immigrants in Canada. Each acculturation measurement is composed of four scales that represent the measurements of Separation, Integration, Marginalization, and Assimilation. Each scale includes a range of statements (e.g., "We're living in Canada, and that means giving up our traditional way of life and adopting a Canadian lifestyle, thinking and acting like Canadians") that are accompanied by Likert-type response options. Psychometric analyses have indicated that the scales are largely reliable, with Cronbach's alphas ranging from .68 to .87, and that they are valid in terms of linkages with acculturation indicators such as club membership, measures of ethnic identity, language use, and media exposure.

Although these quadri-modal acculturation measurements have been used extensively across cultures, they merit further scrutiny on both conceptual and methodological grounds. From a conceptual base, there are issues to consider regarding the assessment of two dimensions versus four modes of acculturation. Berry, for example, has emphasized that the two core questions underpinning acculturation strategies are "Is it considered to be of value to maintain one's identity and characteristics?" and "Is it considered to be of value to maintain relationships with the larger society?" (Berry et al., 1989). Yet, the vast majority of published studies reporting that those preferring integration experience the least acculturative stress and that those preferring separation and marginalization experience the greatest acculturative stress (Berry et al., 1987; Khrishnan & Berry, 1992) have not included the assessment of the *independent* contributions of own and other cultural identification to this acculturative outcome. The relative neglect of this analysis is striking given that Berry and Kim (1988) suggested that integration may be referred to as "additive acculturation" and marginalization as "subtractive acculturation" and that their psychometric analysis of Korean data on acculturation attitudes resulted in the emergence of two factors: (a) the integration (loading negatively) and assimilation items and (b) the marginalization and separation items (Berry et al., 1989). The two underlying dimensions of acculturation clearly warrant greater attention.

Rudmin (1996) similarly criticized the use of four scales to measure two dimensions; however, he highlighted psychometric issues pertaining to the ipsative nature of the scales (i.e., that a high score on one scale logically necessitates low scores on all others) and the consequent confounds in the

assessment instruments. More specifically, Rudmin argued that reported interscale correlations that are significantly different from the true ipsative null condition of $r = -.33$ are evidence that the scale items have failed to operationalize adequately the measurement constructs. Indeed, Berry et al. (1989) have long reported consistent positive correlations between the measurements of Assimilation and Marginalization ($r_s = .24$ to $.36$). This is inherently implausible given the interpretation that individuals who are inclined to value only intergroup relations (Assimilation) also are inclined to value neither cultural maintenance nor intergroup relations (Marginalization). These positive correlations suggest that "intergroup relations" are not operationalized in the same way in the two scales. Although Rudmin acknowledged that the expected negative correlations between the Assimilation and Integration scales ($r_s = -.12$ to $-.63$) have been consistently found, he also noted that other combinations of interscale correlations have varied substantially across studies. For example, both significant positive ($r = .52$) and significant negative ($r = -.35$) correlations have been reported between Separation and Marginalization. Finally, Rudmin pointed out that the four-scale approach is largely unsuitable for multivariate analyses, most of which require orthogonal measures, that is, null conditions of $r = .00$.

A further issue relates to Berry's operationalization of the cultural maintenance and intergroup relations dimensions of acculturation. First, many of the scale items are lengthy and involve multiple concepts rather than simple, single-notion statements. Second, it might be the case that items tap broader domains than those specified in Berry's model of acculturation attitudes. Consider, for example, "If I had a choice between Canadian food and Korean food, I would certainly choose Korean food because it is more satisfying" or "Because Canadian newspapers can provide good news coverage of home and the world, reading Korean newspapers is unnecessary." In these instances, it might be argued that the item content is focused on the practice of customs, values, and traditions of cultural groups (e.g., doing things the Canadian way) rather than on intergroup relations per se. Thinking and acting Canadian might be seen as measuring Canadian identity as much as own group-Canadian relations. Although this still is in keeping with the spirit of the acculturation model, it raises questions about the precision of the measurement in relation to the guiding questions and has implications for the development of alternative assessment instruments.

Finally, the conventional measurement of the four acculturation attitudes could be improved in terms of its user-friendliness and cross-cultural versatility. On a practical level, the earlier instruments may be criticized for their length (typically 80 items) and repetitive nature that might place unnecessary demands on respondents, although more recent versions of the acculturation

indexes have been substantially reduced (Berry & Kwak, 1996). In addition, because the instrument is culture specific, substantial efforts might be required for test modifications to ensure cultural appropriateness.

The present research, by contrast, relies on an Acculturation Index designed to measure the *two* independent dimensions of acculturation and the *four* modes of acculturation. The two dimensions of acculturation have been slightly modified and, for the purposes of this study, have been renamed *co-national identification* and *host national identification*. The use of these two subscales in conjunction with a bipartite split allows the classification of respondents into four acculturation categories: Separation, Integration, Assimilation, and Marginalization. Subscale independence and practical issues of cross-cultural utility and measurement simplicity have been addressed in the original description of the measurement's construction and validation (Ward & Kennedy, 1994).

RATIONALE AND HYPOTHESES

The article explores methodological and theoretical issues in the study of acculturation. On the first count, assessment issues pertaining to the measurements of two dimensions (host and co-national identification) and four modes (integration, separation, assimilation, and marginalization) of acculturation are considered. This includes the evaluation of two alternative procedures for the classification of acculturation modes. In addition, the strengths and weaknesses of categorical versus continuous data and analysis of variance versus regression in the investigation of the impacts of host and co-national identification on sojourner adaptation are compared.

The theoretical issues are focused on the relationship among identification, acculturation, and sojourner adaptation as well as on the relationship between the psychological and sociocultural adjustment domains. This component of the research is influenced by Berry et al.'s (1987) work on acculturative stress and Ward and Kennedy's (1994) research on psychological and sociocultural adjustment. Accordingly, the hypotheses are as follows:

1. Strong co-national identification will be associated with fewer psychological adjustment problems.
2. Strong host national identification will be associated with fewer sociocultural adaptation problems.
3. Integrated sojourners will experience fewer psychological adjustment problems than will the other acculturating groups, whereas marginalized sojourners will experience greater psychological adjustment problems than will the other acculturating groups.

4. Assimilated sojourners will experience fewer sociocultural difficulties than will the other acculturating groups, whereas separated sojourners will experience greater sociocultural difficulties than will the other acculturating groups.
5. Significant correlations between psychological and sociocultural adjustment will be found in the integrated and assimilated groups but not in the separated and marginalized groups. In addition, the magnitude of the correlations between psychological and sociocultural adjustment will be significantly greater in the integrated and assimilated groups than in the separated and marginalized groups.

METHOD

PARTICIPANTS

A total of 104 foreign residents in Nepal (57 males and 47 females) participated in the research. The bulk of the participants could be described as international aid workers and were employed in areas such as education, health, agriculture, science, engineering, and communications. A small number of students and dependents ($n = 8$) also were included in the research. The sojourners originated predominantly from Western European and North American countries (e.g., Canada, Switzerland, Germany, Denmark), with just over one half of the participants (54%) having British or American citizenship; however, the sample also included smaller numbers of respondents from Asia (e.g., Japan, Singapore, the Philippines) and the Middle East. The majority of the sample identified themselves as Caucasian ($n = 92$, 88.5%), and 63.5% ($n = 66$) were native English speakers.

In terms of personal demographic data, 56% ($n = 58$) of the sojourners were married, 32% ($n = 33$) were single, and the remainder were widowed, divorced, or cohabiting. On the whole, participants were well educated. A total of 31% ($n = 32$) held university degrees, 49% ($n = 51$) had postgraduate diplomas, and most others held professional or technical qualifications. The mean age of respondents was 39.6 years ($SD = 9.2$).

Length of residence in Nepal varied from 1 month to 8.8 years ($M = 29.7$ months, $SD = 24.2$). Although the majority of the participants (70%) resided in the capital of Kathmandu, postings were varied and included smaller towns and villages. A total of 39 respondents (37.5%) received cross-cultural training for their assignments in Nepal, and 64 respondents (62%) indicated that they spoke Nepali. All in all, the research participants could be described as voluntary sojourners with good financial resources and relatively high social status in the host country.

MATERIALS AND PROCEDURE

Questionnaires were distributed by research assistants under the supervision of the second author. Participation in the study was anonymous and voluntary. The surveys were presented in English and, in addition to personal and demographic information, included the assessment of acculturation styles, psychological adjustment, and sociocultural adaptation.

Acculturation. The construction and psychometric properties of the Acculturation Index have been described previously by Ward and Kennedy (1994). The instrument assesses two fundamental dimensions of acculturation: relationship to culture of origin and relationship to culture of contact. The Acculturation Index (see Appendix) contains 21 cognitive and behavioral items (e.g., language, food, recreational activities, in-group and out-group perceptions). Respondents are asked to consider two questions about their lifestyles in Nepal with reference to these items: "Are your experiences and behaviors similar to those of people from your country of origin (co-nationals)?" and "Are your experiences and behaviors similar to those of Nepalese (host nationals)?" Respondents rate the similarity for both host national and co-nationals on a 7-point scale whose end points are labeled *not at all* (1) and *extremely* (7). This approach results in two independent "similarity" scores for a range of behaviors and cognitions (range = 0-126). We have termed these similarity scores *co-national identification* and *host national identification*.

Used in conjunction with a bipartite split, this technique also allows the investigation of the four modes of acculturation. This is described more fully in the Results section.

Psychological adjustment. In line with previous research, psychological adjustment was assessed by the Zung (1965) Self-rating Depression Scale (ZSDS). The ZSDS consists of 20 statements that tap affective, physiological, and cognitive components of depression. Participants respond to each statement on a 4-point rating scale from *never or a little of the time* (1) to *most of the time* (4). ZSDS scores range from 0 to 60, with higher scores indicative of greater depression. The ZSDS has been used extensively in cross-cultural research (Zung, 1969) and has consistently proven to be reliable in our multinational sojourner studies (Ward & Kennedy, 1992; Ward & Searle, 1991).

Sociocultural adaptation. The Sociocultural Adaptation Scale (SCAS), based on Furnham and Bochner's (1982) work with the Social Situations Questionnaire, is focused on the skills that are required to manage everyday social situations in new cultural contexts. The instrument is adaptable and

easily modified for cultural appropriateness in varied research settings. In this instance, the SCAS consisted of 23 items (e.g., making friends with Nepalese, going to social functions, understanding the local language, adapting to the local accommodations). Respondents are asked to indicate the amount of difficulty experienced in the various areas on a 5-point rating scale ranging from *no difficulty* (1) to *extreme difficulty* (5). Scores range from 0 to 92, with higher scores indicative of greater social difficulties and sociocultural adaptation problems. Again, the SCAS has proven to be consistently reliable in our previous sojourner research (Ward & Kennedy, 1993a, 1993b, 1994).

RESULTS

PRELIMINARY ANALYSES

Preliminary analyses indicated that the ZSDS measure of depression ($\alpha = .77$) and the SCAS measure of social difficulty ($\alpha = .81$) were internally consistent and reliable. Measures of co-national identification ($\alpha = .91$) and host national identification ($\alpha = .89$) also were reliable, and the scales were orthogonal ($r = -.04$), which permitted the subsequent classification of four acculturation modes.

CLASSIFICATION OF ACCULTURATION RESPONSES

When host national and co-national identification scales are subjected to a bipartite split, classification of the four acculturation modes may be achieved; more specifically, high host national–high co-national identification represents integration, low host national–low co-national identification signifies marginalization, high host national–low co-national identification indicates assimilation, and low host national–high co-national identification points to separation. There are two approaches, however, to splitting the identification scales. The scalar midpoint ($Md = 63$ for both host and co-national identification) or the median score ($Md = 83$ in a range of 35 to 116 for co-national identification, and $Md = 37$ in a range of 2 to 75 for host national identification) may be selected as the cutoff criterion. The first approach results in a “purer” classification scheme and affords greater cross-sample comparisons. The second approach relies on a relative within-sample classification scheme and has some limitations for cross-sample comparisons. Both approaches were undertaken with this sample.

The scalar midpoint split resulted in 83 participants being classified as separated, 13 as marginalized, 7 as integrated, and 1 as assimilated. This,

unfortunately, did not permit further meaningful comparisons across the four groups. By contrast, the median split resulted in 24 participants classified as integrated, 23 as marginalized, 28 as assimilated, and 29 as separated. This classification scheme was used in the subsequent analyses.²

THE RELATIONSHIP AMONG HOST NATIONAL AND CO-NATIONAL IDENTIFICATION, ACCULTURATION STYLES, AND CROSS-CULTURAL ADAPTATION

After host national and co-national identification scales were subjected to a median split, the frequency distributions of the dependent measures were inspected. The extremity of the scores (± 3 SDs) and the pattern of the distributions (proximity to ranked adjoining scores) were considered. Accordingly, two outlying cases were omitted from further analysis of sociocultural adaptation, and four cases were dropped from the subsequent analysis of psychological adjustment. Then, 2×2 analyses of variance were performed to assess the impact of host and co-national identification on psychological and sociocultural adaptation. This technique also provided a basis for comparison of the four acculturation styles via the interaction term.

For psychological adjustment, analyses of variance produced a main effect for co-national identity on the ZSDS, $F(1, 96) = 7.37, p < .008$. In line with Hypothesis 1, those who strongly identified with culture of origin ($M_s = 8.32, SD = 4.70$) experienced less depression than did those who weakly identified with co-nationals ($M_w = 11.21, SD = 5.53$). Host national identification did not significantly affect psychological well-being, nor was there a significant interaction effect ($F_s < 1$).

For sociocultural adaptation, a main effect of host national identification was found, $F(1, 98) = 6.42, p < .015$. In line with Hypothesis 2, those who identified weakly with host nationals experienced more difficulty ($M_w = 25.24, SD = 8.60; M_s = 20.73, SD = 9.06$). There was no significant main effect of co-national identification on sociocultural adaptation ($F < 1$), nor was the interaction effect significant, $F(1, 98) = 3.53, n.s.$

To test Hypotheses 3 and 4 regarding the predicted differences in cross-cultural adaptation across the four acculturation strategies, planned comparisons for a priori predictions were undertaken by t test. Two contrasts were conducted for psychological adjustment (Hypothesis 3). First, the mean score of the integrated group was contrasted with the combined mean of the separated, assimilated, and marginalized groups. As expected, the integrated group ($M_i = 9.08, SD = 5.15$) experienced significantly less depression ($M_o = 9.93, SD = 5.36$), $t(96) = 1.68, p < .05$.³ The second prediction that marginalized sojourners would experience more psychological adjustment problems

than other groups, however, was not confirmed, $t(96) = 0.79$, n.s. Two contrasts also were conducted for sociocultural adaptation (Hypothesis 4). In the first instance, the assimilated group ($M = 18.69$, $SD = 7.92$), as expected, experienced less social difficulty than did the separated, integrated, and marginalized groups combined ($M = 24.59$, $SD = 9.00$), $t(98) = 3.01$, $p < .005$. Contrary to prediction, however, sojourners who adopted a separatist strategy did not differ significantly from other groups, $t(98) = 0.81$, n.s. As such, Hypotheses 3 and 4 were partially supported.

For comparative purposes, the main effects of host national and co-national identification and their interaction effects on psychological and sociocultural adaptation also were examined via multiple regression analyses.⁴ As a rule, this technique makes more efficient use of continuous data compared to the reliance on median split and analysis of variance (Ward & Kennedy, 1994); however, it does not directly permit the explicit comparison of adaptation across the four acculturating groups. First, deviate scores for host national and co-national identification were calculated based on the differences between the raw subscale scores and their respective means. Second, the interaction term was computed for host national and co-national identification. Third, host national identification, co-national identification, and the interaction of the two were entered into hierarchical regression equations to predict ZSDS depression and SCAS social difficulty.

For the ZSDS, only co-national identification ($\beta = -.24$, $p < .02$) significantly predicted psychological adjustment; neither host national identification ($\beta = -.03$) nor the interaction term ($\beta = .13$) made additional significant contributions to the variance in depression when entered into the regression equation. By contrast, for the SCAS, strong host national identification ($\beta = -.31$, $p < .001$) predicted less sociocultural adaptation problems. Neither co-national identification ($\beta = .04$) nor the interaction term ($\beta = .08$) made additional significant contributions to the variance in social difficulty when entered into the regression equation.

THE RELATIONSHIP BETWEEN PSYCHOLOGICAL AND SOCIOCULTURAL ADAPTATION ACROSS ACCULTURATION MODES

The magnitude of the relationships between psychological and sociocultural adjustment across the four acculturation modes (based on the median split classification procedure) also was examined, and results showed moderate support for Hypothesis 5. The relationship between the two measures was strong and significant for the assimilated and integrated groups, and it was weak and insignificant for the separated one. As predicted, the correlation

TABLE 1
Pearson Correlations Between Psychological and Sociocultural Adjustment Across Acculturation Styles

<i>Acculturation Style</i>	n	r
Integration	22	.46*
Assimilation	27	.61**
Separation	28	.18
Marginalization	21	.42
Total sample	98	.35**

* $p < .03$. ** $p < .001$.

between the adjustment outcomes was insignificant in the marginalized group; however, the magnitude of the correlation was greater than expected. In line with previous research, the psychological and sociocultural adjustment measures were significantly correlated (.35) within the total sample (see Table 1).

One-tailed tests for significant differences between the independent correlations of psychological and sociocultural adjustment also were undertaken across the four acculturation modes. Although the overall trends were consistent with the hypothesis that psychological and sociocultural adaptation would be more strongly related in assimilated and integrated groups, intergroup comparisons generally failed to reach statistical significance (z s < 1.05). The only significant difference to emerge occurred between the assimilated and separated groups ($z = 1.84$), where (as predicted) the correlation between depression and social difficulty was stronger in the assimilated sample.

DISCUSSION

The research considered the two dimensions (host national and co-national identification) and the four modes (integration, separation, assimilation, and marginalization) of acculturation in relation to psychological and sociocultural adaptation of international aid workers in Nepal. Hypotheses regarding the two dimensions of acculturation clearly were supported. Strong co-national identity was associated with a decrement in psychological distress, whereas strong host national identification was linked to fewer social difficulties. There was some additional support of the hypotheses regarding acculturation modes. Sojourners who adopted an integrated style experienced significantly less psychological distress than did others; by

contrast, those who preferred assimilation reported less social difficulty. Finally, the hypotheses concerning variations in the magnitude of the relationship between psychological and sociocultural adaptation received partial support. As expected, the two adjustment measures were significantly correlated in those groups that strongly identified with the Nepalese, that is, both the integrated and assimilated groups. By contrast, psychological and sociocultural adaptation were not significantly correlated for those aid workers who weakly identified with the Nepalese, that is, the separated and marginalized groups. Despite these predicted trends, differences in the magnitude of these correlations were not, for the most part, statistically significant.

As host national and co-national identification renders differential influences on psychological and sociocultural adjustment, the argument in favor of the investigation of the two dimensions underlying the four modes of acculturation becomes more persuasive. For psychological well-being, identification with culture of origin is the most salient factor and is associated with a decrease in depressive symptoms. This is consistent with the findings of Ward and Kennedy's (1994) study with New Zealand civil servants on overseas assignments. It also is in line with Ward, Chang, and Lopez-Nerney's (in press) research with Filipina domestics in Singapore. For sociocultural adaptation, by contrast, host national identification functions as the primary influence on the adjustive outcome and clearly is linked with a reduction in social difficulties. Again, this finding is in accord with Ward and Kennedy's (1994) earlier investigation as well as related studies that have tapped the integration-separation dimension of acculturation (Ward & Kennedy, 1993a, 1993b).

There also is evidence that the four modes of acculturation are differentially related to psychological and sociocultural adjustment. In this research, integrated sojourners experienced less depression than did nonintegrated sojourners. The findings are broadly consistent with other studies of sojourners (Ward & Kennedy, 1994) as well as work with immigrants (Schmitz, 1992) and refugees (Donà, 1993). The results clearly corroborate Berry's (1997) contention that integration is associated with the lowest levels of acculturative stress. This is not surprising given that those who respond to acculturation pressures with integrationist strategies have bicultural resources to cope with a wide range of pressures and demands of life in a new society. Assimilationist responses, by contrast, are strongly linked to decrements in sociocultural adaptation problems. Although fewer cross-cultural investigations have been undertaken on the relationship between acculturation modes and sociocultural outcomes, the adaptive aspects of assimilation also were reported in Ward and Kennedy's (1994) earlier research. Again, this is not surprising given that sociocultural adaptation is related to culture-

specific skills. As would be expected, fewer difficulties are experienced by those who emulate host nationals.

The research also considered the variation in the magnitude of the relationship between psychological and sociocultural adaptation. Ward and colleagues previously have argued that the nature and substance of this relationship change according to the circumstances of acculturation. For example, research with Japanese students in New Zealand demonstrated that the strength of the correlation between psychological and sociocultural adjustment increases during the first year of residence (Ward et al., 1998). In addition, the correlation is greater in culturally proximal groups than in culturally distal groups (e.g., Malaysian students in Singapore vs. Malaysian students in New Zealand) and is greater in sedentary groups than in relocating groups (e.g., New Zealand students resident at home vs. New Zealand students abroad). Taken as a whole, the data suggest that the magnitude of the correlation between psychological and sociocultural adjustment increases with proximity to or integration with the host culture. The data reported in this study are consistent with these trends. Differential patterns are observed across the four acculturation modes, with significant correlations found for the integrated and assimilated groups but not for the separated or marginalized groups.

Methodological and theoretical issues have been raised by this study, and a new instrument, the Acculturation Index, has been offered as a comprehensive, valid, and flexible measurement of acculturation styles. First, it allows the assessment of the two dimensions, as well as the four modes, of acculturation. This provides more inclusive information about the relative influences of host national and co-national identification on adjustive outcomes. Second, the instrument is psychometrically sound, having demonstrated good reliability and eliminating potential confounds with the use of orthogonal subscales. Third, in practical terms, it is user-friendly, as 21 items are rated in parallel with reference to culture of origin and culture of contact, and the instrument requires very little modification for cross-cultural application.

Despite these advantages, there still is some controversy about the use of the Acculturation Index for the classification of acculturation styles. In this study, the measurement was used in conjunction with median splits to classify respondents into one of the four acculturation categories; however, questions may be raised about the precision of this assessment technique. Although host national and co-national identification represent independent domains of acculturation, it typically is the case (at least for sojourning samples) that co-national identification is somewhat greater than host national identification. Consequently, it might be argued that the assignment of research participants to one of the four acculturation categories under these

conditions does not represent a pure measurement of integration, separation, marginalization, and assimilation. Indeed, we acknowledge that the use of median splits results in a relativistic categorization and that there are consequent limitations to cross-sample comparability. In addition, this split technique might have consequences for the interaction term in the analysis of variance that, in this research, proved insignificant.

The scalar midpoint approach advocated by Donà and Berry (1994), however, also has its shortcomings. In their earlier research on acculturation in Central American refugees, participants were assigned to one of the four acculturation categories on the basis of the scalar midpoints of the measurements of attitudes toward host nationals and co-nationals. This approach resulted in approximately 77% ($n = 72$) of the sample classified as integrated, 18% ($n = 17$) as separated, and 4% ($n = 4$) as assimilated; no respondents were classified as marginalized. Consequently, comparisons of adaptation across the four acculturation strategies were not possible.

The two studies considered, we would argue that both median and scalar midpoint splits may be useful in acculturation research and that the selection of the most appropriate method is likely to be influenced by sample-specific characteristics including migration status of the acculturating group. Although the midpoint split failed to accommodate meaningful cross-group comparisons in our sojourner sample or to produce four discernible acculturation categories in Donà and Berry's (1994) refugee research, it is possible that this split technique might be suitable for the effective classification and comparison of acculturation styles in long-term immigrants. This should be further explored in future research.

Research with the Acculturation Index has suggested that the two dimensions of acculturation (identification with own culture and with host culture) are at least as important as the four modes of acculturation (integration, assimilation, separation, and marginalization) in predicting adjustive outcomes. Still, there might be some dispute as to the best way in which to combine the analysis of the bidimensional and quadrimodal variables. This basically revolves around the decision to use categorical or continuous data and mean comparisons or correlational analyses to investigate the influences of identification and acculturation. Categorical approaches inevitably raise issues about the best techniques for splitting the data. In most cases, categorical approaches also result in losing a portion of the research sample, that is, those situated on the median or scalar midpoints. However, if the investigator is interested in making explicit comparisons across the four acculturation modes, then a categorical approach is the most appropriate choice. Median or scalar midpoint splits on the subscales of the Acculturation Index may be combined with analysis of variance that permits the investigation of the main

effects of host national and co-national identification and the interaction effects of acculturation styles on adjustive outcomes. If specific hypotheses about the four acculturation modes are present, as in this study, then categorical splits may be effectively combined with planned comparisons.

Alternatively, the Acculturation Index subscales may be analyzed with the use of continuous data. This avoids contentious issues about subscale splits and makes more efficient use of the entire data set. The use of continuous data may be combined with a variety of multiple regression techniques that offer robust analysis of the main effects of host national and co-national identification but do not, on their own, permit direct comparisons across acculturation categories. The use of multiple regression accommodates the inclusion of an interaction term in the analysis; however, it cannot identify the four modes of acculturation unless subsequent categorical splits are conducted in post hoc analyses. Consequently, it is likely that this option would be more frequently selected by investigators who wish to emphasize the significance of host national and co-national identification rather than differences among the four acculturation modes. Ultimately, the choice of data types and analysis must be guided by both theoretical and statistical criteria, with particular reference to the hypotheses under consideration. In our research, the use of a median split categorical approach was necessary to test the range of hypotheses put forward.

All in all, it is acknowledged that the Acculturation Index is a relatively new measurement technique and has not yet stood the test of time. It bears some resemblance to Hutnik's (1991) approach to the measurement of ethnic identity and to Donà and Berry's (1994) assessment of acculturation attitudes. However, unlike Berry's four-scale measurements of acculturation attitudes that have been employed extensively across cultures and with sojourners, immigrants, native peoples, and refugees, the use of the Acculturation Index has been confined to sojourners, and the instrument, at present, has been limited to a small number of cross-cultural samples. Future investigations should shed more light on its cross-cultural and cross-sample utility.

In conclusion, this research has combined elements of Berry's conceptual framework for the analysis of acculturation attitudes with Ward's theorizing on the cross-cultural adjustment of sojourners. As acculturation styles are differentially associated with the two adjustment domains, the results corroborate the utility of the conceptual merger. In addition, the findings highlight the significance of host national and co-national identification, corroborate the validity of the quadri-modal approach to acculturation, and substantiate the empirical distinction of psychological and sociocultural adaptation. Methodological issues also are raised by the research, but the

psychometric properties of the Acculturation Index suggest methodological improvements in the investigation of acculturation and adaptation. Although this study represents an early attempt at blending theoretical approaches and offering new methodological advances, it is hoped that it eventually might serve as an integrative force in the vast and expanding literature on acculturation.

APPENDIX

Acculturation Index Items

1. Clothing
 2. Pace of life
 3. General knowledge
 4. Food
 5. Religious beliefs
 6. Material comfort
 7. Recreational activities
 8. Self-identity
 9. Family life
 10. Accommodation/residence
 11. Values
 12. Friendships
 13. Communication styles
 14. Cultural activities
 15. Language
 16. Employment activities
 17. Perceptions of co-nationals
 18. Perceptions of Nepalese/host nationals
 19. Political ideology
 20. Worldview
 21. Social customs
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NOTES

1. Various terms have been used to describe acculturation responses. Berry and colleagues typically have referred to acculturation attitudes and strategies. Given the nature of our measurement, however, we prefer acculturation styles or modes. Although these are somewhat imprecise terms, they have certain advantages over attitudes and strategies. *Attitudes* suggests only a cognitive perspective on acculturation, but our scales include behavioral factors as well. *Strategies* suggests a conscious, planned, and voluntary choice; however, acculturative changes may occur on the conscious or unconscious level, with planning or spontaneously, and as voluntary or involuntary activities.

2. Scores equal to or greater than the median were classified as high. This allowed retention of the entire sample and direct comparability of the analysis of variance and regression results. In both the median and scalar splits, only two cases were situated on the critical cutoffs.
3. One-tailed test.
4. We are indebted to Yoshi Kashima for suggesting the regression analysis.

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